

# INDIA: FISCAL REFORMS FOR POVERTY REDUCTION

## PAPER I: APPROACH, TRENDS AND ISSUES

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## **Preface**

This study has been undertaken by the National Institute of Public Finance and Policy at the instance of the Canadian International Development Agency (CIDA), Canada.

The study team consists of D. K. Srivastava, S. K. Sanyal, C. Bhujanga Rao, and Pinaki Chakraborty. Opinions and analyses here are those of the authors. The members of the Governing Body of the National Institute of Public Finance and Policy are in no way responsible for these.

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## Executive Summary

1. This paper provides the analytical underpinnings and the macro and inter-state background in the context of examining the role of fiscal policies in poverty reduction in the India. It constitutes the first part of the overall study that reviews the role of fiscal policy in reducing poverty with particular reference to four high poverty incidence states in India, *viz.*, Uttar Pradesh, Madhya Pradesh, Uttaranchal, and Chhattisgarh. Some of the main issues addressed in this study relate to the following:
  - i. Has the rate of decline in the incidence of poverty accelerated in India during the reform era in the nineties?
  - ii. What accounts for the considerable inter-state variation in performance regarding poverty reduction? To what extent, state-specific policies account for it?
  - iii. What role can fiscal instruments play in poverty reduction as indicated by the inter-state differentials in the poverty reduction performance? Does the role of fiscal policy widen when poverty is measured more broadly encompassing health, education, and other important publicly provided services and when a distinction is made between chronic and transient poverty, especially temporary increases in the extent and depth of poverty when natural calamities like drought, floods, etc., occur.
  - iv. In what way and to what extent do (i) growth, (ii) composition of output, (iii) expenditures on health, education and other social services, and (iv) governments' poverty alleviation programmes differentially affect the poverty reduction performance of states?
  - v. How can the efficacy of budgetary intervention be strengthened by improved targeting, design of programmes, and cost effectiveness?
  - vi. What are the options for better targeting of subsidies for poverty reduction?

### Conceptualizing and Measuring Poverty

2. While the narrow and conventional view of poverty is limited to shortfalls in income related to deficiency in food consumption, a broader view of poverty visualizes it as a multi-dimensional deprivation covering health, education, access to water supply and sanitation, security and other relevant services. Poverty is seen not just as an objective phenomenon but rather in terms of deficient or constrained capacities.
3. The measurement of poverty necessitates defining a poverty threshold in one or more dimensions and aggregation over shortfalls of individuals from the relevant thresholds. Various summary measures and axiomatic frameworks have been suggested in the literature. Some of the frequently used measures in most countries are the head count ratio, the poverty gap ratio and the Foster-Greer-Thorbecke index. The human poverty index provides one example of measuring poverty in multiple dimensions. Poverty lines can be defined both in absolute and relative terms.

## Poverty in India

4. The methodology of measuring poverty in India, in terms of the head count ratio, has evolved over time. On the basis of the methodology developed by the Expert Group of Planning Commission, a set of comparable estimates are available for 1973-74, 1983, 1987-88, 1993-94 and 1999-00. These estimates are based on the five yearly rounds of national sample survey data on household consumption.
5. Looking at the inter-state and all India poverty profiles, the following salient features may be highlighted:
  - i. All India, state-wise, rural as well as urban – in all cases – poverty head count ratio shows a steady decline, the rate of the decline being the fastest in the nineties, i.e., during 1993-94 to 1999-00, a period characterized by some of the highest annual growth rates of income.
  - ii. The 1999-00 estimates indicate average rural poverty head count ratio of about 27 percent for all India, with Bihar, Madhya Pradesh, Orissa, Uttar Pradesh, West Bengal, and Assam showing above average poverty levels.
  - iii. In the context of urban poverty, the 1999-00 average head count ratio is 23.62 percent for all India, with Andhra Pradesh, Bihar, Karnataka, Madhya Pradesh, Maharashtra, Orissa, and Uttar Pradesh and Assam showing more than average incidence of poverty. The inclusion of some of the higher income states in this list and the non-appearance of West Bengal in this list are the notable features.
  - iv. The urban head count ratio is higher than the rural head count ratios in the following states: Andhra Pradesh, Gujarat, Haryana, Karnataka, Kerala, Maharashtra, and Rajasthan.
  - v. A visible general pattern is that the overall poverty ratio is higher for lower income states. This pattern is discernible more clearly for the rural incidence of poverty.
  - vi. The human poverty index is generally higher than the head count ratio for the lower income states, indicating that poverty is understated in respect of some critical dimensions for the lower income states.
6. Certain features of the 1999-00 official estimates of poverty were questioned by Deaton and Dreze (2002) and Deaton (2003). In particular, they examined the implications of the methodology for updating the poverty line and the juxtaposition of 7-day recall period with 30-day recall period for some items (food, pan and tobacco) in the 55<sup>th</sup> round of the National Sample Survey. The two recall periods questions were placed side by side in the same schedule. In their view, the answers to the 30 days recall periods were biased upwards by the juxtaposition of the 7-days recall period answers, thereby understating the poverty HCRs. For providing comparable estimates over time, they have provided alternative estimates for 1987-88, 1993-94, and 1999-00. The main results following from their methodological revisions may be indicated as follows:

- i. The adjustment for the questionnaire design (i.e. using the 30-day recall period questions) imply that the rural head count ratio for 1999-00 is higher by a little more than 3 percentage points (implying a lower decline rate in the nineties than officially claimed). However, revising the poverty line brings it a little lower than the official estimates.
  - ii. For the urban head count ratio, the first adjustment (using the 30-day recall period questions) takes the estimates a little higher than the official estimate, but the revision of the poverty line brings down the urban estimates significantly lower than the official estimates. For 1999-00, the difference is of more than 12 percentage points.
  - iii. Similar changes are noted in respect of the poverty gap index. With the revised poverty lines the urban poverty gap index is lower by 3.6 percentage points, becoming less than half of the official estimates.
7. Sundaram and Tendulkar also examined the issue of comparability of the 1999-00 estimates with those of the earlier full NSS rounds. In their view, the more important question was that of 'mixed reference period'. There were certain items, viz., 'clothing, footwear, durables, education and (institutional) health' where the 55<sup>th</sup> round used only 365 days as the reference period. In the earlier rounds, the period of reference for all items including the durable goods group was 30 days. In order to make the comparison valid, Sundaram and Tendulkar reworked the 1993-94 results with a mixed reference period using 365 days as the reference period for the relevant group. This became possible because in the 50<sup>th</sup> round information on 'clothing, footwear, durables, education and (institutional) health' was collected for two alternative reference periods, viz., 30 days and 365 days. The poverty head-count ratios for 1993-94 for the mixed reference period were lower than those based on the uniform reference period. But the finding of the decline in the poverty HCR was confirmed although the extent of decline was lower by about 3 % points on average.
  8. Even as the poverty HCR has fallen over time, it has done so differently for different states. As such poverty has become spatially more concentrated. In 1999-00, nearly 74 percent of the rural poor were found to live in just six states viz., Orissa, Bihar, Assam, Madhya Pradesh, West Bengal and Uttar Pradesh. In the case of urban poverty, just eight states, viz., Orissa, Madhya Pradesh, Bihar, Uttar Pradesh, Maharashtra, Andhra Pradesh, Karnataka and Tamilnadu accounted for a little less than 80 percent of the urban poor. It is also seen that poverty has become more urbanized in the sense that the proportion of urban poor to total poor has increased in almost all states.

### **Poverty and Growth Processes**

9. Growth affects poverty and poverty in turn affects growth. There is considerable evidence that rapid growth has been associated with significant decline in poverty. However, the impact of growth on poverty reduction depends on a number of initial conditions including those relating to asset inequalities. Some empirical studies in the Indian context highlight the role of fiscal policy variables. For example, estimates provided by Ravallion and Datt (2001) show that an increase in real per capita state development expenditure, which represents a fiscal variable, has a negative impact on the poverty index. An increase in per capita development expenditure by one percent

leads to 0.14 percent fall in the head count ratio. Inflation, on the other hand, increases poverty. It is estimated that a one percent increase in the inflation rate leads to a 0.42 percent increase in the poverty.

10. Investment in human development is the best long-term antidote to poverty. First, lack of human development is itself a dimension of poverty. Illiteracy, poor health, and lack of education below a certain threshold are constituents of poverty. Secondly, with human development, i.e., through proper education and adequate health, choices regarding income opportunities widen, productivity is increased, and capacities are augmented. Thirdly, focus on human development is a potent means of fiscal intervention to reduce poverty in a country where provision of health and education is largely publicly provided. Public expenditure on education and health, especially elementary education and primary health can lead to sustained reduction in poverty levels.
11. Policy interventions that can improve credit and insurance market conditions for the poor and those that address issues of asset inequalities can improve the impact of growth on poverty reduction. The structure of sectoral growth is also important, and under certain conditions non-farm growth can have a significant impact on poverty reduction. The more “connected” the poor are with the rest of the economy, the more effective will growth be in reducing poverty.

### **Poverty and Fiscal Processes**

12. Fiscal processes affect poverty levels both indirectly and directly: indirectly, through their impact on growth and inflation, and directly through public provision of private goods and services, and through specific poverty alleviation programmes. In this context, the quality of access of the poor to public goods like law and order, justice, and administration is of critical importance. Such access often requires that private costs be incurred. All three tiers of the government, namely, central, state, and local are involved in poverty alleviation programmes. The central and state governments sponsor a variety of programmes and schemes aimed at these objectives while the local governments implement many of these programmes.
13. Government budgets support poverty alleviation programmes through a variety of income transfer schemes or self-selective food-for-work type of programmes. Such direct support however is only a fraction of the much larger indirect subsidization of services. In these subsidy provisions, although considerably larger resources are involved, most benefits are appropriated by the non-poor.
14. Human development is by itself an improvement in capability and it also sustains growth. Fiscal policies can be used both to support human development and growth in a manner that maximizes their impact on poverty reduction.
15. In India, a large part of fiscal interventions, even though often justified on the grounds of helping the poor, are very general and untargeted. Consequently, a significant proportion of these benefits accrue to the non-poor. The impact of well-targeted interventions in reducing poverty could considerably increase the poverty reducing impact of fiscal policies. While considering targeting strategies broadly, group-wise and area-wise targeting may be better and would involve less administrative costs than

very finely targeted interventions. In developing targeting strategies, incentive effects, and asymmetric importance of exclusion and inclusion errors should be recognized. A greater weight should be attached to minimizing errors of exclusion of the poor rather than errors of inclusion of the non-poor.

16. The pattern of utilization of the grants for central and centrally sponsored schemes indicates lack of adequate targeting. Considering average per capita grant for central and centrally sponsored schemes over the period 1999-00 to 2000-01, Bihar's per capita grant was only one-third of that of Goa and half of that of Andhra Pradesh or Tamil Nadu, and less than half of that of Karnataka. UP's per capita grant under central and centrally sponsored schemes was the lowest among all major states. In contrast, Rajasthan was able to avail of these grants nearly three times than that of UP and has shown considerably lower HCRs in spite of continued droughts. This indicates that poverty ratios can be brought down by increasing grants on central and centrally sponsored schemes but making sure that the pattern of their distribution reflects the pattern of incidence of poverty across states.
17. Some considerations for an efficient fiscal intervention for poverty alleviation are indicated below:
  - i. Multiple policy objectives should not be attempted by a single policy instrument.
  - ii. Efficiency should not be sacrificed by introducing distortionary policies, even if apparently pro-poor.
  - iii. Targeted interventions are better than generalized subsidies even if there are administrative costs. However, targeting strategies should avoid extremely fine targeting and give more importance to avoiding exclusion errors rather than minimizing inclusion errors.
  - iv. Asset inequalities should be looked into in addition to income shortfalls.
  - v. A safety net should be used to supplement other direct and indirect interventions.
18. The main instruments of fiscal policy for enhancing its impact on the poor may be listed as follows:
  - a. Restructuring Government Expenditure**

Restructuring that favors infrastructure investment (both social and economic infrastructure) would augment growth, which will have a pro-poor impact provided initial asset inequalities can be attended to. Further, a restructuring favoring human development can have a long-term and lasting impact on poverty alleviation provided the incidence profile of government expenditure on health and education can be made pro-poor.

**b. Targeted Subsidy and Income Support Programmes**

These can have immediate beneficial impact in reducing poverty, provided leakages and wastages are minimized. Considerable changes are needed to recast general subsidy programmes as broadly targeted programmes.

**c. Constructing Social Safety Net**

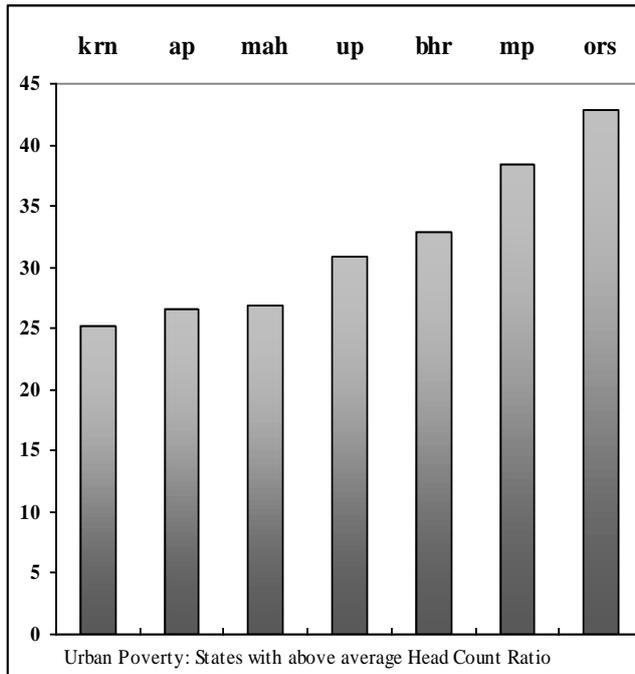
This should become part of the explicit provision in all state budgets to protect the poor against extreme price volatility and other unforeseen circumstances.

**d. Coordination Among Government Tiers**

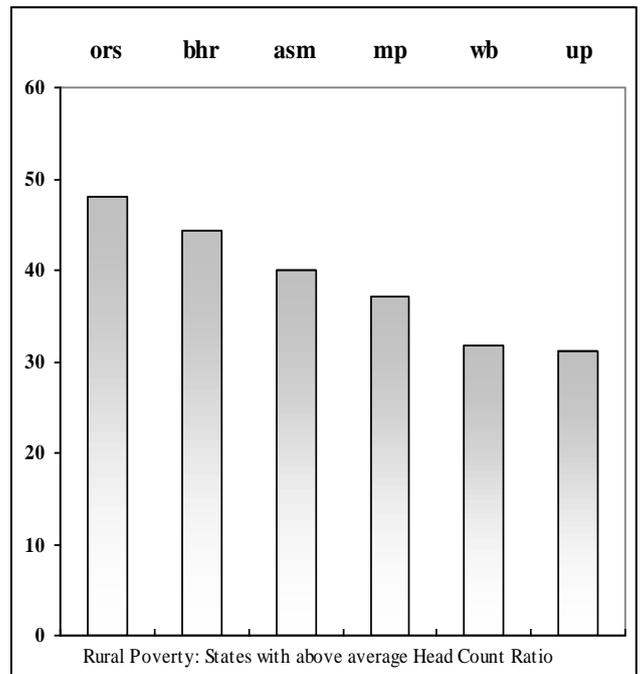
There is considerable overlap in the interventions by central, state and local governments. Better coordination in the design and implementation of these programmes would increase the impact of pro-poor policies.

19. This paper has looked into the conceptual basis of the need for attending to poverty reduction as a specific objective of fiscal policy, trends in poverty reduction and the inter-state profile of poverty in India. It has reviewed the available literature outlining the impact of fiscal policies on poverty reduction, indirectly by supporting growth, and directly by reforming the structure of public expenditure, and designing and implementing subsidy and income-support programmes. The considerations and issues that have been highlighted provide the background for the state specific studies as well as in the formulation of the questionnaires for the primary survey.

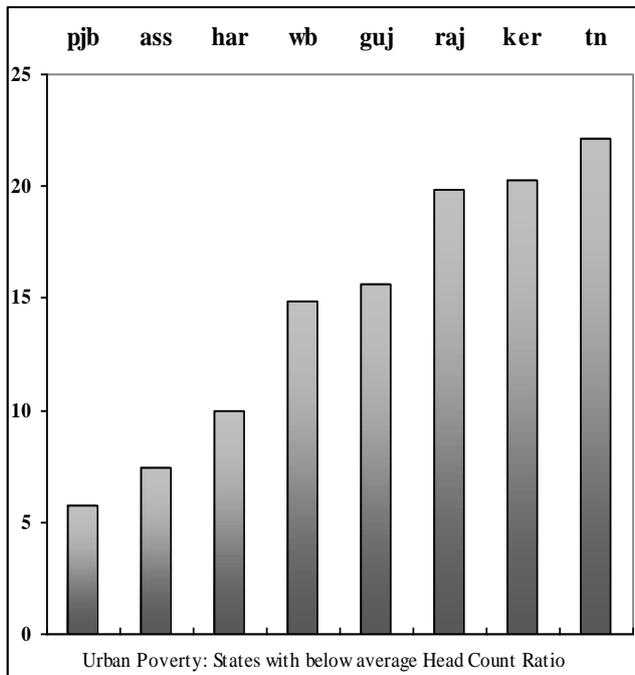
**Rural and Urban Poverty: States Arranged Below and Above  
Average All India Poverty Head Count Ratios**



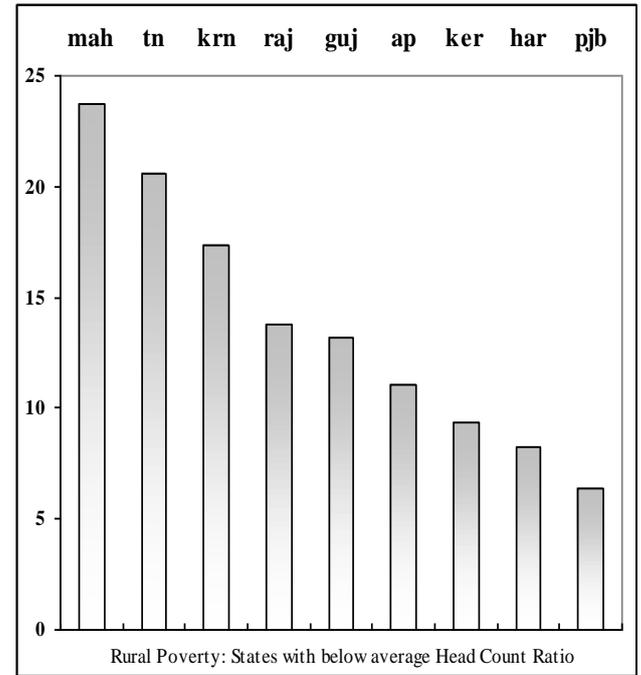
**States with Above Average Urban, Head Count Ratio (1999-00) in Ascending Order**



**States with Above Average Rural, Head Count Ratio (1999-00) in Descending Order**



**States with Below Average Urban, Head Count Ratio (1999-00) in Ascending Order**



**States with Below Average Rural, Head Count Ratio (1999-00) in Descending Order**

## Abbreviations

APCTEP	Average Per Capita Total Expenditure of the Poor
APL	Alternative Poverty Line
BPL	Below Poverty Line
CPI	Consumer Price Index
CPIAL	Consumer Price Index for Agricultural Labour
CPIIW	Consumer Price Index for Industrial Workers
CPITR	Consumer Price Indices for Total Rural Population
CPITU	Consumer Price Indices for Total Urban Population
CPM	Capability Poverty Measure
CPUNME	Consumer Price Index for Urban Non-Manual Employees
CSO	Central Statistical Organisation
EAS	Employment Assurance Scheme
EIUS	Environmental Improvement of Urban Slums
EOPL	Expert Group Official Poverty Line
FAO	Food and Agricultural Organisation
FGT	Foster, Greer and Thorbecke Index
GDP	Gross Domestic Product
GSDP	Gross State Domestic Product
HCR	Head Count Ratio
HPI	Human Poverty Index
IAY	Indira Awaas Yojana
IFAD	International Fund for Agricultural Development
IMR	Infant Mortality Rate
JGSY	Jawahar Gram Samridhi Yojana
LDCs	Less Developed Countries
MNCs	Multi-National Corporations
NGOs	Non-Government Organisations
NRV	Nehru Rozgar Yojana
NSAP	National Social Assistance Programme
NSS	National Sample Survey
NSSO	National Sample Survey Organisation
OPL	Official Poverty Line
OLS	Ordinary Least Squares
PDS	Public Distribution System
PGI	Poverty Gap Index
PMGY	Pradhan Mantri Gramodaya Yojana
PMGSY	Pradhan Mantri Gram Sadak Yojana
PMIUPEP	Prime Minister's Integrated Urban Poverty Eradication Programme
PPP	Purchasing Power Parity
PQLI	Physical Quality of Life Index
RPDS	Revamped Public Distribution System
RRG	Relative Resource Gap
SAY	Samagra Awaas Yojana
SC	Scheduled Caste
SGRY	Sampoorna Grameen Rozgar Yojana
SGSY	Swarnajayanti Gram Swarozgar Yojana
SJSRY	Swarnajayanti Shahri Rozgar Yojana

ST	Scheduled Tribe
TAC	Total Administrative Cost
TIP	Three 'I's of Poverty – Incidence, Intensity and Inequality
UCD	Urban Community Development
UBS	Urban Basic Services
UBSP	Urban Basic Services for Poor
UIS	Urban Informal Sector
UNDP	United Nations Development Programme
UNO	United Nations Organisation
USEP	Urban Self-Employment Programme
UWEP	Urban Wage Employment Programme
WHO	World Health Organisation

# **INDIA: FISCAL REFORMS FOR POVERTY REDUCTION**

## **PAPER I: APPROACH, TRENDS AND ISSUES**

### **Chapter 1: INTRODUCTION**

India launched an extensive program of fiscal and economic reforms in the early nineties aimed at imparting a market oriented and outward looking thrust to the Indian economy away from the inward looking, plan-centric and regulated orientation that it had cultivated for forty years since independence. Greater reliance on the market calls for a change in the nature of fiscal intervention for improving its poverty reducing content for creating appropriate safety nets for people who might be further marginalised by the market. Among the millennium development goals outlined at the UN Millennium Summit in September 2000, eradication of extreme poverty and hunger is listed as the highest priority goal along with achieving universal primary education, and improving maternal health and child mortality.

Although published government figures indicate a steady reduction in poverty levels since 1970s, and the rate of reduction appears to have accelerated following economic reforms during the 1990s, these estimates have often been questioned. The poverty-measure used in the official statistics (the head count ratio) takes a very narrow view of the phenomenon of poverty, ignoring the intensity and distribution of poverty completely. Its view of poverty is limited to a narrow income space, and overlooks the multi-faceted nature of poverty. In spite of the vocal justification for public programmes and large subsidies in the name of the poor, most of these expenditures are appropriated by the non-poor by excluding the poor or leaked through inefficiency and corruption. Even the so-called public goods like law and order, police, and administration can hardly be accessed by the poor because private costs must be incurred to avail of these public goods.

Fiscal policies benefit the poor directly through the budget supported subsidies and transfer expenditures of the government, and indirectly, through their impact on the extent and nature of economic growth. Within this spectrum, the regime of taxation can affect the poor by the treatment given to goods that generally constitute their typical consumption basket. The way centre-state transfers are handled, and the emphasis that is given to

decentralisation and local autonomy also materially concerns the poor. Transfer mechanisms that emphasise equity-oriented resource transfers to sub-national governments can have pro-poor impact by supporting greater equalisation of publicly provided services. Analysts recognise that the poverty reducing impact of growth can be strengthened by reorienting economic and fiscal policies. In a recent contribution, Collier and Dollar (2001), contend that poverty reduction in general, whether country or region-specific, depends mainly on the quality of economic policies at hand, including those that foster savings and investment. In the context of poverty incidence, sharp regional disparities in poverty levels have been noted in many countries. Bidani and Ravallion (1993) found poverty incidence to be lower in large cities than other urban areas for Indonesia. Similar findings are reported in Ravallion and van de Walle (1994) for Tunisia and Grootaert (1994) for Cote d'Ivoire. Large disparities in rural poverty incidence have also been noted for a number of countries [see Bidani and Ravallion (1993)].

In the recent NIPFP Silver Jubilee Lecture, Stern (2002) highlighted two fundamental challenges for public policy in India: one to accelerate economic growth, and second, to involve the poor people to participate in the opportunities created by growth. He contended that the expenditure side of the budget is likely to be of special importance in this context, and that there is a case for quantifying poverty through the lens of economic mobility as well as provision of needs and services.

In an earlier study, van de Walle and Nead (1995) had argued, while discussing poverty related research, that "Economists doing research in this area have tended to focus exclusively on household decision making, while taking government outlays as given and simply ignoring other factors, such as the macroeconomic political economy, and institutional environments". Pitt, Rosenzweig, and Gibbons (1995) have also argued that an understanding of the government budget allocation and programme placement rules may be fundamental to coming to grips with public spending impacts. The overall macroeconomic environment, including the management of public finances is critical for the effectiveness and sustainability of specific poverty alleviating strategy embedded in spending decisions.

India is already running a large subsidy regime supported by budgetary resources. Recent estimates (see, Srivastava and Rao, *et. al.*, 2002) have put the subsidy bill at about 13 percent of GDP at current market prices, considering the centre and states together and

covering both explicit subsidies and subsidies implicit in the unrecovered costs of publicly provided private goods/services, classified as social and economic services. Even though the subsidy regime is large, lack of effective targeting makes it regressive in nature, with most benefits being appropriated by the non-poor. Continuation of reforms would necessarily entail pruning of subsidies. However, even with lower volumes, its poverty reducing impact could be improved by effective targeting.

This study examines the case for redesigning and refocusing government spending in India to improve its impact on poverty alleviation in the context of fiscal processes, directly through the provision of services and income support programmes, and indirectly through their impact on inflation and growth processes. We consider how government spending needs to be restructured in the context of economic reforms to serve both efficiency and equity objectives, particularly the objective of poverty reduction.

This paper is divided into 7 Chapters. Chapter 1 looks at alternative ways of conceptualising poverty and approaches to poverty alleviation, highlighting the relevance of fiscal policy. Chapter 2 deals with measurement issues. Chapter 3 summarises estimates of poverty in India providing an inter-temporal as well as inter-state perspective. Chapter 4 looks at the impact of inflation and growth processes on poverty. Chapter 5 examines the role of fiscal processes, paying special attention to targeting public spending programmes, its constraints and limitations. Chapter 6 looks at the role of government subsidies in poverty alleviation. Chapter 7 spells out a set of issues that need to be empirically investigated and outlines a set of fiscal reforms for improving the poverty reducing impact of fiscal policy.

## **1.1 Conceptualising Poverty**

Hartwell (1972) had observed that “Economics is, in essence, the study of poverty”. “Poverty” says Pieterse (2001) in his recent work on Development Theory: Deconstruction/Reconstruction “is in the eye of the beholder”. Subsistence economies serve basic needs and are not poor in a material sense, but are declared poor because they do not participate in the market process. Sachs (1999) made a distinction between frugality, destitution and scarcity. Scarcity arises where commodity-based need is paramount; destitution arises when subsistence economies are weakened through the impact of growth elsewhere in the system, and frugality is the characteristic of subsistence economies.

**a. Poverty as Nutritional Deprivation**

Poverty is often viewed as nutritional deprivation. A poverty threshold is defined in terms of nutritional adequacy, and all people below the threshold are counted as poor. Generally, the poverty benchmark has been defined only in terms of nutritional thresholds converted into incomes consistent with purchasing power over a basket that meets the nutritional threshold. However, often prices are distorted or regulated, and shortages and supply constraints generate non-availability, and the true worth of income is not correctly reflected. Further, lack of purchasing power is only symptomatic of deeper deprivations or incapacities. As Sen argues (1995, p. 15): “The policy literature on poverty removal has been deeply concerned with the perspective of income deprivation. I would even argue that it has been obsessed by one, undoubtedly important but partial, aspect of deprivation”.

**b. Poverty as Multidimensional Deprivation**

Poverty is also viewed as a multidimensional phenomenon that goes beyond income. It is visualised as inadequacy of access with respect to a number of thresholds relating, for example, to potable water, housing, education, health, sanitation, security, economic opportunities, and information. The World Bank Report “Attacking Poverty (2001)” observes: “To be poor is to be hungry, to lack shelter and clothing, to be sick and not cared for, to be illiterate and not schooled”. Health, education and housing are often heavily subsidised by the governments. Yet access to subsidised services itself is limited for the poor because of (i) lack of access to information, (ii) private costs of accessing public services (transport, user charges, etc.), and (iii) preemptive exploitation of the subsidy by the non-poor. Different aspects of poverty interact with each other and often exist together.

**c. Poverty as Capability Handicap**

Visible manifestation of deprivation in critical respects however reflects lack of inner capability. Sen advocates “... seeing poverty as the failure of some basic capabilities to function – a person lacking the opportunity to achieve some minimally acceptable levels of these functionings”. The opportunity of converting personal incomes into capabilities to function depends on a variety of personal circumstances (including age, gender, proneness to illness, disabilities, and so on) and social surroundings, physical and social environments, and public services of health and education. Sen goes on to say that if we insist on seeing poverty in the **income space** ..., the relevant concept of poverty has to be **inadequacy** ... rather than

**lowness** (in terms of personal and social characteristics); ... that “technically, this is the ‘inverse function’ to that relating capabilities to income”.

Sen’s (1979, 1985, 1987) capability approach is closely related to the basic needs approach, but implies a more fundamental conceptualisation of poverty. It does not accept the “welfarist” paradigm in which individual utility is taken to be the sole matrix of welfare and social choice. In this approach, commodities matter as one determinant of people’s capabilities to function rather than as a source of “utility”. Commodities are viewed not as ends but as means to desired activities. Methodologically, however, aggregation over capabilities or basic needs (BN) is difficult. Single BN measures, such as the “physical quality of life index” (PQLI) (Morris 1979), are arbitrary in the factors included and the weights attached to these items. The 1990s have seen attempts at operationalising the capabilities approach, by focusing on “human development”. The UNDP, in the context of its “Human Development Report” provides an approach to measuring human development.

#### **d. Poverty as Social Exclusion**

Yet another way of conceptualising poverty is to see poverty not just as an internal individual handicap but something that derives from the external environment or interaction between the individual and the external environment, due to social organisation and events outside the control of an individual. Poverty in such a case lies in vulnerability and exclusion from institutions of state and society, which also implies exposure to risks like violence, crime, and natural disasters.

It is increasingly being acknowledged that social capital offers a clue to economic capital. Social capital consists of social networks and relations of trust. Social exclusion is lack of access to these networks, and becomes a central reason for economic deprivation. Putnam’s (1993) influential study on *Making Democracies Work* relating to Italy, traces the differential economic achievements of the richer north vis-à-vis the poorer south to social capital. The north is characterised with a long history of ‘networks of civic engagement’ whereas in the south ties are limited to the nuclear family. Banfield (1958) had written earlier: “Extreme poverty and backwardness is to be explained largely by the inability of the villagers to act together for the common good or, indeed for any end transcending the immediate material interest of the nuclear family”.

The poverty reducing strategy would differ according to the way poverty is visualised. If poverty is seen as an income deficit with the poverty threshold covering single or multidimensional deficits, a poverty alleviation strategy would focus on removing this deficit. If, on the other hand, poverty is seen as a capability handicap, the appropriate strategy would focus much more on education, health, inclusion and information. While the former may be necessary for giving symptomatic relief, the latter would attack the deeper and structural causes of poverty.

**e. Extreme Poverty and Social Exclusion**

Wresinski (1987) and Wodon (2001) identify three characteristics that help distinguish between poverty and extreme poverty. In their view, extreme poverty results from

- i. lack of “basic securities” relating to health, education, employment, etc.
- ii. persistence of this insecurity over long periods of time.
- iii. Inability to exercise rights or assume responsibilities.

The concept of social exclusion provides a framework for analysing the relationship between well being and rights. Social exclusion that prevents people from exercising certain rights and poverty should be viewed as complementary concepts. A social exclusion perspective provides an understanding of social disadvantage. It complements the traditional dimensions of poverty, arising from lack of adequate and stable income and to have access to quality social services to meet basic needs.

**f. Poverty Types**

In understanding poverty, often distinctions have been made between chronic and transient poverty, primary and secondary poverty, and core and marginal poverty.

***i. Chronic and Transient Poverty***

Chronic or persistent poverty is quite distinct from transient poverty. People with volatile incomes may oscillate around the poverty line with buoyant or depressed conditions. Depending on the time of sampling, sometimes they may be picked up below the poverty line and sometimes above it. Chaudhuri and Ravallion (1994) look at two ways of defining ‘chronic poverty’. By the first, a person is considered ‘chronically poor’ if he is poor all the time, or at least on all survey dates. By the second, that term is also applied to any person

who is poor as measured by their ‘typical’ standard of living over time, as observed over many survey dates. They suggest that the use of longitudinal data as against cross-section data is a better way to capture chronic poverty as distinct from transient poverty. The average consumption level of a household observed over an extended period of time could reflect chronic poverty better, which in turn can have significant implications for targeting mechanism.

A distinction is often made between attempts to reduce transient poverty (experienced for only a short period) versus chronic poverty (experienced over a long period). Both are usually substantial in the developing countries. Policy initiatives and actions can affect both transient and chronic poverty. Direct interventions, such as relief work schemes, help the poor or near-poor. These may be aimed at transient poverty, but can help avoid adjustments like asset depletion, which could lead to chronic poverty. Conversely, long stretches of avoidance of chronic poverty, enables household to overcome transient stress.

***ii. Primary and Secondary Poverty***

The early studies of poverty in developed economies, such as Rowntree’s pioneering work made a distinction between primary and secondary poverty. Rowntree defined ‘primary poverty’ by specifying a diet required to meet minimum nutritional needs, pricing the components of this diet, and adding elements for housing and clothing and an allowance for other expenditure. In ‘secondary poverty’ he included those who were living in ‘obvious want and squalor’, although not below the minimum income/expenditure level produced by pricing the target basket, etc.

***iii. Core, Intermediate, and Transitional Poverty***

Sometimes core poverty is distinguished from marginal poverty. A distinction between core poor, intermediate poor and transitional poor [NIUA (2001), Planning Commission Sub-Group on Urban Poor (2001)] could be useful for policy purposes. They define core poor as falling below half the poverty line; intermediate poor as lying between half the poverty line and the poverty line, and transitional poor are clustered just above the poverty line. According to them, the urban core poor are homeless, pavement dwellers, unskilled and unemployed, depending on community water supply. The intermediate urban poor may be living in illegal squatter settlements, depend upon community sources of water

supply and unauthorised electricity. The transitional poor slip in and out of poverty although they have ownership of productive assets.

## **1.2 Vulnerability and Falling Into Poverty**

Vulnerability refers to high probability of falling into deeper poverty as well as to exposure or risks to other aspects of well being including health. A risk of large changes in income may constrain households to lower investments in productive assets because households need to keep some reserves in cash. Risk associated with higher productivity crops may force households to select low productivity but safer crops.

One dimension of measuring vulnerability relates to probability of “falling into poverty”. When there is a large population living close to the poverty line, there is considerable movement of getting into and out of poverty. Typically, the position of households over two points of time or more needs to be traced in order to study the phenomenon of transition in and out of poverty.

Sometimes income variability is used as an indicator of vulnerability. Some households may remain, on average, just below the poverty line and experience low income variability, other households may be just above the poverty line but experience high income variability. Both types of households will experience some kind of poverty. Static one-time poverty estimates have a high probability of putting the first type below poverty, and a lower probability of putting the second type below the poverty line. The second type is however, far more vulnerable. Jalan and Ravallion (1998, 1999) put acute vulnerability and chronic poverty as one case and vulnerability and transient poverty as another. They argue that both types of poverty and vulnerability can be reduced by greater command over physical capital, such as wealth and land, as well as by certain demographic characteristics. However, there are differences between the two groups. Smaller and better educated households, and those who live in areas with better attainment in health and education, have lower chronic poverty. However, these factors do not much influence transient poverty. Interventions that reduce chronic poverty may have little influence towards reducing transient poverty.

The dynamic processes of escaping poverty and succumbing to poverty run concurrently, following quite different trajectories, the associated factors at work being

different from each other. From a survey of twelve villages in Rajasthan, Krishna (2003) finds that a substantial proportion of people who escaped poverty had diversified their occupations for additional sources of income, most importantly some members migrating to urban areas to join the informal sector. Irrigation proved to be the pathway most often taken for moving out of poverty but the effort to dig up for groundwater source sometimes turned out to be a bad investment.

Falling into poverty in this region is associated with poor health, large expenses on health care, social functions associated with deaths and marriages and high interest loans taken out of private sources to meet these unaffordable expenses. These are all dimensions of vulnerability. There are different reasons for people overcoming poverty than those declining into poverty and therefore, different policy instruments are required.

Undertaking carefully structured community interviews mostly with elders in each village and seeking information of the present as well as what it was 25 years ago, the author was able to categorise the households into four groups: remained poor; escaped poverty; became poor; remained not poor. Random samples were drawn from the four sampling frames thus constructed for ascertaining the factors for the shift from poor to non-poor or vice versa or for their stability to remain in the same group.

The households in this methodology deem themselves poor when their members do not have enough to eat or decent clothes to wear, when they accumulate more debts without being able to repay instalments due on past debt and when they cannot afford to send their children to school. This was the common understanding arrived at by the assembled community group who described each household's current as well as past status.

Reliable health care at affordable rates, the author concludes, should figure prominently in the list of developmental interventions, as it will arrest people's lapse into poverty. Further if they are provided with affordable sources of credit for this purpose by expanding more micro-credit operations in the rural areas, indebtedness to private moneylenders could be checked. There should be better dissemination of information about new income-earning opportunities, about preventive side of healthcare, about technical details of irrigation for controlling and reducing poverty. Local-level investigations aimed at

learning more about the obstacles the poor face and the strategies they adopt to deal with poverty may have to be carried out in different regions.

As discussed by Bhalla and Lapeyre (1999) in their work on Poverty and Exclusion in a Global World, the social exclusion approach focuses not only the **distributional** but also the **relational** aspects of poverty. They suggest three types of indicators as relevant in this context:

- i. access to public goods and services, particularly education and health,
- ii. access to labour market, and
- iii. social participation in terms of, say, rates of trade union memberships and local associations.

### **1.3 Access and Costs of Legal Services**

Disputes relating to land and property as well as other problems, in which members of poor households are involved, often require large resources in terms of money as well as time. Access to and costs of legal services are therefore very important in examining vulnerability and causes of both chronic and transitory poverty. In India, systems like Lok Adalats and fast-track courts have been developed to mitigate the severity of this problem.

### **1.4 Gender and Poverty Reducing Policies**

Several studies reveal that gender inequality is costly to development. Understanding the gender-specific nature of dimensions of poverty help design better poverty reducing policies. It has been observed that “Men and women experience poverty differently. As a result of their different constraints, options, incentives, and needs, women and men frequently have different priorities and are affected differently by many kinds of development interventions” World Bank (A Source Book for Poverty Reduction Strategies, p. 339). Attention to gender generally improves both efficiency and equity. Taking women out of typically low-wage low-productivity activities in rural areas and exposing them to entrepreneurial roles by accessing credit, helps in taking households above the poverty line. In preparing women to play these roles, attention towards education and health is quite important.

## **1.5 Approaches to Poverty Alleviation**

### **a. Treating Poor as Patients**

Often poverty alleviation is approached as a corollary of its view as an income deficit. If the gap from the poverty threshold is filled up by an income transfer equivalent to amount of the deficit, the poverty problem stands resolved. This however is a very narrow view as it amounts to treating the poor as patients and asking for administering the medicine of income transfer. It does not take into account the incentive effects of such transfers. Sen (1995) argues for treating the poor not as “patients” but as economic “agents” whose own choices and actions are central to the strategy for poverty alleviation.

### **b. Helping Poor to Help Themselves**

In this approach, the poor are viewed as economic agents whose responses must be taken into account in any strategy of poverty alleviation. As a corollary to the capability handicap view of poverty, the emphasis in this approach is to strengthen the capabilities of the poor so that they themselves are able to generate such incomes as would keep them above the poverty thresholds.

### **c. Poor as Potential Contributors to the Economy**

Pieterse (2001) observes: “Poverty is not simply a deficit ... ‘poverty’ can also be a resource”. In this approach, the poor are not viewed as a problem, but rather as an unexploited source of economic strength. They constitute potential for augmenting the growth of the economy and diversifying its product base. In a recent contribution, Prahalad and Hart (2002) take the view that there has been an implicit division in society between those working towards the needs of the rich (MNCs) and those working for the poor (NGOs and governments). Prahalad and Hart conceive of this rift as an opportunity to link the world’s poor and rich in a single market that would promote sustainable growth and development. In their view, the opening up of the markets of India, China, Soviet Union and Latin America, has released a source of a massive market and demand that lies latent in the four billion poor of the world who constitute, in their terminology, ‘Tier 4’ of the global market. This tier has a per capita income of less than \$1500 [purchasing power parity (PPP)] per year with the majority of its people living in urban slums, rural villages, and other circumstances that make it difficult to access this market. Prahalad and Hart argue here that it is in fact possible for the MNCs to serve Tier 4 by means of new products and services, in a

manner that is harmonious with the sustainable development of a region. The pro-Tier 4 strategy should encompass improvements in price-performance, new view of quality, sustainability, and profitability.<sup>1</sup>

The investments needed for establishing a commercial infrastructure catering to Tier 4 would involve municipal governments, NGOs, financial institutions and community representatives, amongst others, demanding a new type of leadership from managers, particularly in terms of encouraging the innovation needed in technology, business models, and management processes. In this context, the government, the NGOs and the private sector can play a complementary role in creating purchasing power which can generate a virtuous cycle of growth and poverty reduction. Considering the vast amount of the world's population who are either unemployed or earning less than the minimum considered necessary to sustain life, creating purchasing power is critical in the strategy geared towards the bottom tiers of the world market.

Two important interventions in this regard relate to provision of access to credit and an increase in the potential of income earning for the poor. The importance of commercial credit in the building of a consumer market is exemplified by the success stories of the Singer Sewing Machine Company, a private firm in the USA, and the Grameen Bank in Bangladesh, a grassroot initiative. A large segment of Tier 4 population lives in physical isolation from most urban centers, creating major impediments to development like inadequate distribution and communication systems and disconnection from the organised sectors of the market. Creating and maintaining distribution and access directed both to and from the poor population is a major element of the Tier 4 strategy. Establishing distribution and communication networks for Tier 4 provides a single connected market that includes the rich and the poor.

Governments can also play a role in augmenting the income-generating activities of Tier 4, by earmarking government purchases from producers belonging to specified groups, as exemplified by the recent decision of Madhya Pradesh government to purchase at least 25 percent of government requirements from suppliers from SC/ST individuals and groups.

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<sup>1</sup> They draw an interesting contrast between Hindustan Lever and Nirma, in the context of market for detergent, with Nirma providing an example of the success of the pro-Tier 4 strategy.

#### **d. Static and Dynamic Perspectives**

While most poverty studies have a static frame of analysis, a few have attempted to provide a dynamic perspective. While the standard practice is essentially static, current household circumstances can be rather uninformative about longer-term levels of living (Chaudhuri and Ravallion, 1994; Jalan and Ravallion, 1996). Household living standards are changing over time, and in often unpredictable ways, making it difficult to distinguish between persistent vis-à-vis transient poverty as also between the impact of policies aimed at ‘protection’ of the poor as distinct from those meant for the ‘promotion’ of the poor.

Identification of ‘virtuous cycles’, whereby a push to equitable human and physical resource development can be instrumental in promoting equitable economic growth. Resource development is critical as evidenced in the East Asian successes in promoting both equitable growth and human development (World Bank, 1993; Birdsall, *et. al.*, 1995). Comparable data across states of India over 30 years also indicate that human and physical infrastructure endowments mattered greatly to the amount of growth and how pro-poor it was (Datt and Ravallion, 1996). By the same token, economies with high initial inequalities of human capital may get stuck in a ‘macro-poverty trap’ of low and inequitable growth. Clearly, more understanding about the state-dependence of the paths out of poverty is critical to designing effective poverty alleviation policies.

#### **e. Preventive Versus Promotional Approaches**

Two kinds of approaches to poverty alleviation may be distinguished. In one case, an attempt is made to promote the productivity and income earning capacity of the individual by enabling him to obtain ownership of assets and augment his capacities through better education and health. In the second approach, the attempt is to provide, through income support or other subsidies, such means as would fill up the gap between the poverty line and his existing income or expenditure.

#### **f. Poverty as Source of Negative Externalities**

Poverty is associated with many negative externalities including crime, disease, and negative impact on environment. Some of these externalities extend beyond national boundaries. Increasingly for these reasons, poverty has become a primary concern of the international economic agenda including multilateral and bilateral assistance. Donors have shifted their attention towards the poor, as signalled by McNamara’s (1973) celebrated

“Nairobi speech”. Donor priorities have shifted towards rural development designed to benefit the “poorest 40 percent”, giving up the earlier approach, which tilted towards the heavy (and largely urban) infrastructural lending. Supplementary programmes to compensate the poorer segments of the society from market oriented reforms had become common in the late eighties. More recently, poverty reduction has been placed centre stage in external assistance profiles. The World Bank (1990, 1991a), UNDP (1990), the Asian Development Bank (1992), IFAD (1992), and other agencies have spelt out criteria for anti-poverty lending. The World Bank (1992) has also set operational guidelines for this purpose.

## **1.6 Summary**

Although traditionally poverty was considered in term of nutritional deprivation, it is now considered more in terms of multi-dimensional deprivation comprising lack of access to safe drinking water, health, education, and housing. Further, poverty is seen also as a subjective phenomenon in terms of capability handicap. Education and health are primary means to overcome the capability handicap. Since, budgetary interventions often attempt to provide many of the services including health and education at subsidised prices, the benefit incidence of such provision is important in determining the impact of fiscal policies on poverty reduction.

An effective design of policy intervention should take into account the nature of poverty – chronic vis-à-vis transient, primary vis-à-vis secondary, core vis-à-vis marginal, and static vis-à-vis dynamic. Budgetary policies geared towards poverty reduction can be justified both on grounds of minimising the negative externalities of poverty, and for tapping the unexploited growth potential of the masses at the bottom of the pyramid.

The objective of the present study is to consider fiscal policy reforms that can effectively improve the poverty reducing impact of fiscal policy. Changes may be necessary in the size of the budget, the composition of expenditure, the structure of subsidised provision of services, income support policies and other direct interventions. This study aims to examine the impact of fiscal policies on poverty reduction in India and identify changes that can improve the role of fiscal policy in this context.

## Chapter 2: APPROACHES TO MEASURING POVERTY

Although poverty is conceptualised in alternative ways, measurement of poverty has generally focused on measuring it in the income space. Measurement of poverty consists of two parts, *viz.*: (i) defining and estimating a poverty line, and (ii) calculating a summary measure of aggregate poverty as a weighted sum of income shortfalls from the poverty line. More recently, attention is also being paid to measurement of poverty by considering deprivations in other dimensions like health, education, and access to safer water.

Ravallion (1996) identifies a number of important considerations for a credible approach to poverty measurement. In his view, a sensible view of poverty should take account of

- i. the distribution of real expenditure per single adult, covering all market goods and services;
- ii. indicators of access to *non-market goods* for which meaningful prices cannot be assigned, such as access to non-market education and health services;
- iii. indicators of *distribution within* households including measures of gender disparities and child nutritional status; and
- iv. indicators of certain *personal characteristics* which entail unusual constraints on the ability to escape poverty, such as physical handicaps or impairments due to past chronic undernutrition.

This chapter looks into approaches and issues concerning measurement of poverty. It is divided into seven parts dealing respectively with (1) defining a poverty line, (2) aggregate poverty measures, (3) the axiomatic framework characterising poverty measures, (4) graphical representations of poverty, particularly, poverty curves, (5) measurement of poverty in multiple dimensions, (6) poverty and intra-family perspective, and (7) data and measurement problems in poverty estimation.

### 2.1 Poverty Line: Concept and Measurement

#### a. Absolute and Relative Thresholds

In most measurement exercises, there is a sharp dividing line below which a person is counted as poor. This divider is often called the “poverty line”. The general approach to specifying a poverty line is to estimate the cost of a bundle of goods deemed to assure that

basic consumption needs are met. For developing countries, the most important component of a basic needs poverty line is the food expenditure necessary to attain a specified food energy intake, which may be augmented by an allowance for non-food needs.

Setting food energy requirements, however, is quite problematic. There is little direct evidence on energy requirements. One widely used procedure (FAO/WHO/UNO 1985) is to take energy requirements relative to alternative levels of activity and body weight. Activity levels may be endogenous socio-economic variables rather than exogenous physiological variables. A normative judgement needs to be made about desirable activity levels, so that corresponding energy requirements may be determined.

Another problem relates to measuring the cost of the normative nutritional requirement, and in making provision for non-food consumption. A popular and often preferred method is to find the consumption expenditure at which a person is expected to attain the food energy requirement. This can be estimated from establishing a relationship between food intake and consumption expenditure. Depending on how the relevant norms are defined, the poverty line can be determined. Many a time, the poverty line is defined with reference to absolute norms that are exogenously specified.

However, the relationship between food energy intake and consumption or income is not going to be the same across sub-groups or dates, and it shifts according to differences in income, tastes, activity levels, relative prices, levels of publicly provided goods, and other relevant factors.

Some other methods aim to directly measure the cost of a normative food and non-food consumption bundle. The food bundle is related to the nutritional requirement, consistent with the tastes of the poor. Data on food prices are used for valuation. Setting the non-food component is more difficult. If non-food prices are not available, a reasonable choice [Ravallion (1993a), Ravallion and Bidani (1994)] for the non-food component of the poverty line is the expected non-food spending of those who are capable of reaching the food component. However, normative judgements would still be needed.

An internationally popular poverty line is the World Bank's "Dollar-a-day" threshold. The number of people living in households wherein the daily consumption per head is less

than (PPP) \$1 a day in constant 1985 PPP dollars are labelled as poor. This threshold has been recently updated to \$1.08 in 1993 PPP dollars, but is still referred to as the dollar-a-day poverty level. For country-specific calculations, these would be converted into the local currency in 1993, and then updated using a consumption deflator.

The generally preferred indicator of household living standards is a suitably comprehensive measure of current real consumption, given by a price-weighted aggregate over all marketed commodities consumed by the household from all sources. This is preferred to current income for two reasons. Current consumption rather than current income is a better indicator of standard of living, assuming that within-period utility depends directly on within-period consumption. Secondly, current consumption is a better indicator of long-term average well-being as it incorporates information about incomes in the past and those expected at future dates.

In most societies the notion of what constitutes “poverty” goes beyond the attainment of the absolute minimum needed for survival. Hence poverty lines assume a relative character. Poverty lines are also defined in relative terms, in relation, for example, to the mean income of a country. For many policy purposes, the precise location of some poverty line may not be so material as the poverty comparison across dates and sub-groups.

The relative poverty line is often considered useful in a cross-national context, where this approach would suggest choosing a poverty line that varies with each country’s average income. A commonly used choice is to set the poverty line at a common percentage of median income. Relative poverty comparisons are primarily comparisons of the dispersion of income at the low end of the distribution. During a recession, an absolute measure of poverty might indicate that poverty is increasing while a relative measure of poverty may indicate that it is abating. Relative poverty measures imply that every society, except those where everyone receives exactly the same income, would have some poverty. Hence, a society may have relative poverty and at the same time have no absolute poverty.

The existence of a relative element in the nature of poverty has long been recognised. For example, Adam Smith had observed that ‘necessaries’ include ‘not only the commodities which are indispensably necessary for the support of life, but whatever the custom of the country renders it indecent for creditable people, even of the lowest order, to be without’.

Recent measurement approaches derive the relative poverty line ( $z^*$ ) more directly from information on incomes in the society in question, without the need to specify or estimate the cost of a basket of necessities, i.e.,  $z^* = f(s)$ ,  $z^* = g(y_{\min}, y)$ ,  $z^* = h(y)$ , where the income information used may be on social security payment rates ( $s$ ), perceptions of minimally adequate income ( $y_{\min}$ ) and/or actual incomes themselves ( $y$ ).

Relative poverty measures do not reflect the well being of those who are poor. A person may be relatively poor but may or may not be absolutely poor. It is also difficult to interpret an improvement in relative poverty. There may be a reduction in relative poverty along with an increase in absolute poverty. Similarly, relative poverty may increase while absolute poverty may decline. Relative measures are not so useful for policy makers who are concerned with reducing the number or intensity of absolute poverty. However, changes in relative poverty do provide useful information on changes in the degree of inequality.

Combining absolute and relative poverty lines, attempts have been made to construct 'hybrid poverty thresholds'. For example, Foster (1998) has considered that hybrid poverty thresholds depend both on an absolute and a relative standard. He proposed a hybrid poverty line as weighted geometric average of a relative threshold  $z_r = \alpha r$  and an absolute threshold  $z_a$ , namely,  $z = z_r^\rho z_a^{1-\rho}$ , where  $0 < \rho < 1$ . A hybrid line like this has the property that a 1 percent increase in the living standard 'r' leads to a 'ρ' percent increase in the poverty line, where 'ρ' is the elasticity of the poverty line with respect to the living standard. Fisher (1995) had termed this the *income elasticity of the poverty line*. It is also possible to interpret  $\rho = (dz/dr)(r/z)$  as a measure of the extent to which a given threshold 'z' is relative. When  $\rho = 0$ , z corresponds to an absolute poverty line, and when  $\rho = 1$ , it is a relative poverty line.

Fuchs (1969), while advocating the relative approach had argued that the threshold should be recognised as a national value judgement and should be arrived at through the normal political process. Foster argues that, in this context, the relevant subject of public discussion would be the determination of the income elasticity of the poverty line, which is linked to the question as to the extent to which the poor should share in economic growth. The National Research Council of the National Academy of Sciences has proposed the hybrid standard at  $\rho = 0.65$  (Citro and Michael, 1995 p. 143).

**b. From Individual to Household Poverty Lines**

The poverty line per person is usually defined with reference to an adult person. To extend this to the household, adults and children are to be clubbed. This requires use of relevant equivalence scales. Equivalence scales are intended to reflect the extent to which income must increase as household size increases in order to maintain the current level of well being. These equivalence scales consist of a set of numbers,  $E_i$ , one for each household; ' $E_i$ ' is equal to the ratio of income for the  $i$ -th household to income for some reference household, such that the level of well being is the same in both households. ' $E_i$ ' can be thought of as the household size expressed as its equivalent in numbers of single-adult households, so that  $Y_i/E_i$  represents income per equivalent adult (or "equivalent income").

' $E$ ' could be allowed to depend on any of a number of characteristics of the household. Cutler and Katz (1992), have suggested scales of the following form:

$$E(A_i, C_i) = (A_i + kC_i)^e.$$

The poverty line for a household with ' $A$ ' adults and ' $C$ ' children (under the age of 18) is  $E(A, C)$  times the poverty line for a lone-adult household. The constant ' $e$ ' represents the extent to which there are economies of scale in income sharing; the smaller is ' $e$ ', the greater is the extent of these economies. The constant ' $k$ ' allows the needs of children to differ from those of adults. Most researchers agree that ' $e$ ' should be greater than zero but less than one. Buhmann, *et. al.* (1988) suggest that  $e=0.75$  is typical of scales used by "expert analysts" wishing to count numbers of low-income individuals. Blackburn (1994) has used  $e = 0.5$  and  $k = 0.4$ .

It may be noted that mathematical measures of poverty and inequality, which are seemingly objective, embody values that reflect typically the historical, political, social, and ethical forces at the time of their formulation.

**c. Some Implications of Income-Based Poverty Lines**

Income as a proxy for poverty does not fully capture a family's (or individual's) command over goods and services. For example, a given income level can mean different standards of living across regions. These differences arise due to regional variations in price levels and living requirements (e.g., rural vs. urban costs of living), availability of goods,

transfer payments, availability of public and publicly provided private goods, etc. In spite of these difficulties and in the absence of a more practical and accurate proxy, income is the most widely used measure for determining poverty. Once specified, the income level used to determine poverty, i.e., the “poverty line”, must be kept constant in real terms so as to permit meaningful comparisons over time.

The difficulties that arise in determining a poverty line are compounded when issues of international poverty are considered. For example, an international poverty line must account for cultural differences in defining human needs, types and levels of transfer payments, exchange rates and inflation rates, etc. Such problems have constrained the development of a universally accepted international poverty line. Hence, a number of different international poverty lines have been used to measure poverty.

The poverty line is generally considered as conceptually flawed as it is specified by a discrete income level. But poverty does not end abruptly once an additional rupee of income raises an individual’s income beyond a discretely defined poverty line. It may be more accurate to conceive of poverty as a continuous function of varying gradations. However, discrete poverty lines are extensively used because of practical advantages.

Callan and Nolan (1991) highlight the importance of the assumption of ‘no inefficiency or waste’ in defining an income-based poverty line.

$$E^* = (1 + H) p.x^*,$$

where ‘H’ represents the proportion in excess of the strict minimum cost budget.

As Sen has emphasised, the conceptual distinction between ‘direct’ and ‘income’ methods of applying a ‘basic needs’ type of approach is important. The former identifies those whose actual consumption levels across a range of commodities fail to meet minimum accepted levels. The latter identifies those who do not have the *ability* to do so.

#### **d. Staggered Poverty Lines**

In order to capture the core of poverty, poverty line may be considered in incremental steps. This may help better organise poverty reduction policies. Should a poverty reduction

scheme aim to reach the poorest, even if there are no beneficiaries who gain enough to escape poverty, or should it concentrate on those closer to the poverty line? This trade off is worth analysing in each empirical situation. Lipton (1983b, 1989) has argued for focusing on the “ultra-poor”, identified as that sub-set of the poor who are at serious nutritional risk. Lower poverty lines can help focus on the core of poverty. The emphasis on ‘Antyodaya’ programmes in Government policies in India also reflects the same concern

## 2.2 Aggregate Poverty Measures

Once a poverty threshold has been defined, the second step in measuring poverty requires aggregation of the shortfalls in income/consumption from the poverty threshold. A number of poverty “indexes” have been constructed in this kind of framework. Much of the initial work was done by Sen (1976, 1981), followed by Kakwani (1979), Thon (1979), and Takayama (1979). A recent measure which has gained considerable acceptance was proposed by Foster, Greer and Thorbecke (1984), known as the FGT index. Given the proliferation of poverty measures proposed in the literature, a number of survey papers have also appeared in the literature like Foster (1984), Seidl (1988), Chakravarty (1990), Sen (1979, 1983 and 1992), Kundu (1981) and Borooah (1991). A recent survey on poverty measurement (Zheng, 1997) provides a comprehensive analysis of the axiomatic framework behind different poverty measures explaining the properties of each poverty measure and the relationships among axioms and the poverty measures.

While quite a number of poverty measures have been proposed in the literature, only a few have been used in actual practice. Most official estimates still use the head count ratio. Some of the important measures proposed in the poverty literature are considered below.

The following symbols are used

- n = total population
- z = poverty line
- m = number of poor (below poverty line)
- $y_i$  = income (or other relevant indicator) of individual i
- $\mu$  = mean income of the whole population
- $\mu_p$  = mean income of the poor
- G<sub>p</sub> = Gini coefficient among the poor
- H = Head count ratio
- P = Poverty gap ratio

Incomes are arranged in non-descending order:

$$y_1 \leq y_2 \leq \dots \leq y_m < Z \leq y_{m+1} \leq \dots \leq y_n$$

Most poverty measures can be seen as normalised weighted sums of poverty gaps, viz.,

$$P = A \sum_{i=1}^m w_i (z - y_i) + B \quad (1)$$

Some of the important poverty measures are defined below:

**a. Head Count Ratio**

The head count ratio is defined as

$$H = m/n \quad (2)$$

The head count ratio ignores the extent of poverty, distribution of income among the poor, mean and distribution of income of the non-poor. It is not sensitive to transfer of income from poor to rich or among the poor so long as the recipient does not cross the poverty line.

**b. Poverty Gap Ratio**

The poverty gap ratio is defined as

$$P = \sum_{i=1}^m (z - y_i) / mz = (z - \mu_p) / z \quad (3)$$

The poverty gap ratio measures the average depth of poverty relative to the poverty line. But it also ignores income distribution among the poor. It is also insensitive to income transfers among the poor so long as nobody crosses the poverty line.

**c. Sen Index**

The Sen index is defined as

$$P(\text{Sen}) = \frac{2}{(m+1)nz} \sum_{i=1}^m (n+1) \left( \frac{z - y_i}{z} \right) \quad (4)$$

Viewed as a normalised weighted sum of poverty gaps [Equation 1], it implies that

$$A = 2/(m+1)nz; B = 0, \text{ and } w_i = (m + 1-i)$$

The Sen index ordinarily ranks incomes of the poor according to their relative deprivation among the poor. The number of non-poor enter the term “A”, but not their income characteristics. It is a measure ‘focused’ on the distribution of income among the poor. The weighting scheme provides transfer sensitivity to the measures in the sense that if income is transferred from a poor to a higher income poor, poverty would increase provided the richer person does not cross the poverty line.

The measure can also be written in the following form

$$P(\text{Sen}) = H [1 - (1 - I) \{1 - G_p.m/(m + 1)\}] \quad (5)$$

where I is the income gap ratio and  $G_p$  is the Gini-coefficient of incomes among the poor.

#### d. Takayama’s Poverty Measure

Takayama attempted a translation of the Gini coefficient of income inequality into a poverty measure.

$$P(\text{Takayama}) = \frac{2}{\mu^* n^2} \sum_{i=1}^n (m + 1 - i) (\mu^* - y_i^*) \quad (6)$$

where

$$y_i^* = y_i \text{ for } y_i < z \quad (i = 1, \dots, m) \text{ and}$$

$$y_i^* = z \text{ for } y_i > z \quad (i = m + 1, \dots, n)$$

$\mu^*$  is the mean income of the censored distribution.

Takayama’s measure incorporates information about the non-poor also, except that it is defined over a censored distribution of income:  $y_i^*$  instead of the actual distribution  $y_i$ .

#### e. FGT Index

One of the poverty measures, which has gained considerable popularity in recent years, proposed by Foster, Greer and Thorbecke (1984) is defined as follows:

$$P(\alpha) = \frac{1}{n} \sum_{i=1}^m \left( \frac{z - y_i}{z} \right)^\alpha \quad (7)$$

If  $\alpha = 0$ ,  $P(0) = \frac{m}{n}$ , i.e., the head count ratio.

If  $\alpha = 1$ ,  $P(1) = H. (z - \mu_p)$

A popular form in which  $P(\alpha)$  class of measures is often used is

$$P(\alpha) = \frac{1}{n} \sum_{i=1}^m [z - y_i]^\alpha \quad (8)$$

As the value of  $\alpha$  is increased, greater and greater weight is attached to the shortfall of income from the poverty line.

### 2.3 Axiomatic Framework of Poverty Measures

The functional form of a poverty measure depends largely upon the objective of the exercise, i.e., what the poverty measure is meant to convey. This is why an axiomatic framework, first used by Sen (1976), has frequently been used in the context of measuring poverty. Since Sen's 1976 paper, scholars have developed several poverty measures in an axiomatic framework. However, the first set of axioms proposed by Sen still constitutes the core of poverty measurement today. Some of the relevant axioms are discussed below.

#### a. Focus Axiom

This axiom was proposed by Sen in his 1976 paper, although it was explicitly stated in 1981. The focus axiom requires a poverty measure to be independent of the *income distribution* of the non-poor. If poverty is regarded as an absolute deprivation of the poor, as suggested by Sen, then the focus axiom is quite appropriate. However, if one wants to measure the difficulty of eliminating poverty by redistributing income from the non-poor to the poor, then the income distribution of the whole population needs to be considered and the focus axiom needs to be given up. There is also the issue as to what extent, information of the non-poor can be used: just their number, number and their mean income, or number and the entire income distribution. In Sen's measure, the number of the non-poor is used. Researchers have frequently used *censored income distributions* instead of the income distribution of the non-poor to incorporate more information about the incomes of the non-poor without using the actual distribution of the incomes of the non-poor. For the strong definition of poverty, one needs to set all non-poor incomes to a level above the poverty line.

**b. Replication Invariance Axiom**

The replication invariance axiom involves the property that the pooling of several identical income distributions does not affect the level of income inequality. This enables a direct comparison of inequality and poverty levels, because any two different-sized income distributions can be replicated to the same size. This axiom was introduced by Chakravarty (1983) and Thon (1983b). Earlier Dasgupta, Sen and Starrett (1973) had discussed this requirement which extends Atkinson's (1970) work on comparing inequalities of income distributions. Atkinson had established an unambiguous relationship between Lorenz dominance and welfare ranking, based on his result for a fixed population. Some of the early proposed poverty measures (including one of Sen's measure) violate this axiom.

**c. Continuity and Restricted Continuity Axioms**

Watts (1968) was the first to discuss this axiom. He argued that 'poverty is not really a discrete condition' and 'one does not immediately acquire or shed the afflictions that is associated with the notion of poverty by crossing any particular income line'. Therefore it is appropriate to maintain the graduation provided by a continuum in measuring poverty. The continuity axioms come in alternative versions. Foster and Shorrocks (1991) distinguish continuity and restricted continuity. Donaldson and Weymark (1986) used continuity. Chakravarty (1983a) uses strong continuity.

Donaldson and Weymark (1986) have argued that one consideration for requiring continuity is the inaccuracy of income data. The restricted continuity axiom says that given a very small change in a poor person's income, we should not expect a huge jump in the poverty level. The additional content of *continuity* over *restricted continuity* is the continuity of the poverty measure at the poverty line.

**d. Symmetry Axiom**

This axiom says that the names of income recipients do not matter for measuring the intensity of poverty enabling one to use an ordered income distribution. However, for measuring time-related change of poverty or lifetime poverty, this axiom will have to be given up.

**e. Monotonicity Axiom**

Used by Sen (1976), this axiom says that a drop in a poor person's income should increase the poverty level. Donaldson and Weymark (1986) and later Seidl distinguish between the weak and strong forms of this axiom. The monotonicity axioms state that other things being the same, a decrease in a poor person's income should increase the overall poverty level. However, the strong and weak forms of the axioms are not equivalent, although *strong monotonicity* implies *weak monotonicity*, the reverse is not always true. This non-equivalence arises in a situation when the increment of a small amount of income to a poor person lifts him out of poverty. In this case, *weak monotonicity*, together with *continuity*, implies *strong monotonicity*.

**f. Transfer Axiom**

Proposed by Sen (1976), the transfer axiom requires the poverty measure to be sensitive to the redistribution of income among the poor. Dalton (1920) had discussed this property in his discussion on income inequality referring to it as the 'principle of transfers'. Donaldson and Weymark (1986) distinguish between different forms of transfer axioms, *viz.*, minimal and weak transfer axioms, and regressive and progressive transfer axioms, by incorporating the possible effects and directions of transfers.

The core of the transfer axiom is that an equalizing transfer (from a richer person to a poor person) should decrease the poverty measure, while a disequalizing transfer (from a poor person to a richer person) should increase the poverty value. By definition, *minimal transfer* is the weakest form among these four axioms while *progressive transfer* is the strongest form.

The difference between the weak forms (*minimal transfer* and *weak transfer*) and the strong forms (*regressive transfer* and *progressive transfer*) lies in whether the transfer makes any one cross the poverty line. The difference between *minimal transfer* and *weak transfer* is that *minimal transfer* restricts the transfers within the poor group (and, of course, no one becomes non-poor from the transfer) while *weak transfer* extends to include the transfers between a poor person and a non-poor person.

According to Foster, Sen had offered two general lines of argument for the weak form of the transfer axiom. One was based upon the 'comparisons of utility gains and losses in a

world where the marginal utility of income is positive but diminishing'. The other is made in terms of a notion of relative deprivation: when a regressive transfer takes place from a more deprived poor person to a less deprived poor person, 'in a straightforward sense the overall relative deprivation is increased' (Sen 1981, p. 31).

**g. Monotonicity Sensitivity Axiom**

Proposed by Kakwani (1980), this axiom says that a poverty measure should be more sensitive to a drop in a poor person's income, the poorer the person is. In this sense, this axiom is identical to *minimal transfer*. Just like the independence between the monotonicity axioms and *minimal transfer*, *monotonicity sensitivity* does not necessarily imply *weak monotonicity*.

**h. Weak Transfer Sensitivity and Transfer Sensitivity Axiom**

The basic idea of the weak transfer sensitivity axiom is that the poverty assessment should give more emphasis to transfers taking place down in the distribution, other things being equal. Although the transfer sensitivity axiom has been used in measuring income inequality and poverty, a complete definition was given by Shorrocks and Foster (1987). They considered the weak form of transfer sensitivity as placing 'too many constraints on ... transfers' and 'relatively few transfers satisfy the requirements' (Shorrocks and Foster, 1987). They gave a general definition for *transfer sensitivity* for the measurement of income inequality, and subsequently introduced it into poverty measurement (Foster and Shorrocks, 1988a).

The difference between *weak transfer sensitivity* and *transfer sensitivity* is that the former requires  $P(x; z) < P(y; z)$  to be true only for all equal-amount and equal-distance transfers among the poor; the latter requires  $P(x; z) < P(y; z)$  to be satisfied for any variance-preserving and mean-preserving composite transfer. The amounts of two transfers for *transfer sensitivity* do not have to be the same and the distances between two pairs of persons involved do not have to be equal.

## **2.4 Poverty Curves**

Graphical representations of poverty (as in the case of income inequality) can serve as powerful analytical tools for understanding the nature and intensity of poverty. One such

device is the “Three ‘I’s of Poverty” (TIP) curve. The three I’s relate to the incidence, intensity, and inequality dimensions of aggregate poverty. TIP curves are based on distributions of poverty gaps, i.e., income shortfalls from the poverty line. Orderings of distributions by non-intersecting TIP curves correspond to unanimous poverty orderings according to a wide class of poverty indices. The TIP curve has useful applications in poverty comparisons across time, across regions and countries, and between population sub-groups of different household composition.

Let  $x: (x_1, x_2, \dots, x_n)$  denote a distribution of income among ‘n’ persons/households where incomes are arranged in non-descending order,  $0 < x_1 \leq x_2 \leq \dots \leq x_n$ , and let ‘z’ be the poverty line. Let  $g_x$  be the vector of poverty gaps associated with incomes ‘x’ [ $g_{xi} = \max(z - x_i, 0)$ ] and ‘ $b_x$ ’ is the associated vector of censored incomes [ $b_{xi} = \min(x_i, z) = z - g_{xi}$ ]

The TIP curve for poverty gaps, denoted by  $TIP(g; p)$  where  $0 \leq p \leq 1$ , plots against  $p$  the sum of the first 100 percent of  $g$ -values divided by the total number of persons. Thus,  $TIP(g; 0) = 0$  and  $TIP(g; k/n) = \sum_{i=1}^k g_i / n$  for integer values  $k \leq n$ . At intermediate points,  $TIP(g; p)$  is obtained by linear interpolation. Thus,  $TIP(g; p)$  is an increasing concave function of  $p$ , with slope at a given percentile equal to the poverty gap for that percentile. The curve is horizontal at all  $p$  corresponding to incomes at or above the poverty line.

The incidence dimension of poverty is indicated by the length of the TIP curve’s non-horizontal section. The head count ratio is that ‘ $p$ ’ at which the curve becomes horizontal. The intensity dimension of poverty is given by the height of the TIP curve. The vertical intercept at  $p = 1$  is the aggregate poverty gap averaged across all income-receiving units. The average poverty gap amongst the poor is equal to the slope of the ray from  $(0, 0)$  to  $[h, TIP(g; h)]$ . The inequality dimension of poverty is given by the degree of concavity of the non-horizontal section of the TIP curve. If the poverty gaps were equal for all the poor, this section would be a straight line with slope equal to ‘ $z$ ’ minus the average income amongst the poor.

The TIP curve for normalized poverty gaps also have the same shape properties and shows the “three ‘I’s of poverty”. Its right-hand vertical intercept is the FGT index with  $\alpha = 1$ , and the income-gap ratio is given by the slope of the ray from  $(0, 0)$  to  $[h, TIP(\Gamma; h)]$ . Just

as the Gini coefficient equals the ratio of the area above the Lorenz curve to the area above the maximum inequality Lorenz curves, the modified-Sen index equal to the ratio of the area under the TIP curve for normalised poverty gaps to the area under the maximum poverty TIP curve.

## **2.5 Measurement of Poverty in Multiple Dimensions**

Considerable attention has been paid to measuring poverty in the income space, measuring poverty in a multidimensional space is far more challenging but relevant. Important dimensions that need to be covered relate to health, education, access to water, and access to economic opportunities.

Health poverty is looked at in terms of mortality rate (MR) and infant mortality rate (IMR) and life expectancy. In ‘Attacking Poverty’ (2000-01), the World Bank, on the basis of contributions of Rowntree (1901), says “mortality could be used as an indicator both of consumption poverty and of ill-being in a broader sense”. There are considerable data problems related to health data. IMR and other related statistics are available on the basis of census survey information only at periodic intervals. Life expectancy is often not measured directly.

Education poverty may be judged from gross primary enrolment. But enrolment serves only as a proxy for attendance, and often, it is not a reliable proxy. Aspects like vulnerability are even more difficult to measure.

An important issue in the measurement of multi-dimensional poverty is that of aggregating poverty estimates with respect to the different dimensions. A weighted sum or a composite index can be derived by assigning different weights to different aspects. In measuring changes in poverty, an additional problem arises when two dimensions of poverty move in different directions.

The UNDP has recently proposed using two new measures of human deprivation, *viz.*, Capability Poverty Measure (CPM, 1996) and Human Poverty Index (HPI 1977), with a new to widening the ambit of poverty measurement beyond income poverty.

The CPM combines three deprivations, *viz.*, relative to health, healthy reproduction, and education. These are represented by (i) proportion of children under 5 who are under weight, (ii) proportion of births unattended by trained health personnel, and (iii) female illiteracy. These three deprivations, which focus on the position of children and women, have been given equal weight in constructing the composite index.

The HPI index includes the following: (i) proportion of people with life expectancy of less than 40 years, (ii) adult illiteracy rate, and (iii) a combined index based on population without access to safe water, health services and of under nourished children below age 5. Using these, the HPI index is defined as indicated below:

$$HPI = \left[ P_1^3 + P_2^3 + P_3^3 \right]^{1/3}$$

where

- $P_1$  = % of people with life expectancy below 40 years.
- $P_2$  = % of people who are illiterates
- $P_3$  =  $\left( \frac{1}{3} P_{31} + \frac{1}{3} P_{32} + \frac{1}{3} P_{33} \right)$
- $P_{31}$  = % of people without access to safe water
- $P_{32}$  = % of people without access to health services
- $P_{33}$  = % of moderately and severely undernourished children.

But the UNDP's attempt (1990) to overcome the aggregation problems via single indicator of human development is subject to many difficulties as pointed by Kanbur (1990), Anand (1991), and McGillivray and White (1993).

## 2.6 Poverty and Intra-Family Perspective

While many studies assume an equal sharing of resources within households, this assumption has often been questioned particularly in relation to women and children, especially the female child. Some of the studies, where this phenomenon has been highlighted are Charles and Err (1987), Daly (1992), Ehrenreich (1986), Glendinning and Millar (1988), Haddad and Kanbur (1990), Lazear and Michael (1986), Millar and Glendinning (1989), Pahl (1983 and 1989), Rimmer (1981), Vogler (1989), and Young (1952). In a recent review Findlay and Wright (1996) observe that if women are not receiving their fair share, some women residing in "non-poor households" may in fact be "poor". Likewise, some men residing in "poor households" may not be "poor". In the presence of

unequal sharing of resources, conventional methods of poverty measurement will lead to an *underestimate* of female poverty and an *overestimate* of male poverty.

Wright (1995) using simulation of micro data for Italy and the U.S. has examined the issue of intra-family poverty and contends that significant intra-family inequality does vitiate the results of the standard approach to poverty measurement. In his simulations, the assumption that individual household members are allowed to keep their “fair-share” of resources was relaxed. Instead, it was assumed that women “lose” and men and children “gain” because of unequal sharing. His results indicate that if there is significant intra-household inequality of this type, conventional methods of poverty measurement based on the equal sharing of resources will lead to a *serious* under-estimate of the incidence and intensity of female poverty and an over-estimate of the incidence and intensity of male poverty. Quibria (1995) has also argued in favour of the need for specific gender focus in measuring poverty as well as in devising poverty alleviation programmes.

The gender-focus in a study of poverty is relevant because of two reasons. First, there is an information problem. Information about the incidence of poverty insofar as individual cases are concerned is imperfect. This problem is compounded if poverty is interpreted as a multidimensional, rather than a single dimensional disadvantage. The second reason relates to the moral hazard problem, i.e., people change their behaviour to qualify as poor and receive public support from welfare programmes targeted toward the poor. Thus, the process of identifying the poor indirectly through well-established correlates, such as gender, may involve less error than the direct method of observing poverty.

Even if there is no special sense of deprivation of women, greater social sector investment targeted women than men can be justified if the social rate of return on investment in women is higher than that in men. This argument makes a case for greater social investment in women — in their health, nutrition, education, and training, on grounds of *efficiency*, based on the assumption that there is a market failure that leads to a sub-optimal allocation of investment in health, nutrition, education and training, especially when it comes to investment in women vis-à-vis men. The main thrust of the efficiency argument is that there is a rationale, for government intervention in the social sector, particularly in the context of women.

Several studies, especially from India and Bangladesh like Agarwal (1986), Banerjee (1983), Behrman (1988a and 1988b), Chen, Huq and DeSouza (1981), Sen and Sengupta (1983), Sen (1988), and Taylor and Faruque (1983), claim that intra-household consumption disparity exists between sexes while others find no such disparities. Others like Basu (1989 and 1993), Behrman and Deolalikar (1990), Das Gupta (1987), and Harris (1990) do not find such intra-household consumption disparity. A recent paper by Pitt, Rosenzweig, and Hassan (1990) provides some evidence of discrimination in Bangladesh against females in the distribution of calories. They note, however, that when account is taken of marginal energy expenditures, men undertaking energy-intensive work suffer a 'tax' that exceeds that of adult females, thereby indicating some discrimination against males.

Income disparities relate to disparities in resource endowments or disparities in the returns to assets. If female poor suffer from disadvantages of both poverty and discrimination, efforts at alleviating female poverty need to address both these issues. In this context, a direct approach would encompass various asset transfer programs directed at women. These can redress poverty through improving the asset-ownership of women. The indirect approach relates to various programmes and policies to improve the prevailing economic environment like elimination of market imperfections, dissemination of information, promotion of competition with a view to having a positive impact on growth, and the returns to assets owned by women.

The rules of intra-household allocation are shaped by economic forces as well as by norms and values of the society. These perpetuate gender disparities and even if government policies are sympathetic, some aspects of gender disparity resist change.

## **2.7 Data and Measurement Problems in Poverty Estimation**

Income (or consumption) poverty measures have a number of measurement problems. The results often vary between different recall periods. It is generally found that one month recall data provides higher poverty estimates as compared to 7-days' recall data. There are also measurement errors regarding conversion of household data into measures relating to individuals. Considerable problems exist in updating poverty lines and differentiating them between regions or states. Household data do not reveal inequality within the household, and can thus understate inequality or poverty.

In international comparisons of poverty, poverty thresholds like “dollar-a-day” are used. Deaton (2001) has recently examined the basis of the measurement practice in defining a poverty line like “Dollar-a-day”. He questions the reliability of a measurement tool that is subject to significant fluctuations, which might overshadow more important changes. He refers to two types of revisions to PPP exchange rates: those resulting from better information or elimination of previous errors, and those coming from the change of base depending on the relative prices of commodities in the base year. The latter could be a significant source of problems, considering the fact that PPP exchange rates are not currently designed to capture all the factors and nuances of poverty bundles. Deaton suggests initiating an international comparison mechanism, based on a more appropriate poverty bundle (than one based almost exclusively on primary and volatile goods, such as oil), checking those numbers in each country, and then holding these fixed.

At the country level, Deaton discusses the major controversy between utilising national accounts and using survey estimates of consumption, especially when the discrepancy between them seems to be increasing as it is in India. This drift is very common around the world, and it is generally in the same direction with survey growth rates of consumption being considerably lower than national accounts of growth rates.

Deaton also discusses the implication of using consumer price indexes that are constructed from two components: sets of prices from retail shops and markets, and a set of weights derived usually from household expenditure surveys. In his view, both components could result in various problems, most notably a significant urban bias and associated results.

Household survey data, according to Deaton have three significant limitations: (i) coverage (e.g., neglecting information on publicly provided goods and services), (ii) reference periods (overly long reporting periods), and (iii) income versus consumption. Deaton postulates that those countries with income surveys tend to be assigned higher poverty rates as compared to those with consumption surveys.

Even the absolute standard implies the use of subjective judgements at various stages. For food, nutritional studies do not permit a precise estimate of what is ‘needed’. As Atkinson (1983) has stressed, there is ‘rather a broad range where physical efficiency declines with falling intake of calories and proteins’. For other expenditures and to some

extent for food as well, 'needs' as defined by experts will be based on what are in effect *social* rather than scientific criteria. There may be arbitrariness in respect of both of the selection of commodities deemed to be necessities and the minimum quantity required. Budget standards often make allowances for items that are not considered necessities, and for the fact that consumers do not actually allocate their expenditure 'optimally', this leaves scope for judgement and arbitrariness.

Idson and Miller (1999), in the context of child poverty incidence, also question the usefulness of standard poverty measures. They examine the implications of the method used to calculate the CPI for measuring trends in child well being. Their research on the CPI suggests that it overstates changes in the cost of living. They consider the question as to whether the CPI over - or understates changes in the cost of living for certain demographic groups, in particular, families with children. It is likely that families with children consume markedly different consumption bundles than families without children, implying that these families may also experience different rates of change in the cost of living. They find that families with children spend a somewhat higher share of their budgets on food, clothing, and transportation, and a somewhat lower share of their budgets on medical care and housing.

## **2.8 Qualitative and Quantitative Methods of Poverty Appraisal**

Methods of investigating facets of poverty and its underlying causes have often been described by terms like numerical versus non-numerical, specific versus general, established versus participating, and qualitative versus quantitative. A recent work entitled 'Q-Squared' edited by R. Kanbur (2003) provides an appraisal of qualitative and quantitative methods of poverty analysis and brings together the proceedings of a workshop on "Qualitative and Quantitative Poverty Appraisal: Complementarities, Tensions and Way Forward" held at Cornell University on March 15-16, 2001. Complementarities between the two approaches are natural but 'tensions' arise only when the appraisal of a poverty situation by the two methodologies gives contradictory messages.

Kanbur describes five key features of information collection and analysis to see whether a particular investigation can be described as QL or QN. These are:

1. Type of Information on Population: Non-Numerical to Numerical;
2. Type of Population Coverage: Specific to General;
3. Type of Population Involvement: Active to Passive;
4. Type of Inference Methodology: Inductive to Deductive; and
5. Type of Disciplinary Framework: Broad Social Sciences to Neo-Classical Economics.

Analyses that are based on non-numerical information, specific and targeted in their population coverage, require active involvement from the population covered, use inductive methods of inference, and operative in the broad framework of social sciences can be considered as belonging to the qualitative end of the spectrum. However, much mixing and matching is possible along these dimensions, and most studies have both a qualitative as well as a quantitative dimension.

Both QL and QN techniques have some weaknesses and certain strengths. On the QN techniques, Ravallion identified the two critical problems as ‘identification problem’ and ‘referencing problem’. The identification problem refers the issue of ‘weighting’ aspects of individual behaviour which are not revealed by market behaviour. The referencing problem relates to determining the reference level of welfare above which one is deemed not to be poor. This involves determining the poverty line in welfare space in relation to which the money-metric poverty line can be defined. David Sahn has raised the issue of weak explanatory power of income or expenditure in regard to health, educational attainment, social exclusion, insecurity and other measures of deprivation. The correlations between money-metric and other measure of poverty or deprivation are often quite low.

It is generally recognised that the strengths of the qualitative approach lie in richer definition of poverty, more insight into causal processes, more accuracy and depth of information on certain questions. It is also generally recognised that it helps to combine the two approaches Gury Fields talks of “From Cointegration to Mr. Isaacs” and V. Rao of “it helps to have had tea with a statistical outliers”. However, as Thorbecke (2003) argues, at least there is general agreement that poverty is an illusive, highly multi-dimensional concept and that different definitions of poverty can lead to very different assessments of the magnitude of poverty.

## 2.9 Summary

Measurement of poverty requires defining a poverty line that may be absolute or relative measures of distances of the relevant indicators from the poverty thresholds and aggregating these using relevant weights. Some of the important problems in poverty measurement relates to defining the poverty line and updating these for comparisons over time and across cross-sections. International comparisons are particularly difficult. Other issues relate to intra-family deprivations, and measuring poverty not with one but a stratum of poverty lines. This chapter has looked at some of the salient poverty indices available in the literature, their axiomatic basis, and their important characteristics. It also examines problems of measurement when poverty is conceptualised as a multi-dimensional deprivation.

## Chapter 3: POVERTY IN INDIA

### 3.1 Introduction

Having been initiated by the study of Dadabhai Naoroji in the pre-independence period, studies on poverty in India earnestly took off in the early sixties, after a poverty line was suggested in 1962 by a working group, which included among others, D. R. Gadgil, B. N. Ganguli, P. S. Lokanathan, and V.K.R.V. Rao. The group had proposed a national minimum level of living as involving a private consumption expenditure of Rs. 20 per month per capita at 1960-61 prices. Since then, adjusted poverty thresholds were worked out from time to time by economists like Minhas, Bardhan, Dandekar and Rath, and Ahluwalia. Attempts were also made (e.g., Minhas, 1989) to work out state-specific poverty lines separately for rural and urban areas. Since the Sixth Plan, the Planning Commission has been estimating poverty on the basis of the recommendations of a Task Force on Projections of Minimum Needs and Effective Consumption Demand which was set up in 1977 to bring together projections of the results of the studies. The Task Force presented its Report in 1979.

In September 1989, an Expert Group under the Chairmanship of D.T. Lakdawala was constituted to review the definition of poverty line and the estimation methodology. The Group was reconstituted with changed composition in March 1990 with D.T. Lakdawala as Chairman. In its Report of July 1993, the Expert Group set out an alternative estimation methodology and provided estimates using the NSS Consumer Expenditure Survey, and state-specific poverty lines. They prepared estimates for 1973-74, 1977-78, 1983, 1987-88 and 1993-94. The recommendations of the Expert Group were accepted by the Planning Commission except that the Commission decided to use only the Consumer Price Index for Industrial Workers (CPIIW) for updating the urban poverty line. They were released by the Press Information Bureau of the Government of India on 11<sup>th</sup> March 1997. The main differences between the Task Force and Expert Group methodologies are summarised below.

- i. The Expert Group gave up the practice of adjustment of NSS data on the basis of estimate of private consumption given in the National Accounts Statistics. In 1979, when the Task Force had recommended this adjustment, the adjustment was only about 10 percent. More recently, the adjustment factor has become about 40 percent.
- ii. The Expert Group recommended the use of state-specific poverty lines, instead of one all India poverty line.

- iii. The Expert Group recommended the use of state-specific cost-of-living indices for updating the poverty line. These were to be used separately for rural and urban areas, as against the earlier practice of using one all India index for rural as well as urban areas. The Expert Group recommended the use of Consumer Price Index for Agricultural Labour (CPIAL) for updating the rural poverty line and average of CPIIW and Consumer Price Index for Urban Non-Manual Employees (CPUNME) for the urban poverty line.

Subsequently, Poverty Estimates for 1999-00 were released by the Planning Commission through the Press Information Bureau of the Government of India on 22<sup>nd</sup> February 2001.

### **3.2 Estimating the Poverty Line**

Poverty line in Indian studies has generally been based on either a minimum normative food basket or norms based on calories. The rationale and considerations relating to some of the earlier suggested poverty lines are summarized below.

#### **a. Basic Norms and Initial Estimates**

The Expert Group (1962) in their work *Some Aspects of Planning* had estimated a poverty line at Rs.20 per capita per month at 1960-61 prices based on a minimum normative food basket.

The *Task Force on the Projection of Minimum Needs and Effective Consumption Demand* set up by Planning Commission, 1979, using calorific norms recommended by the Nutritional Expert Group (1968), corresponding to the daily calorie requirement per person of 2435 for rural and 2095 for urban areas, estimated poverty lines at Rs. 49.09 per capita per month for rural areas and Rs. 56.64 per capita per month for urban areas at 1973-74 prices. The *Nutrition Expert Group of the Indian Council of Medical Research (1968)* had suggested average calorie norms for male and females for different age groups. These are given in Table 3.1.

Dandekar and Rath (1971) estimated the rural poverty line on the basis of uniform daily calorific norm of 2250 per person, and estimated rural poverty line at Rs. 15 per capita per month at 1960-61 prices; a 20 percent markup gives the urban poverty line at Rs. 18 per month at 1960-61 prices.

**Table 3.1: Average Calorie Requirements**

Ages	Average Calorie Requirements Per Capita Per Day	
	Male	Female
1	700	700
1-3	1200	1200
4-6	1500	1500
7-9	1800	1800
10-12	2100	2100
13-15	2500	2200
15 plus		
Heavy workers	3900	3000
Moderate workers	2800	2200
Sedentary workers	2499	1900

Source: Report of the Nutritional Expert Group, 1968.

**b. Price Adjustments and Updates**

Subsequently researchers used price adjustments to bring forward these poverty lines. They also used state/region specific price series to construct state/region specific poverty lines. Minhas, *et. al.* (1988) using 1960-61 and 1970-71 as base years, constructed two consumer price indices for total rural population (CPITR) and total urban population (CPITU). They also developed corresponding indices for the middle range of population (CPIMR and CPIMU). The Expert Group (1993) divided the commodities into four broad groups for updating the poverty line.

More recently, Dubey and Gangopadhyay (1998) have estimated poverty lines using alternative price adjustments and norms. In particular, they provide three sets of poverty lines for rural and urban areas separately: OPL for poverty line based on official norms and updated using price adjustment suggested by Minhas, *et. al.* (1988); EOPL for poverty line based on official norm but updated using price adjustment suggested by the Expert Group (1993); and APL for poverty line using alternative norm (based on Dandekar and Rath approach). They estimated poverty lines for 1987-88 and 1993-94, state-specific as well as for all-India, rural and urban, separately (Table 3.2).

**Table 3.2: All India Poverty Lines  
(Rs. Per Person Per Month)**

<b>Rural</b>	<b>OPL</b>	<b>EOPL</b>	<b>APL</b>
1987-88	125.68	115.43	109.26
1993-94	214.31	196.83	186.31
<b>Urban</b>			
1987-88	161.31	165.58	142.03
1993-94	278.68	286.06	245.36

Source: Dubey and Gangopadhyay (1998).

Notes: OPL = Official Poverty Line.

EOPL = Expert Group Official Poverty Line.

APL = Alternative Poverty Line.

**c. Official Poverty Line: 1999-00**

Table 3.3 gives the state-specific official poverty lines for rural and urban areas for 1999-00 and the difference between them (urban minus rural) as percentage of the rural poverty line. Except for Assam, in all cases, the urban poverty line is higher than the rural poverty line. In the case of Andhra Pradesh, the urban poverty line is nearly 74 percent higher than the rural poverty line. For Maharashtra, it is 69 percent higher, and in Tamil Nadu it is about 55 percent higher. Rural and urban poverty lines in the states as percentage of all India corresponding poverty lines are also given in this table. Inter-state variation relative to the all India rural poverty line is in the range of 80 to 114 percent. The range in the case of the urban poverty line is 75 to 119 percent.

Deaton and Dreze (2002) and Deaton (2003) contend that using CPIAL for updating the poverty lines is beset by the fact that the weights are fixed and outdated. They derive alternative price indexes from information in the consumer expenditure surveys themselves. In these, more than 170 commodities are covered and information and quantities and expenditures are given. Using these unit prices can be derived. On this basis, revised poverty lines for 1987-88, 1993-94, and 1999-00 were derived by them. The state specific poverty line estimated by Deaton (2003) for 1999-00 for rural and urban areas are given in Table 3.3.

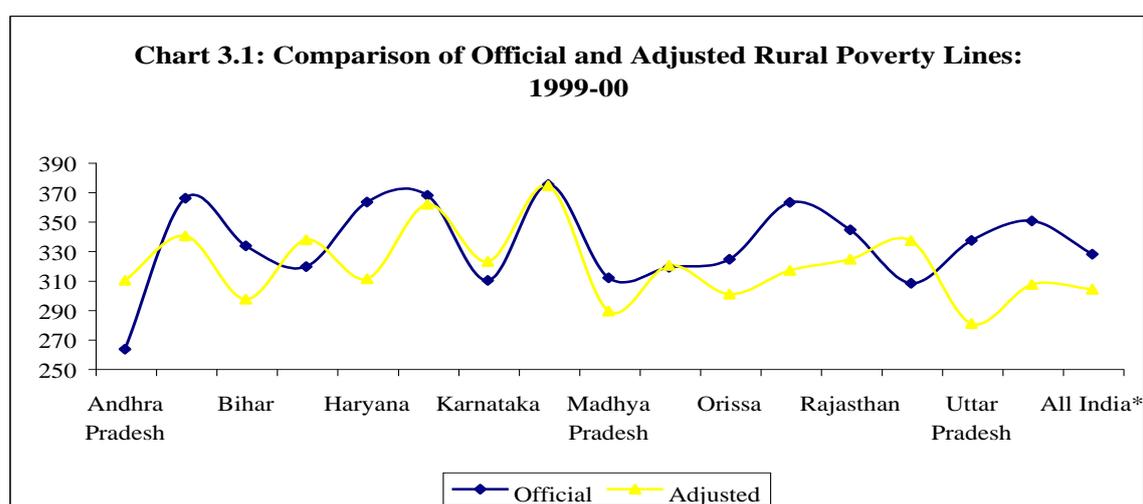
**Table 3.3: State Specific Poverty Lines in 1999-00 (Rs. Per Capita Per Month)**

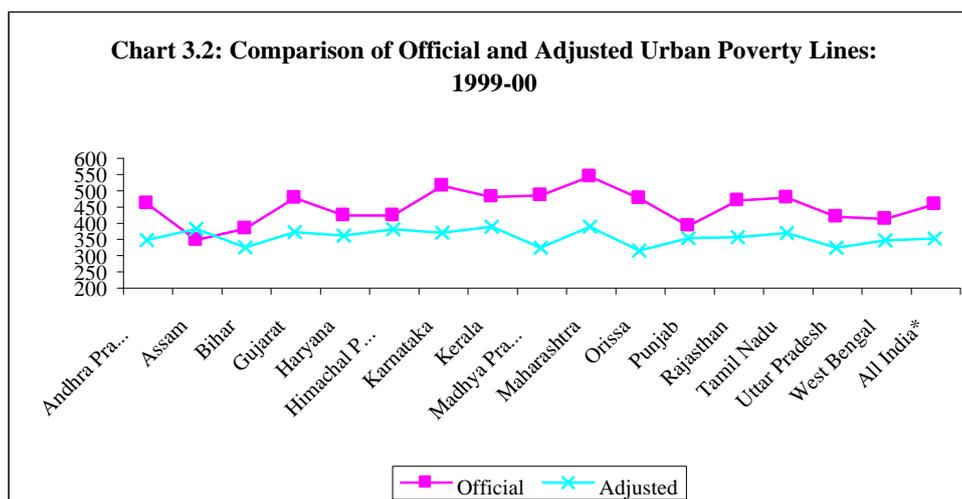
States	Rural	Urban	Difference as Percentage of Rural	Rural Poverty Line as Percentage of All India	Urban Poverty Line as Percentage of All India	Adjusted Poverty Line (Rural)	Adjusted Poverty Line (Urban)
1. Andhra Pradesh	262.94	457.40	73.96	80.27	100.72	309.62	344.76
2. Assam	365.43	343.99	-5.87	111.56	75.75	339.94	378.99
3. Bihar	333.07	379.78	14.02	101.68	83.63	296.87	321.64
4. Gujarat	318.94	474.41	48.75	97.37	104.47	337.32	369.36
5. Haryana	362.81	420.20	15.82	110.76	92.53	310.77	358.38
6. Himachal Pradesh	367.50	420.20	14.34	112.19	92.53	361.34	377.65
7. Jammu & Kashmir	327.56	420.20	28.28	100.00	92.53	300.34	312.34
8. Karnataka	309.59	511.44	65.20	94.51	112.62	322.60	367.22
9. Kerala	374.79	477.06	27.29	114.42	105.05	373.94	386.23
10. Madhya Pradesh	311.34	481.65	54.70	95.05	106.06	288.89	321.29
11. Maharashtra	318.63	539.71	69.38	97.27	118.85	319.85	385.36
12. Orissa	323.92	473.12	46.06	98.89	104.19	300.34	312.34
13. Punjab	362.68	388.15	7.02	110.72	85.47	316.49	350.53
14. Rajasthan	344.03	465.92	35.43	105.03	102.60	323.92	353.15
15. Tamil Nadu	307.64	475.60	54.60	93.92	104.73	336.52	366.08
16. Uttar Pradesh	336.88	416.29	23.57	102.85	91.67	280.49	320.42
17. West Bengal	350.17	409.22	16.86	106.90	90.11	306.84	343.51
18. Delhi	362.68	505.45	39.37	110.72	111.31		
<b>All India*</b>	<b>327.56</b>	<b>454.11</b>	<b>38.63</b>	<b>100.00</b>	<b>100.00</b>	<b>303.52</b>	<b>349.22</b>

Source: Poverty Estimates for 1999-00, Planning Commission (Press Note 22<sup>nd</sup> February 2001), Deaton (2003).

Note: \* The poverty line (implicit) at all India level is worked out from the expenditure class-wise distribution of persons and the poverty ratio at all India level. The poverty ratio at all India level is obtained as the weighted average of the state-wise poverty ratio.

In Chart 3.1 and Chart 3.2, a comparison of the rural and urban official poverty line with the corresponding adjusted poverty line estimated by Deaton (2003) indicates that out of 15 states, in 10 states, adjusted poverty line was lower than the official poverty line in rural areas. The states which had higher adjusted poverty line in rural areas compared to the official poverty line in rural areas are Andhra Pradesh, Gujarat, Maharashtra and Tamil Nadu. In the case of urban poverty line, the adjusted line remained below the official poverty lines for all the states except Assam. The all India adjusted poverty line also remained lower than the all India poverty line.





### 3.3 State Specific Poverty Lines Relative to Per Capita NSDP at Current Prices

In this section, we look at the profile of poverty lines (official) and how they have changed over time. Tables 3.4 and 3.5 gives poverty lines for Rural and Urban areas respectively. These provide the poverty threshold in terms of per capita per months. Correspondingly, the per capita annual poverty line can be derived. It is these annual poverty thresholds that are compared with per capita NSDP for the respective states for four years, viz., 1983, 1987-88, 1993-94 and 1999-00. To avoid the distorting effect of annual fluctuations a three-year average of NSDP is considered for making the comparison. Thus, for 1999-00, the NSDP for 1998-99, 1999-00 and 2000-01 are averaged so that the average is centred in 1999-00. The effect of growth in income would be to shift the mean income or per capita income relative to the poverty line.

Tables 3.6 and 3.7 indicated how poverty line has shifted relative to the mean income of the state. In all cases, poverty line has fallen relative to the mean income. Looking at 1999-00 ratio across states for the rural areas, it is seen that for several states, it is around 20 percent, e.g., Andhra Pradesh, Gujarat, Haryana, Karnataka, Punjab and Tamil Nadu. For Maharashtra, it is below 20 percent. Correspondingly, in these states, the rural poverty HCR is quite low, e.g., 6.35 percent for Punjab and 11.05 percent for Andhra Pradesh.

In states where poverty HCR is still high even though the poverty line is low relative to the mean income reflects inequality in income distribution.

**Table 3.4: State-Specific Poverty Lines: 1973-74 to 1999-00 (Rural)**

		(Rs. Per Capita Per Month)					
States		1973-74	1977-78	1983	1987-88	1993-94	1999-00
1.	Andhra Pradesh	41.71	50.88	72.66	91.94	163.02	262.94
2.	Assam	49.82	60.29	98.32	127.44	232.05	365.43
3.	Bihar	57.68	58.93	97.48	120.36	212.16	333.07
4.	Gujarat	47.1	54.7	83.29	115	202.11	318.94
5.	Haryana	49.95	59.37	88.57	122.9	233.79	362.81
6.	Himachal Pradesh	49.95	59.37	88.57	122.9	233.79	367.50
7.	Jammu & Kashmir	46.59	61.53	91.75	124.33	233.79	327.56
8.	Karnataka	47.24	51.95	83.31	104.46	186.63	309.59
9.	Kerala	51.68	58.88	99.35	130.61	243.84	374.79
10.	Madhya Pradesh	50.2	56.26	83.59	107	193.1	311.34
11.	Maharashtra	50.47	58.07	88.24	115.61	194.94	318.63
12.	Orissa	46.87	58.89	106.28	121.42	194.03	323.92
13.	Punjab	49.95	59.37	88.57	122.9	233.79	362.68
14.	Rajasthan	50.96	57.54	88.57	122.9	233.79	344.03
15.	Tamil Nadu	45.09	56.62	96.15	118.23	196.53	307.64
16.	Uttar Pradesh	48.92	54.21	83.85	114.57	213.01	336.88
17.	West Bengal	54.49	63.34	105.55	129.21	220.74	350.17
18.	Delhi	49.95	59.37	88.57	122.9	233.79	362.68
	<b>All India</b>	<b>49.63</b>	<b>56.84</b>	<b>89.9</b>	<b>115.2</b>	<b>205.84</b>	<b>327.56</b>

Source: Planning Commission (1997, 2001).

**Table 3.5: State-Specific Poverty Lines: 1973-74 to 1999-00 (Urban)**

		(Rs. Per Capita Per Month)					
States		1973-74	1977-78	1983	1987-88	1993-94	1999-00
1.	Andhra Pradesh	53.96	69.05	106.43	151.88	278.14	457.40
2.	Assam	50.26	61.38	97.51	126.6	212.14	343.99
3.	Bihar	61.27	67.27	111.8	150.25	238.49	379.78
4.	Gujarat	62.17	72.39	123.22	173.18	297.22	474.41
5.	Haryana	52.42	66.94	103.48	143.22	258.23	420.20
6.	Himachal Pradesh	51.93	66.32	102.26	144.1	253.61	420.20
7.	Jammu & Kashmir	37.71	55.41	99.62	148.38	253.61	420.20
8.	Karnataka	58.22	68.85	120.19	171.18	302.89	511.44
9.	Kerala	62.78	67.05	122.64	163.29	280.54	477.06
10.	Madhya Pradesh	63.02	74.4	122.82	178.35	317.16	481.65
11.	Maharashtra	59.48	73.99	126.47	189.17	328.56	539.71
12.	Orissa	59.34	72.41	124.81	165.4	298.22	473.12
13.	Punjab	51.93	65.7	101.03	144.98	253.61	388.15
14.	Rajasthan	59.99	72	113.55	165.38	280.85	465.92
15.	Tamil Nadu	51.54	67.02	120.3	165.82	296.63	475.60
16.	Uttar Pradesh	57.37	69.66	110.23	154.15	258.65	416.29
17.	West Bengal	54.81	67.5	105.91	149.96	247.53	409.22
18.	Delhi	67.95	80.17	123.29	176.91	309.48	505.45
	<b>All India</b>	<b>56.76</b>	<b>70.33</b>	<b>115.65</b>	<b>162.16</b>	<b>281.35</b>	<b>454.11</b>

Source: Planning Commission (1997, 2001).

Table 3.6 gives urban poverty line relative to the mean income. Except for Haryana and Punjab where this ratio is 23.9 and 20.3 percent, respectively, it is quite high in other state. However, the ratio of poverty line relative to per capita NSDP has fallen significantly in the urban case also for all states.

**Table 3.6: State-Specific Rural Poverty Lines as % of NSDP at Current Prices  
(Using 1993-94 base NSDP Series)**

	States	1983	1987-88	1993-94	1999-00
1.	Andhra Pradesh	42.75	36.29	26.07	20.55
2.	Assam	58.44	51.31	47.85	44.70
3.	Bihar	81.46	66.33	69.10	67.08
4.	Gujarat	31.26	31.16	23.25	20.70
5.	Haryana	31.66	29.28	25.15	20.59
6.	Himachal Pradesh	42.83	39.17	34.13	24.81
7.	Jammu & Kashmir	36.47	37.63	43.76	31.70
8.	Karnataka	42.26	35.65	28.20	22.14
9.	Kerala	47.56	43.56	35.52	24.81
10.	Madhya Pradesh	47.88	41.37	36.39	34.64
11.	Maharashtra	33.31	29.07	19.37	17.39
12.	Orissa	71.23	57.03	46.90	42.22
13.	Punjab	29.10	26.38	22.23	19.00
14.	Rajasthan	50.93	49.91	42.36	32.93
15.	Tamil Nadu	50.14	37.64	26.20	19.67
16.	Uttar Pradesh	78.47	50.65	49.37	47.76
17.	West Bengal	60.82	40.55	38.49	28.11

Source: Planning Commission (1997, 2001) and EPW (2003).

**Table 3.7: State-Specific Urban Poverty Lines as % of NSDP at Current Prices  
(Using 1993-94 base NSDP Series)**

	States	1983	1997-88	1993-94	1999-00
1.	Andhra Pradesh	62.62	59.95	44.47	35.75
2.	Assam	57.96	50.97	43.75	42.08
3.	Bihar	93.43	82.80	77.68	76.48
4.	Gujarat	46.24	46.92	34.19	30.79
5.	Haryana	36.99	34.12	27.78	23.85
6.	Himachal Pradesh	49.45	45.92	37.03	28.37
7.	Jammu & Kashmir	39.60	44.91	47.47	40.66
8.	Karnataka	60.96	58.41	45.76	36.57
9.	Kerala	58.70	54.45	40.86	31.58
10.	Madhya Pradesh	70.35	68.95	59.78	53.59
11.	Maharashtra	47.74	47.57	32.65	29.45
12.	Orissa	83.64	77.69	72.09	61.67
13.	Punjab	33.20	31.11	24.11	20.33
14.	Rajasthan	65.30	67.16	50.89	44.60
15.	Tamil Nadu	62.74	52.79	39.54	30.41
16.	Uttar Pradesh	103.15	68.15	59.95	59.01
17.	West Bengal	61.02	47.06	43.16	32.85

Source: Planning Commission (1997, 2001) and EPW (2003).

### 3.4 Poverty Estimates: Inter-Temporal Profile

#### a. Official Estimates: Aggregate Measures

The Planning Commission estimates for aggregate poverty, separately for rural and urban areas are given in Table 3.8 for selected years. Table 3.3 gives the related (official) state-wise poverty lines for 1999-00.

Table 3.8: Estimates of Poverty

Years	All India Number (Million)	Poverty Ratio (Percent)	Rural Number (Million)	Poverty Ratio (Percent)	Urban Number (Million)	Poverty Ratio (Percent)
1973-74	321	54.9	261	56.4	60	49.0
1977-78	329	51.3	264	53.1	65	45.2
1983	323	44.5	252	45.7	71	40.8
1987-88	307	38.9	232	39.1	75	38.2
1993-94	320	36.0	244	37.3	76	32.4
1999-00	260	26.1	193	27.1	67	23.6

Source: Planning Commission (1997, 2001).

As per these estimates, the poverty (head count) ratio has come down steadily over time, registering a decline of 28.8 percentage points over a 26 year period, indicating a fall of a little more than one percentage point every year. Even the absolute number of poor, which remained roughly the same between 1973-74 and 1993-94, has come down from 32.9 crore in 1977-78 to 26 crore in 1999-00. The poverty (head count) ratio for rural areas has remained higher than that for urban areas, but the decline in rural poverty has been sharper. The number of urban poor in 1999-00 are more than that in 1973-74, whereas in the case of rural areas, the absolute number of poor have fallen. This is one indication of the growing urbanisation of poverty.

#### b. Official Estimates: Inter-State Profile

Table 3.9 gives inter-state profile of poverty for 1999-00 and Table 3.10 provides an inter-temporal comparison of state-wise poverty profiles for selected years. The detailed tables are given in Tables A1 to A6.

Considering the Planning Commission estimates, 26.1 percent of the population is below the poverty line using state-specific poverty lines which vary between Rs. 269.94 (for Andhra Pradesh) to Rs. 374.79 (for Kerala) for the rural areas, and between Rs. 343.99 (for

Assam) to Rs. 539.71 (for Maharashtra) for urban areas (see Table 3.3). The all India rural and urban poverty lines are estimated at Rs. 327.56 and Rs. 454.11 per capita per month for 1999-00 (see Table 3.3).

**Table 3.9: Number and Percentage of Population Below Poverty Line by States: 1999-00 (30-Day Recall Period)**

States/Union Territories	Rural		Urban		Combined	
	Number of Persons (Lakhs)	Percentage of Persons	Number of Persons (Lakhs)	Percentage of Persons	Number of Persons (Lakhs)	Percentage of Persons
Andhra Pradesh	58.13	11.05	60.88	26.63	119.01	15.77
Arunachal Pradesh	3.80	40.04	0.18	7.47	3.98	33.47
Assam	92.17	40.04	2.38	7.47	94.55	35.09
Bihar	376.51	44.30	49.13	32.91	425.64	42.60
Goa	0.11	1.35	0.59	7.52	0.70	4.40
Gujarat	39.80	13.17	28.09	15.59	67.89	14.07
Haryana	11.94	8.27	5.39	9.99	17.34	8.74
Himachal Pradesh	4.84	7.94	0.29	4.63	5.12	7.63
Jammu & Kashmir	2.97	3.97	0.49	1.98	3.46	3.48
Karnataka	59.91	17.38	44.49	25.25	104.40	20.04
Kerala	20.97	9.38	20.07	20.27	41.04	12.72
Madhya Pradesh	217.32	37.06	81.22	38.44	298.54	37.43
Maharashtra	125.12	23.72	102.87	26.81	227.99	25.02
Manipur	6.53	40.04	0.66	7.47	7.19	28.54
Meghalaya	7.89	40.04	0.34	7.47	8.23	33.87
Mizoram	1.40	40.04	0.45	7.47	1.85	19.47
Nagaland	5.21	40.04	0.28	7.47	5.49	32.67
Orissa	143.69	48.01	25.40	42.83	169.09	47.15
Punjab	10.20	6.35	4.29	5.75	14.49	6.16
Rajasthan	55.06	13.74	26.78	19.85	81.83	15.28
Sikkim	2.00	40.04	0.04	7.47	2.05	36.55
Tamil Nadu	80.51	20.55	49.97	22.11	130.48	21.12
Tripura	12.53	40.04	0.49	7.47	13.02	34.44
Uttar Pradesh	412.01	31.22	117.88	30.89	529.89	31.15
West Bengal	180.11	31.85	33.38	14.86	213.49	27.02
Andaman & Nicobar Island	0.58	20.55	0.24	22.11	0.82	20.99
Chandigarh	0.06	5.75	0.45	5.75	0.51	5.75
Dadra & Nagar Haveli	0.30	17.57	0.03	13.52	0.33	17.14
Daman & Diu	0.01	1.35	0.05	7.52	0.06	4.44
Delhi	0.07	0.40	11.42	9.42	11.49	8.23
Lakshadweep	0.03	9.38	0.08	20.27	0.11	15.60
Pondicherry	0.64	20.55	1.77	22.11	2.41	21.67
<b>All India</b>	<b>1932.43</b>	<b>27.09</b>	<b>670.07</b>	<b>23.62</b>	<b>2602.50</b>	<b>26.10</b>

Source: Planning Commission (2001).

- Notes:
1. Poverty Ratio of Assam is used for Sikkim, Arunachal Pradesh, Meghalaya, Mizoram, Manipur, Nagaland and Tripura.
  2. Poverty Line of Maharashtra and expenditure distribution of Goa is used to estimate poverty ratio of Goa.
  3. Poverty Line of Himachal Pradesh and expenditure distribution of Jammu & Kashmir is used to estimate poverty ratio of Jammu & Kashmir.
  4. Poverty Ratio of Tamil Nadu is used for Pondicherry and Andaman & Nicobar Island.
  5. Urban Poverty Ratio of Punjab used for both rural and urban poverty of Chandigarh.
  6. Poverty Line of Maharashtra and expenditure distribution of Dadra & Nagar Haveli is used to estimate poverty ratio of Dadra & Nagar Haveli.
  7. Poverty Ratio of Goa is used for Daman & Diu
  8. Poverty Ratio of Kerala is used for Lakshadweep.
  9. Urban Poverty Ratio of Rajasthan may be treated as tentative.

**Table 3.10: Poverty Head Count Ratio at the State Level**

Sl. No.	States/Union Territories	(Percent)								
		Rural			Urban			Combined		
		1973-74	1993-94	1999-00	1973-74	1993-94	1999-00	1973-74	1993-94	1999-00
1.	Andhra Pradesh	48.41	15.92	11.05	50.61	38.33	26.63	48.86	22.19	15.77
2.	Arunachal Pradesh	52.67	45.01	40.04	36.92	7.73	7.47	51.93	39.35	33.47
3.	Assam	52.67	45.01	40.04	39.92	7.73	7.47	51.21	40.86	36.09
4.	Bihar	62.99	58.21	44.30	52.96	34.50	32.91	61.91	54.96	42.60
5.	Goa	46.85	5.34	1.35	37.69	27.03	7.52	44.26	14.92	4.40
6.	Gujarat	46.35	22.18	13.17	52.57	27.89	15.59	48.15	24.21	14.07
7.	Haryana	34.23	28.02	8.27	40.18	16.38	9.99	35.36	25.05	8.74
8.	Himachal Pradesh	27.42	30.34	7.94	13.17	9.18	4.63	26.39	28.44	7.63
9.	Jammu & Kashmir	45.51	30.34	3.97	21.32	9.18	1.98	40.83	25.17	3.48
10.	Karnataka	55.14	29.88	17.38	52.53	40.14	25.25	54.47	33.16	20.04
11.	Kerala	59.19	25.76	9.38	62.74	24.55	20.27	59.79	25.43	12.72
12.	Madhya Pradesh	62.66	40.64	37.06	57.65	48.38	38.44	61.78	42.52	37.43
13.	Maharashtra	57.71	37.93	23.72	43.87	35.15	26.81	53.24	36.86	25.02
14.	Manipur	52.67	45.01	40.04	36.92	7.73	7.47	49.96	33.78	28.54
15.	Meghalaya	52.67	45.01	40.04	36.92	7.73	7.47	50.20	37.92	33.87
16.	Mizoram	52.67	45.01	40.04	36.92	7.73	7.47	50.32	25.66	19.47
17.	Nagaland	52.67	45.01	40.04	36.92	7.73	7.47	50.81	37.92	32.67
18.	Orissa	67.28	49.72	48.01	55.62	41.64	42.83	66.18	48.56	47.15
19.	Punjab	28.21	11.95	6.35	27.96	11.35	5.75	28.15	11.77	6.16
20.	Rajasthan	44.76	26.46	13.74	52.13	30.49	19.85	46.14	27.41	15.28
21.	Sikkim	52.67	45.01	40.04	36.92	7.73	7.47	50.86	41.43	36.55
22.	Tamil Nadu	57.43	32.48	20.55	49.40	39.77	22.11	54.94	35.03	21.12
23.	Tripura	52.67	45.01	40.04	36.92	7.73	7.47	51.00	39.01	34.44
24.	Uttar Pradesh	56.53	42.28	31.22	60.09	35.39	30.89	57.07	40.85	31.15
25.	West Bengal	73.16	40.80	31.85	34.67	22.41	14.86	63.43	35.66	27.02
26.	Andaman & Nicobar Island	57.43	32.48	20.55	49.40	39.77	22.11	55.56	34.47	20.99
27.	Chandigarh	27.96	11.35	5.75	27.96	11.35	5.75	27.96	11.35	5.75
28.	Dadra & Nagar Haveli	46.85	51.95	17.57	37.69	39.93	13.52	46.55	50.84	17.14
29.	Daman & Diu	N.A.	5.34	1.35	N.A.	27.03	7.52	N.A.	15.80	4.44
30.	Delhi	24.44	1.90	0.40	52.23	16.03	9.42	49.61	14.69	8.23
31.	Lakshadweep	59.11	25.76	9.38	62.74	24.55	20.27	59.68	25.04	15.60
32.	Pondicherry	57.43	32.48	20.55	49.40	39.77	22.11	53.82	37.40	21.67
	<b>All India</b>	<b>56.44</b>	<b>37.27</b>	<b>27.09</b>	<b>49.01</b>	<b>32.36</b>	<b>23.62</b>	<b>54.88</b>	<b>35.97</b>	<b>26.1</b>

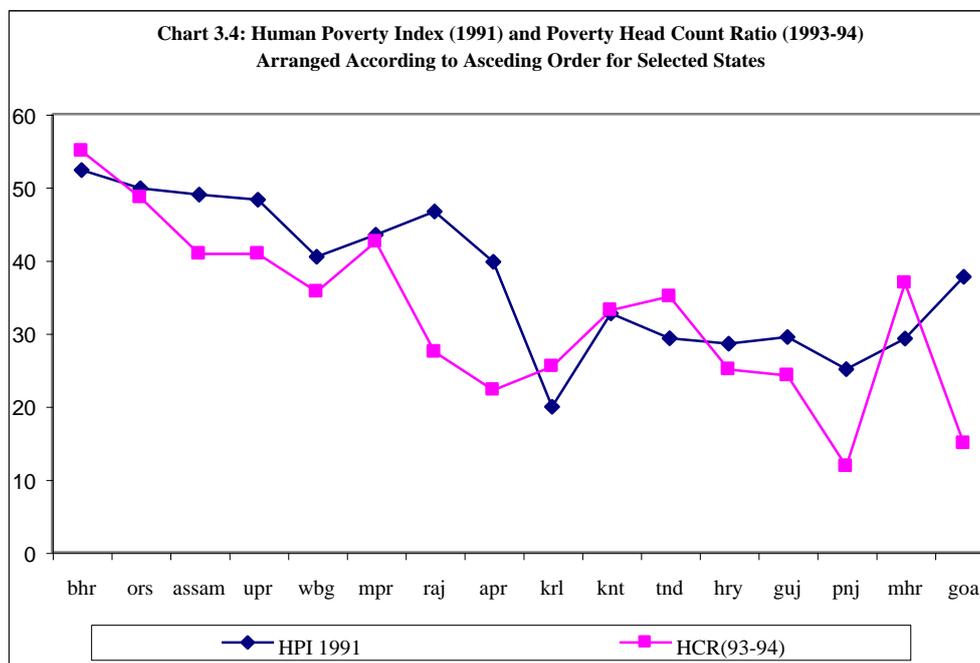
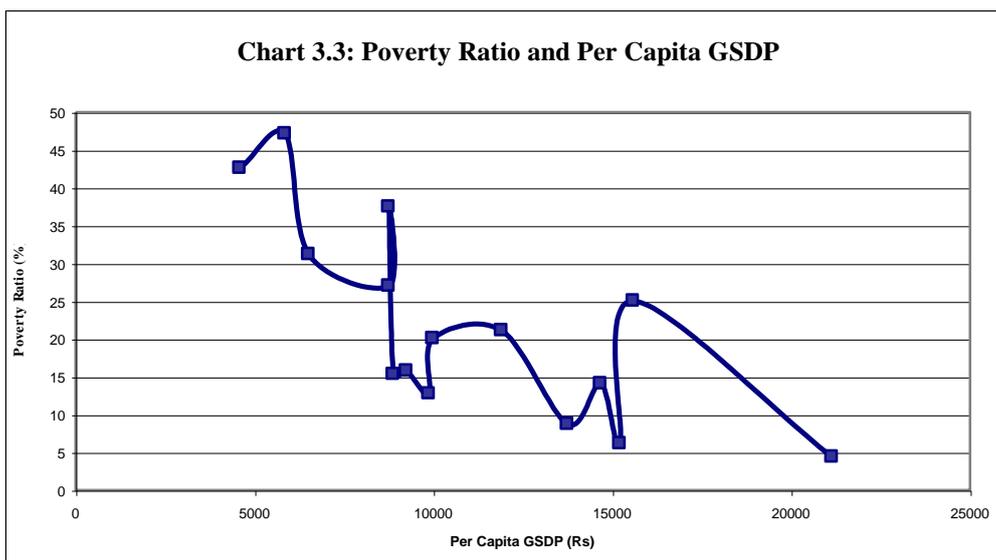
Source: *Economic Survey, 2002*, Ministry of Finance, Government of India.

Notes: N.A. Not applicable

1. Poverty Ratio of Assam is used for Sikkim, Arunachal Pradesh, Meghalaya, Mizoram, Manipur, Nagaland and Tripura.
2. Poverty Line of Maharashtra and expenditure distribution of Goa is used to estimate poverty ratio of Goa.
3. Poverty Line of Himachal Pradesh and expenditure distribution of Jammu & Kashmir is used to estimate poverty ratio of Jammu & Kashmir.
4. Poverty Ratio of Tamil Nadu is used for Pondicherry and Andaman & Nicobar Island.
5. Urban Poverty Ratio of Punjab used for both rural and urban poverty of Chandigarh.
6. Poverty Line of Maharashtra and expenditure distribution of Dadra & Nagar Haveli is used to estimate poverty ratio of Dadra & Nagar Haveli.
7. Poverty Ratio of Goa is used for Daman & Diu.
8. Poverty Ratio of Kerala is used for Lakshadweep.
9. Urban Poverty Ratio of Rajasthan may be treated as tentative.
10. Estimates on a 30-days recall basis for 1999-00.

The 1999-00 estimates of poverty indicate that the head-count ratio is 26.10, with rural poverty ratio slightly above it at 27.09, and the urban poverty ratio below it at 23.62. There are considerable inter-state variations in the poverty ratios. There are a number of states where rural poverty is below 10 percent, e.g., Goa (1.35), Haryana (8.27), Himachal

Pradesh (7.94), Jammu & Kashmir (3.97), Kerala (9.38), Punjab (6.35). Among the Union territories, as expected, the rural poverty ratios are quite low. Among the general category states, Orissa has the highest rural poverty ratio at 48 percent followed by Bihar at 44.3 percent, Madhya Pradesh at 37 percent and Uttar Pradesh at 31.22 percent. If we add the number of rural poor in these four states, that would alone account for 60 percent of the total number of rural poor in the country. A brief exposition of poverty ratio vis-à-vis per capita income shows a clear pattern of negative relationship between HCR and per capita income. The human poverty index and HCR (see Chart 3.3) also show the similar pattern (see Chart 3.4).



There is considerable inter-state variation in the change of incidence of poverty over time. Inter-state comparisons between 1987-88 and 1973-74, 1993-94 and 1987-88, 1999-00 and 1993-94 are shown in Tables A7 to A9. Looking at the inter-state and all India poverty profiles, the following salient features may be highlighted.

- i. All India, state-wise, rural as well as urban – in all cases – poverty head count ratio shows steady decline, the rate of the fall being the fastest in the nineties, i.e., during 1993-94 to 1999-00.
- ii. The 1999-00 estimates indicate average rural poverty head count ratio of 27 percent with Bihar, Madhya Pradesh, Orissa, Uttar Pradesh, West Bengal, and Assam showing above average poverty levels. The other special category states are shown having the same head count ratios as Assam, and will not be referred to separately in the subsequent discussion.
- iii. In the context of urban poverty, the 1999-00 average head count ratio is 23.62 percent, with Andhra Pradesh, Bihar, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Uttar Pradesh, and Assam showing more than average incidence of poverty. The inclusion of some of the higher income states in this list and the non-appearance of West Bengal in this list are notable features.
- iv. The urban head count ratio is higher than the rural head count ratio in the following states: Andhra Pradesh, Gujarat, Haryana, Karnataka, Kerala, Maharashtra, and Rajasthan.
- v. A noticeable general pattern is that overall poverty ratio is higher for lower income states. This pattern is more clear for the rural incidence of poverty.
- vi. The human poverty index is generally higher than the head count ratio for the lower income states, indicating that their poverty is understated by the HCR in respect of important dimensions.

### **3.5 Issues Relating to Official Estimates**

#### **a. Recall Periods**

The Planning Commission presented, using the Modified Expert Group Methodology two sets of estimates of rural and urban poverty. Since these are originally based on National Sample Survey (NSS) data, a significant difference in the estimates emerge when consumption expenditure data based on 7-day recall period is used rather than 30-days recall period. The results based on the former estimates aggregate poverty in India at 23.33 percent Head Count Ratio (HCR) as compared to the 26.10 percent for the 30-day recall period. On the basis of 7-days recall period, the total number of poor goes down by 2.77 crore. The 7-day recall period accounts for the largest difference in terms of number of poor in Bihar (nearly 54 lakh less in rural poor), followed by Uttar Pradesh (32.6 lakh less) and West

Bengal (nearly 26 lakh less). Table 3.11 gives the inter-state comparison between the 7-day and 30-day recall period results.

**Table 3.11: Difference in Number and Percentage of Population Below Poverty Line by States: 1999-00 (30-Day Recall Period Minus 7-Day Recall Period)**

No.	States/UTs.	Rural		Urban		Combined	
		Number of Persons (Lakhs)	Percentage of Persons	Number of Persons (Lakhs)	Percentage of Persons	Number of Persons (Lakhs)	Percentage of Persons
1.	Andhra Pradesh	-9.99	-1.9	-4.92	-2.15	-14.91	-1.98
2.	Arunachal Pradesh	-0.57	-6.04	-0.03	-1.18	-0.6	-5.06
3.	Assam	-13.9	-6.04	-0.38	-1.18	-14.28	-5.45
4.	Bihar	-53.55	-6.3	-5.49	-3.68	-59.04	-5.91
5.	Goa	0.12	1.45	-0.19	-2.49	-0.07	-0.5
6.	Gujarat	-2.93	-0.97	-3.29	-1.83	-6.22	-1.29
7.	Haryana	-0.81	-0.56	-1.06	-1.97	-1.87	-0.95
8.	Himachal Pradesh	-0.21	-0.33	-0.05	-0.68	-0.26	-0.36
9.	Jammu & Kashmir	0.13	0.17	-0.07	-0.28	0.06	0.05
10.	Karnataka	-12.89	-3.74	-5.14	-2.92	-18.03	-3.46
11.	Kerala	-2.77	-1.24	-2.34	-2.36	-5.11	-1.58
12.	Madhya Pradesh	-14.54	-2.48	-6.29	-2.98	-20.83	-2.62
13.	Maharashtra	-15.87	-3.01	-6.06	-1.58	-21.93	-2.41
14.	Manipur	-0.99	-6.04	-0.1	-1.18	-1.09	-4.33
15.	Meghalaya	-1.19	-6.04	-0.05	-1.18	-1.24	-5.12
16.	Mizoram	-0.21	-6.04	-0.07	-1.18	-0.28	-2.97
17.	Nagaland	-0.79	-6.04	-0.04	-1.18	-0.83	-4.94
18.	Orissa	-12.06	-4.03	-1.48	-2.5	-13.54	-3.77
19.	Punjab	-1.67	-1.04	-0.26	-0.35	-1.93	-0.82
20.	Rajasthan	-6.09	-1.52	-1.42	-1.05	-7.51	-1.4
21.	Sikkim	-0.3	-6.04	0	-1.18	-0.3	-5.52
22.	Tamil Nadu	-7.32	-1.87	-4.16	-1.84	-11.48	-1.86
23.	Tripura	-1.89	-6.04	-0.08	-1.18	-1.97	-5.2
24.	Uttar Pradesh	-32.6	-2.47	-7.06	-1.85	-39.66	-2.33
25.	West Bengal	-26.07	-4.61	-2.32	-1.03	-28.39	-3.59
26.	Andaman and Nicobar Islands	-0.06	-1.87	-0.02	-1.84	-0.08	-1.86
27.	Chandigarh	0	-0.35	-0.03	-0.35	-0.03	-0.35
28.	Dadra & Nagar Haveli	-0.04	-2.26	-0.01	-2.63	-0.05	-2.3
29.	Daman & Diu	0.01	1.45	-0.01	-2.49	0.00	-0.52
30.	Delhi	0.05	0.23	-4.9	-4.04	-4.85	-3.48
31.	Lakshadweep	-0.01	-1.24	-0.01	-2.36	-0.02	-1.88
32.	Pondicherry	-0.06	-1.87	-0.15	-1.84	-0.21	-1.84
	<b>All India</b>	<b>-219.08</b>	<b>-3.07</b>	<b>-57.5</b>	<b>-2.03</b>	<b>-276.58</b>	<b>-2.77</b>

Source and Notes: As in Table 3.6.

## b. Indexing of Poverty Lines

Update of the poverty line using CPIAL implies the use of weights that are fixed and outdated. Deaton and Dreze (2002) use alternative price indexes derived from information in the consumer expenditure surveys themselves where, for more than 170 commodities, information on quantities and expenditures are given, on the basis of which unit prices can be calculated. On this basis, Deaton and Dreze provide estimates of adjusted poverty lines. Since this procedure for 1999-00 alone would make it incomparable with the earlier estimates, they

do it for two previous rounds as well, *viz.*, 1987-88 and 1993-94. A detailed analysis of Deaton and Dreze's findings are discussed subsequently in this chapter.

### 3.6 Some Alternative Poverty Estimates

The main data sets from which all India and state-wise poverty estimates are prepared, still remain the various rounds of the NSS. Alternative estimates of poverty have been prepared from time to time using different poverty lines or by making other adjustments.

Dubey and Gangopadhyay (1998) have prepared all India and state-wise poverty estimates, separately for rural and urban areas, using a number of alternative poverty lines. The three main poverty lines, discussed earlier, have been referred to by them as OPL (Poverty line based on official norm and updated using disaggregated price adjustment suggested by Minhas, *et. al.* (1988), EOPL (Poverty line based on the official norm and updated using price adjustment suggested by Expert Group (1993), and APL (Poverty line based on the alternative norm and updated using disaggregated price adjustment suggested by Minhas. Their estimates are for two years, *viz.*, 1987-88 (43<sup>rd</sup> NSS round) and 1993-94 (50<sup>th</sup> NSS round). Adjustments other than relating to poverty line are due to using *census population* as weights, and adjustment due to modification for NSS expenditure estimates and National Income Account Adjustments.

The all India, rural and urban poverty estimates provided by Dubey and Gangopadhyay are given in Table 3.12. State-wise details are given in Tables A10 to A19. Some alternative estimates of poverty ratio [Ozler, Datt and Ravallion (1996) and Datt (1998)] are given in Table 3.13.

**Table 3.12: All India Rural and Urban Poverty Estimates:  
1987-88 and 1993-94**

	1987-88			1993-94		
	OPL	EOPL	APL	OPL	EOPL	APL
All India	47.09	39.72	35.12	40.26	33.47	28.75
Rural	49.38	39.54	36.64	42.70	33.35	30.29
Urban	39.20	40.32	29.86	32.87	33.84	24.08
<b>With Census Population Weights</b>						
All India	47.17	39.77	35.22	40.38	33.51	28.88
Rural	49.61	39.76	36.91	42.85	33.41	30.46
Urban	39.24	40.29	29.86	32.76	33.71	23.95

Source: Dubey and Gangopadhyay (1998).

**Table 3.13: Rural Poverty (1993-94) Head Count Ratio (HC) and Poverty Gap Ratio (PG)**

	HC	PG
<b>South</b>		
Kerala	31.1	7.0
Tamil Nadu	36.7	8.6
Andhra Pradesh	28.9	5.8
Karnataka	41.0	9.8
<b>West</b>		
Maharashtra	47.8	13.2
Gujarat	35.4	7.4
Rajasthan	47.5	11.8
<b>North</b>		
Punjab	20.9	3.2
Haryana	30.2	7.4
Uttar Pradesh	41.6	10.2
Madhya Pradesh	45.4	11.4
<b>East</b>		
Bihar	63.5	17.2
West Bengal	27.3	4.7
Orissa	40.3	8.7
<b>Assam</b>	<b>49.0</b>	<b>9.6</b>
<b>India</b>	<b>43.5</b>	<b>10.9</b>

Source: Cassen (2002).

Apart from the HCR, analysts have also estimated some of the other poverty measures like the Poverty Gap Index (PGI), the Foster, Greer and Thorbecke Index (FGT) and Average Per Capita Total Expenditure of the Poor (APCTEP). For all India, these results from Dubey and Gangopadhyay are given in Table 3.14. Tables A20 to A22 gives the state-wise details.

**Table 3.14: All India Estimates of Alternative Poverty Measures**

	1987-88			1993-94		
	PGI	FGT	APCTEP	PGI	FGT	APCTEP
All India	0.1241	0.0461	100.28	0.0978	0.0341	177.54
Rural	0.1298	0.0480	98.39	0.1030	0.0356	-
Urban	0.1044	0.0393	125.11	0.0820	0.0298	-

Source: Dubey and Gangopadhyay (1998).

Note: PGI and FGT are ratios. APCTEP is in Rupees per month.

### 3.7 Alternative Estimates by Deaton and Dreze

Deaton and Dreze (2000) take note of two kinds of difficulties with the official estimates of HCR. One relates to the distortion that arose by putting together some 7-day recall questions in the 30-day recall questionnaire, side by side with the 30-day recall questions. The three items where the two questions were put side by side related to food, pan,

and tobacco. In this experimental questionnaire, there were other questions with 365-day recall period for some consumer durables. Deaton and Dreze argue that this procedure led the respondents adjusting their 30-day recall answers to their 7-day recall answers. Prior to 1999-00 the experimental questionnaire was given to different and independent households. This led to two independent series of estimates and expenditures shown by household answering the experimental questionnaire were systematically higher than those answering the conventional 30-day questionnaire. In the 1999-00 survey, the new questionnaire was given to the same set of households. According to Deaton and Dreze, the putting together of the 7-day and 30-day questions, and only asking 365 day question for durables (and not the 30-day recall questions for these), have both led to higher expenditure estimates. Deaton and Dreze provide ‘adjusted’ estimates of HCR (in addition to estimating poverty gap index) by making two adjustments.

For 1999-00, Deaton and Dreze (2002) have reworked the poverty estimates using the NSS 55<sup>th</sup> round data for 1999-00. To provide comparable estimates, they have also provided estimates for 1987-88 and 1993-94. The 7-day recall periods provide consistently higher estimates of food intake than the 30-day recall periods. In the 55<sup>th</sup> round, the same sample were asked questions for the 7-day and 30-day recall periods. Respondents adjusted their 30-days answers in the light of their 7-day answers, thereby overstating that food intake for the 30-day recall period. Analysts believe that this biased upwards the food intake for 30-days recall period and therefore underestimated the extent of poverty. For example, Cassen (2002) writes:

“There are grounds for believing that the 30-day recall result was corrupted: people adjusted their answers to the 30-day question according to what they said about their 7-day consumption – certainly the margin between the two did not suggest the consistency found in the earlier experiments when the samples were separate”.

Deaton and Dreze (2002) have reestimated poverty number taking data from the survey which referred to goods that were only recorded on a 30-day basis and which correlate well with the rest of consumer expenditure. They consider that their 1999-00 reestimates are therefore more comparable with the 1993-94 estimates, both based on the 30-day recall period.

**a. Adjustment for Mixed Questions**

The 1999-00 survey had some 30-day recall questions (unaccompanied by the 7-day recall questions). These related to fuel and light, non-institutional medical care and large number of categories of miscellaneous goods and services. They noted that expenditure on these categories of expenditures is highly correlated with total expenditure. They, therefore, used expenditures on these exclusive 30-day recall categories to estimate total expenditures.

The two critical assumptions are: (i) the reported expenditures on these intermediate goods are not affected by the other questions in the questionnaire (in particular, these expenditures were not adjusted downwards by the respondents as they adjusted upwards the expenditures on food, pan, and tobacco); and (ii) the relation between intermediate goods expenditure and total expenditure is much the same in 1999-00 as in 1993-94 (which could happen if there was a significant change in the relative prices of these intermediate categories).

**b. Adjustment for Price Indexes**

Another related adjustment relates to the gap between rural and urban poverty lines. They note that for the mid-1970 to early 1999s, the urban poverty line was about 15 percent higher than the rural line and both were held fixed in real terms. The initial 15 percent gap is based on the 1973-74 calorie consumption data. The modified expert group (1993) adjusted the all India rural and urban poverty lines for state-wise differences, using state-wise price difference calculated from NSS data on quantities and expenditures. Deaton (2001) has derived the new set of poverty lines starting with the official rural all India poverty line for the 43<sup>rd</sup> round (1987-88) at Rs. 115.70 per person per month. From this, state-wise rural poverty lines are obtained using relativities with respect to all India line. The state-wise urban poverty lines are derived by scaling up the rural poverty lines. The move to 50<sup>th</sup> and 55<sup>th</sup> rounds are made using all India rural poverty lines; from which the state-wise rural and urban poverty lines are derived. Accordingly the adjusted estimates of HCR are derived.

These are given for all India (Table 3.15), and state-specific HCR rural and urban (Table 3.16).

**Table 3.15: All India Head Count Ratios**

	(Percent)		
	1987-88	1993-94	1999-00
<b>Rural</b>			
Official estimates	39.4	37.1	26.8
Adjusted estimates:			
Step 1: Adjusting for changes in questionnaire design	39.4	37.1	30.0
Step 2: Revising the poverty lines	39.4	33.0	26.3
<b>Urban</b>			
Official estimates	39.1	32.9	24.1
Adjusted estimates:			
Step 1: Adjusting for changes in questionnaire design	39.1	32.9	24.7
Step 2: Revising the poverty lines	22.5	17.8	12.0

Source: Planning Commission, Press Releases (March 11, 1997, and February 22, 2001), Deaton (2001a, b).

It may be noted that the first adjustment takes the HCR up while the second adjustment brings it down. The net effect brings the all India rural HCR close to the official estimates – 26.3 as compared to 26.8 in the official estimates. The change in the urban estimates are however quite dramatic. The official estimate of all India urban HCR is 24.1, and after the two step adjustment all India urban HCR is only 12.

For the state specific HCRs, the adjusted estimates for rural HCR show much higher numbers for Andhra Pradesh, Gujarat, Karnataka, Maharashtra, Tamil Nadu, i.e., for most of the high income states; and lower HCRs for most of the low income states, as compared to the official estimates. In the case of urban HCR, for almost all states the adjusted HCRs are lower than official estimates. The poverty gap index (PGI) for the three years for all India and rural and urban are given in Tables 3.17 and 3.18.

The main results following from the methodological revisions carried out by Deaton and Dreze may be listed as below:

- i. The adjustment for the questionnaire design (i.e., using the 30-days questions) imply that the rural HCR for 1999-00 is higher by a little more than 3 percentage points; revising the poverty line bring it a little lower than the official estimates.
- ii. For the urban HCR, the first adjustment takes the estimates a little higher than the official estimate; but the revision of the poverty line brings down the urban estimates significantly lower than the official estimates. For 1999-00, the difference is of more than 12 percentage points.
- iii. Similar changes are noted in respect of the poverty gap index. With the revised poverty lines the urban poverty gap index is lower by 3.6 percentage points, becoming less than half of the official estimates.

**Table 3.16: State Specific Head Count Ratios**

States	(Percent)					
	Official Methodology			Adjusted Estimates		
	1987-88	1993-94	1999-00	1987-88	1993-94	1999-00
<b>Rural</b>						
Andhra Pradesh	21.0	15.9	10.5	35.0	29.2	26.2
Assam	39.4	45.2	40.3	36.1	35.4	35.5
Bihar	53.9	58.0	44.0	54.6	48.6	41.1
Gujarat	28.6	22.2	12.4	39.4	32.5	20.0
Haryana	15.4	28.3	7.4	13.6	17.0	5.7
Himachal Pradesh	16.7	30.4	7.5	13.3	17.1	9.8
Jammu & Kashmir	25.9	30.4	4.7	15.3	10.1	6.1
Karnataka	32.6	30.1	16.8	40.8	37.9	30.7
Kerala	29.5	25.4	9.4	23.8	19.5	10.0
Madhya Pradesh	42.0	40.7	37.2	43.7	36.6	31.3
Maharashtra	41.0	37.9	23.2	44.3	42.9	31.9
Orissa	58.7	49.8	47.8	50.4	43.5	43.0
Punjab	12.8	11.7	6.0	6.6	6.2	2.4
Rajasthan	33.3	26.4	13.5	35.3	23.0	17.3
Tamil Nadu	46.3	35.9	20.0	49.0	38.5	24.3
Uttar Pradesh	41.9	42.3	31.1	34.9	28.6	21.5
West Bengal	48.8	41.2	31.7	36.3	25.1	21.9
<b>All India Rural</b>	<b>39.4</b>	<b>37.1</b>	<b>26.8</b>	<b>39.0</b>	<b>33.0</b>	<b>26.3</b>
<b>Urban</b>						
Andhra Pradesh	41.1	38.8	27.2	23.4	17.8	10.8
Assam	11.3	7.9	7.5	13.6	13.0	11.8
Bihar	51.9	34.8	33.5	38.1	26.7	24.7
Gujarat	38.5	28.3	14.8	16.4	14.7	6.4
Haryana	18.4	16.5	10.0	11.8	10.5	4.6
Himachal Pradesh	7.2	9.3	4.6	1.7	3.6	1.2
Jammu & Kashmir	15.0	9.3	2.0	3.8	3.1	1.3
Karnataka	49.2	39.9	24.6	26.0	21.4	10.8
Kerala	39.8	24.3	19.8	21.0	13.9	9.6
Madhya Pradesh	47.3	48.1	38.5	20.7	18.5	13.9
Maharashtra	40.3	35.0	26.7	21.2	18.2	12.0
Orissa	42.6	40.6	43.5	20.8	15.2	15.6
Punjab	13.7	10.9	5.5	6.6	7.8	3.4
Rajasthan	37.9	31.0	19.4	19.8	18.3	10.8
Tamil Nadu	40.2	39.9	22.5	26.2	20.8	11.3
Uttar Pradesh	44.9	35.1	30.8	29.3	21.7	17.3
West Bengal	33.7	22.9	14.7	22.3	15.5	11.3
Delhi	15.1	16.1	9.2	4.7	8.8	2.4
<b>All India Urban</b>	<b>39.1</b>	<b>32.9</b>	<b>24.1</b>	<b>22.5</b>	<b>17.8</b>	<b>12.0</b>

Source: Deaton and Dreze (2002).

Note: The head count ratios labelled “official methodology” are computed from the unit record data using the official poverty lines, as well as the official procedures for assigning poverty rates (or poverty lines) to small states. We have also followed the official treatment of Jammu & Kashmir. The all India poverty rates are computed by adding up the number of poor in each state and dividing by the total population. Because the Planning Commission uses interpolation rather than computations from the unit record data, there are minor differences between these numbers and those published in the official releases. The adjusted estimates are computed as described in the text (and more fully in Deaton and Tarozzi, 2001, and Deaton, 2001b); they use price indexes computed from the unit record data, and correct for the changes in questionnaire design in the 55<sup>th</sup> Round. The final column is a somewhat refined version of the corresponding column in Deaton (2001b). The estimates for Jammu & Kashmir are calculated directly, and not by assuming the poverty line or poverty rate for any other state (as in the official methodology).

**Table 3.17: All India Poverty Gap Indexes**

	<b>1987-88</b>	<b>1993-94</b>	<b>1999-00</b>
<b>Rural</b>			
Estimates from unadjusted data and official poverty lines	9.4	8.4	5.2
Adjusted estimates:			
Step 1: Adjusting for changes in questionnaire design	9.4	8.4	6.4
Step 2: Revising the poverty lines	9.4	7.0	5.2
<b>Urban</b>			
Estimates from unadjusted data and official poverty lines	10.4	8.3	5.2
Adjusted estimates:			
Step 1: Adjusting for changes in questionnaire design	10.4	8.3	5.9
Step 2: Revising the poverty lines	4.8	3.7	2.3

Source: Deaton and Dreze (2002).

### **3.8 Adjustments by Sundaram and Tendulkar**

For the 55<sup>th</sup> round of NSS, in the context of its comparability with the earlier rounds, two kinds of questions have been raised. In all the previous rounds, all questions were canvassed on a uniform recall period of 30-days. The issues of comparability arises in the context of two groups of commodities.

#### **a. Food Group and 7-Day Recall Period**

For ‘food, pan, tobacco and intoxicants’ two alternative recall periods of 30-days and 7-days were used, among the **same** set of households, and recorded two in blocks side-by-side. Only the 30-day recall period-based reporting was published. But critics argue that this might overstate consumption if the 7-days recall period questions were asked first.

#### **b. Durables and Services: 365-Days Recall Period**

For items like clothing, footwear, durables, education and health care (institutional), information was collected **only** on the basis of a 365-days recall period. This, by itself, makes the 55<sup>th</sup> round different from the earlier rounds, because its published results are based on recall periods of 30-days for all items except one group of items where the recall period was 365-days. Thus, while 1999-00 poverty estimates are based on a mixed reference period (MRP) of 30- and 365-days, in all earlier rounds, a uniform reference period (URP) of 30-days was used.

Sundaram and Tendulkar (2003, January and April) resolve these two distinct problems, both related to recall periods, using separate adjustments for each of these problems.

For the problems arising from the juxtaposition of 7 days and 30 days recall periods for the food group items, they consider that results could have been biased in two possible ways. Possibility 1 (P1) implies a downward bias if the 7 days recall was canvassed first. P2 is the case if and when the 30 days recall was canvassed first. In this case the 30 days results would remain unbiased but the 7 days results would be biased upwards.

In order to test whether P1 or P2 was the more important influence, they compare the results of the Consumer Expenditure Survey with that of Employment-Unemployment Survey (EUS) also conducted in the 55<sup>th</sup> round. The EUS was canvassed on an independent sample drawn from the **same** universe of population as the CES, and used reporting based on a 30 day reference period for the **food** group. They conclude, on the basis of this comparison that ... “These differences are too small to support the hypothesis that the CES estimates on the 30 day reference period have been artificially inflated because households extrapolated their 30 day reporting from a 7 day recall”.

However, there is still the issue of mixed reference periods whereby 365 days recall was used for selected items, particularly durable goods and services in the 55<sup>th</sup> round. In the case of this group of items only 365 days recall period was used. Sundaram and Tendulkar make adjustments for the 1993-94 estimates from the 50<sup>th</sup> round to provide comparable estimates.

In the 50<sup>th</sup> round, information on clothing, footwear, durables, education and health (institutional) was collected from each sample household for two alternative reference periods of 30 days and 365 days. Using these, Sundaram and Tendulkar compute two alternative size distributions for the 50<sup>th</sup> round – one based on a uniform reference period (URP) of 30 days, and another based on a Mixed Reference Period (MRP) of 365 days for the items in question. For the remaining items 30 days recall period based information is used in both cases. Thus, they provide alternative estimates based on the MRP for 1993-94, which is then comparable with the 1999-00 estimates that are available only on MRP basis. An alternative set for 1993-94 based on URP can be compared with the 1983 estimates which

were based on the uniform reference period. These are given in Table 2.19. For 1993-94, the MRP estimates in HCR are lower than 1993-94 URP estimates for all estimates. Still considerable improvement is notable in the rural and urban HCR although the margin of improvement is less.

Tables 3.18 and 3.19 bring together alternative estimates of poverty head count ratios for 1993-94 respectively for rural and urban areas. Apart from the official estimates, D&D refers to the estimate Deaton and Dreze (2002) which use adjustment both for recall period (7/30 days) and for poverty line. D1 refers to estimate by Deaton using the official poverty line without adjustment for recalled period but based on unit record data.

**Table 3.18: Poverty Head Count Ratio: Alternative Estimates  
Rural 1993-94**

	States	Official	D&D	D1	SD (URP)	SD (MRP)
1.	Andhra Pradesh	15.92	29.20	15.90	28.60	27.78
2.	Assam	45.01	35.40	45.20	57.85	52.60
3.	Bihar	56.21	48.60	58.00	65.73	64.28
4.	Gujarat	22.18	32.50	22.20	30.20	26.68
5.	Haryana	26.02	17.00	28.30	30.05	27.30
6.	Himachal Pradesh	30.34	17.10	30.40		
7.	Jammu & Kashmir	30.34	10.10			
8.	Karnataka	29.58	37.90	30.10	38.27	32.23
9.	Kerala	25.76	19.50	25.40	34.09	33.53
10.	Madhya Pradesh	40.84	36.60	40.70	36.65	32.23
11.	Maharashtra	37.93	42.90	37.90	51.06	48.82
12.	Orissa	49.72	43.50	49.80	59.57	58.11
13.	Punjab	11.95	6.20	11.70	11.68	14.87
14.	Rajasthan	26.46	23.00	26.40	26.25	21.71
15.	Tamil Nadu	32.48	28.50	33.00	37.87	36.18
16.	Uttar Pradesh	42.28	28.60	42.30	39.14	38.83
17.	West Bengal	40.80	25.10	41.20	53.37	53.18
	<b>All India</b>	<b>37.27</b>	<b>33.00</b>	<b>37.20</b>		
	<b>15 States</b>				<b>43.01</b>	<b>40.97</b>

Sources: Planning Commission (2001).

Deaton and Dreze (2002), Deaton (2003), and Sundaram and Tendulkar (2003).

D&D refers to estimate by Deaton and Dreze by revising the poverty line as well as adjusting for recall periods.

D1 refers to estimate by Deaton using the unit record data.

SD (URP) refers to estimate by Sundaram and Tendulkar using 30 days recall period.

SD (MRP) refers to estimate by Sundaram and Tendulkar using mixed record period of 30 days and 365 days using unit record data.

SD (URP) refers to estimates based on unit record data prepared by Sundaram and Tendulkar using 30 days uniform recall period. SD (MRP) refers to estimates based on unit record data using a mix of 30 days and 365 days as recall period for the relevant items.

On average SD (URP) provides the highest estimates for rural HCR, about 6 percentage points above the official 15 state average. SD (MRP) is lower than SE (URP) but higher than official estimates. D1 is very close to the official estimates. D&D generally gives a lower than official estimate of HCR but for some states, it is higher than the official HCR, notably for Andhra Pradesh, Gujarat, Karnataka, and Maharashtra.

**Table 3.19: Poverty Head Count Ratio: Alternative Estimates  
Urban 1993-94**

States	Official	D&D	D1	SD (URP)	SD (MRP)
1. Andhra Pradesh	32.33	17.80	38.80	36.80	34.59
2. Assam	7.73	13.00	7.90	10.36	7.18
3. Bihar	34.50	26.70	34.80	46.30	41.15
4. Gujarat	27.69	14.70	28.30	29.44	25.82
5. Haryana	16.38	10.50	16.50	11.41	8.53
6. Himachal Pradesh	9.18	3.60	9.30		
7. Jammu & Kashmir	9.16	3.10			
8. Karnataka	40.14	21.40	39.90	33.09	30.29
9. Kerala	24.55	13.90	24.30	27.90	30.12
10. Madhya Pradesh	48.38	18.50	48.10	46.62	44.29
11. Maharashtra	35.15	18.20	35.00	33.29	31.31
12. Orissa	41.64	15.20	40.60	38.49	37.62
13. Punjab	11.35	7.80	10.90	6.97	6.14
14. Rajasthan	30.49	18.30	31.00	32.30	28.64
15. Tamil Nadu	33.77	20.80	39.90	38.67	37.00
16. Uttar Pradesh	35.39	21.70	35.10	34.84	34.42
17. West Bengal	22.41	15.50	22.90	21.41	18.32
<b>All India</b>	<b>32.36</b>	<b>17.80</b>	<b>32.60</b>		
<b>15 States</b>				<b>33.05</b>	<b>31.14</b>

Sources: Planning Commission (1997).

Deaton and Dreze (2002), Deaton (2003), and Sundaram and Tendulkar (2003).

D&D refers to estimate by Deaton and Dreze by revising the poverty line as well as adjusting for recall periods.

D1 refers to estimate by Deaton using the unit record data.

SD (URP) refers to estimate by Sundaram and Tendulkar using 30 days recall period.

SD (MRP) refers to estimate by Sundaram and Tendulkar using mixed record period of 30 days and 365 days using unit record data.

Tables 3.20 and 3.21 give corresponding set of estimates of HCR for 1999-00. In this case D&D refers to estimates provided by Deaton using adjustment for the recall periods as discussed above. SD (MRP) refers to estimates of HCR provided by Sundaram and Tendulkar using the mixed reference period of 30 days and 365 days for the relevant groups of commodities.

**Table 3.20: Poverty Head Count Ratio: Alternative Estimates  
Rural 1999-00**

	States	Official	D&D	D1	D2	SD (MRP)
1.	Andhra Pradesh	11.05	26.2	10.5	14.9	22.01
2.	Assam	40.04	35.5	40.3	44.1	53.41
3.	Bihar	44.30	41.1	44	49.2	51.49
4.	Gujarat	13.17	20.0	12.4	15.4	18.89
5.	Haryana	8.27	5.7	7.4	12.7	7.83
6.	Himachal Pradesh	7.94	9.8	7.5	18.9	
7.	Jammu & Kashmir	3.97	6.1			
8.	Karnataka	17.38	30.7	19.8	25.7	24.09
9.	Kerala	9.38	10.0	9.4	12.6	16.47
10.	Madhya Pradesh	37.06	31.3	37.3	36.4	32.93
11.	Maharashtra	23.72	31.9	23.2	29.2	37.65
12.	Orissa	48.01	43.0	47.8	47.3	56.27
13.	Punjab	6.35	2.4	6	5.9	8.73
14.	Rajasthan	13.74	17.3	13.5	19.6	11.39
15.	Tamil Nadu	20.55	24.3	20	19.9	27.69
16.	Uttar Pradesh	31.22	21.5	31.1	33.7	25.5
17.	West Bengal	31.85	21.9	31.7	37.1	44.18
	<b>All India</b>	<b>27.09</b>	<b>26.3</b>	<b>27</b>	<b>30.2</b>	
	<b>15 States</b>					<b>31.86</b>

Sources: Planning Commission (2001).

Deaton and Dreze (2002), Deaton (2003), and Sundaram and Tendulkar (2003).

D&D refers to estimate by Deaton and Dreze by revising the poverty line as well as adjusting for recall periods.

D1 refers to estimate by Deaton using the unit record data.

D2 refers to estimate by Deaton adjusting for recall periods (30 days instead of 7 days).

SD (URP) refers to estimate by Sundaram and Tendulkar using 30 days recall period.

SD (MRP) refers to estimate by Sundaram and Tendulkar using mixed record period of 30 days and 365 days using unit record data.

**Table 3.21: Poverty Head Count Ratio: Alternative Estimates  
Urban 1999-00**

	States	Official	D&D	D1	D2	SD (MRP)
1.	Andhra Pradesh	26.63	10.8	27.2	27.7	25.91
2.	Assam	7.47	11.8	7.5	8.3	9.58
3.	Bihar	32.91	24.7	33.5	33.8	44.11
4.	Gujarat	15.59	6.4	14.8	16	16.81
5.	Haryana	9.99	4.6	10	9.5	7.49
6.	Himachal Pradesh	4.63	1.2	4.6	4.5	
7.	Jammu & Kashmir	1.98	1.3			
8.	Karnataka	25.25	10.8	24.6	25.5	17.59
9.	Kerala	20.27	9.6	19.8	18.7	23.49
10.	Madhya Pradesh	38.44	13.9	38.5	37.9	38.89
11.	Maharashtra	26.81	12.0	26.7	28.1	25.82
12.	Orissa	42.83	15.6	43.5	41.4	41.92
13.	Punjab	5.75	3.4	5.5	6.3	2.91
14.	Rajasthan	19.85	10.8	19.4	22.8	15.72
15.	Tamil Nadu	22.11	11.3	22.5	24.4	22.99
16.	Uttar Pradesh	30.89	17.3	30.8	30.4	31.75
17.	West Bengal	14.86	11.3	14.7	19.5	12.95
	<b>All India</b>	<b>23.62</b>	<b>12.0</b>	<b>23.5</b>	<b>24.7</b>	
	<b>15 States</b>					<b>24.58</b>

Sources: Planning Commission (2001).

Deaton and Dreze (2002), Deaton (2003), and Sundaram and Tendulkar (2003).

D&D refers to estimate by Deaton and Dreze by revising the poverty line as well as adjusting for recall periods.

D1 refers to estimate by Deaton using the unit record data.

D2 refers to estimate by Deaton adjusting for recall periods (30 days instead of 7 days).

SD (URP) refers to estimate by Sundaram and Tendulkar using 30 days recall period.

SD (MRP) refers to estimate by Sundaram and Tendulkar using mixed record period of 30 days and 365 days using unit record data.

### 3.9 Poverty and the Number of Poor

The absolute number of poor is considered by itself an indicator of poverty. Sometimes even if the head count ratio is going down, the absolute number of poor might be increasing because of population growth. Tables 3.22, 3.23 and 3.24 provide the number of poor for the six years under analysis. State-wise observations may be summarised as below:

**Andhra Pradesh:** The number of rural poor steadily fell. However, the number of urban poor steadily increased until 1993-94 after which it fell.

**Assam:** The number of rural poor first increased in 1977-78 compared to 1973-74 then remained the same upto 1987-88, and then again increased, falling marginally in 1999-00. The number of urban poor however fell until 1993-94 except for 1977-78. In 1999-00 it again increased.

**Bihar:** The number of rural poor increased until 1983, fell in 1987-88, increased again in 1993-94 and fell in 1985-86. In 1999-00, the absolute number of rural poor is more than what it was in 1973-74. A similar pattern is notable for urban poor.

**Gujarat:** The number of rural poor steadily fell. The number of urban poor however increased until 1987-88, fell in 1993-94 and again increased in 1999-00.

**Haryana:** The number of rural poor fell until 1987-88 and then sharply increased in 1993-94, falling again in 1999-00. The number of urban poor increased in 1977-78, then fell and increased again in 1993-94 and fell again in 1999-00.

**Himachal Pradesh:** The number of rural poor increased in 1977-78, fell sharply in 1983, remained at that level even in 1987-88, and rose sharply in 1993-94, again falling sharply in 1999-00. The same pattern is observed in the case of number of urban poor.

**Jammu & Kashmir:** The pattern of Himachal Pradesh is repeated in the case of Jammu & Kashmir. There is a sharp fall in the number of rural poor in 1999-00.

**Karnataka:** The number of rural poor have steadily declined with a sharp fall in 1999-00. The number of urban poor steadily increased until 1987-88, after which there is a fall.

**Kerala:** There is a steady fall in the number of rural poor over the years. However, the number of urban poor increased in absolute terms until 1987-88, after which it fell.

**Madhya Pradesh:** The number of rural poor rose and fell intermittently. In 1999-00, the absolute number of rural poor is just a little less than what it was in 1973-74. The number of urban poor increased almost throughout. The total number of rural and urban poor is more in 1999-00 compared to that in 1973-74.

**Maharashtra:** Compared to respective previous survey years, the number of rural poor increased in 1977-78, and in 1993-94. The number of urban poor increased throughout except in 1999-00, when it fell.

**Orissa:** The number of rural poor increased until 1983 and then fell. In absolute terms, about the same number of rural poor were there in 1999-00 as in 1973-74. The number of urban poor steadily increased over ten years.

**Punjab:** The number of poor fell in 1977-78, remained at the same level until 1973-74, and then fell again. The number of urban poor rose until 1983, after which it fell sharply.

**Rajasthan:** The number of rural poor remained at almost the same level in 1987-88 as in 1973-74. After 1987-88, there was a sharp fall. The number of urban poor increased until 1993-94, after which it fell.

**Tamil Nadu:** The number of rural poor increased until 1983, after which it steadily fell. On the urban side, the number of poor increased until 1993-94 except for 1987-88. There was a sharp fall in 1999-00 in the number of urban poor.

**Uttar Pradesh:** In 1993-94 the number of rural poor were higher than that in 1973-74 by a substantial margin. After that there was a fall. In the case of urban poor, there was a rise throughout except that between 1983 and 1993-94 almost the same number of urban poor were there.

**West Bengal:** The number of rural poor has fallen steadily over the years. The number of urban poor increased until 1987-88, and then fell.

**Table 3.22: Number of Rural Poor**

States	(Lakh)					
	1973-74	1977-78	1983	1987-88	1993-94	1999-00
Andhra Pradesh	178.21	149.13	114.34	96.38	79.49	58.13
Assam	76.37	97.55	73.43	73.53	94.33	92.17
Bihar	336.52	364.48	417.7	370.23	450.86	376.51
Gujarat	94.61	92.53	72.88	74.13	62.16	39.80
Haryana	30.08	26.43	22.03	18.86	36.56	11.94
Himachal Pradesh	9.38	12.48	7.07	7.27	15.4	4.84
Jammu & Kashmir	18.41	19.04	13.11	14.11	19.05	2.97
Karnataka	128.4	120.32	100.5	96.81	95.99	59.91
Kerala	111.36	102.85	81.62	61.64	55.95	20.97
Madhya Pradesh	231.21	247.98	215.48	200.02	216.19	217.32
Maharashtra	210.54	249.75	193.75	186.83	193.33	125.12
Orissa	142.24	162.5	164.65	149.96	140.9	143.69
Punjab	30.47	18.87	16.79	17.09	17.76	10.20
Rajasthan	101.41	88.66	96.77	104.97	94.68	55.06
Tamil Nadu	172.6	182.5	181.61	161.8	121.7	80.51
Uttar Pradesh	449.99	407.41	448.03	429.74	496.17	412.01
West Bengal	257.96	259.69	268.6	223.37	209.9	180.11
<b>All India</b>	<b>2612.9</b>	<b>2642.47</b>	<b>2519.56</b>	<b>2318.79</b>	<b>2440.31</b>	<b>1932.43</b>

Source: Planning Commission (1997, 2001).

### 3.10 Poverty Decline Rates Using Official Estimates

Table 3.25 gives average annual decline rates in the poverty head count ratio as per the official estimates over the 26 year period from 1973-74 to 1999-00. The all India poverty head count ratio during this period has come down from 54.9 to 26.1 percent. The estimates in intervening years are available in 1977-78, 1983-84, 1987-88, 1993-94, and 1999-00. The average annual decline rate was 0.9 percentage point during 1973-74 to 1977-78. Considering the period 1977-78 to 1987-88, the average decline per year increased to 1.24 percentage

points. Between 1987-88 and 1993-94, this decelerated to 0.48 percentage point per year, and then sharply increased to 1.65 percentage points between 1993-94 and 1999-00.

**Table 3.23: Number of Urban Poor**

	(Lakh)					
<b>States</b>	<b>1973-74</b>	<b>1977-78</b>	<b>1983</b>	<b>1987-88</b>	<b>1993-94</b>	<b>1999-00</b>
Andhra Pradesh	47.48	48.41	50.24	64.05	74.47	60.88
Assam	5.46	5.83	4.26	2.22	2.03	2.38
Bihar	34.05	37.34	44.35	50.7	42.49	49.13
Gujarat	43.81	38.35	45.04	48.22	43.02	28.09
Haryana	8.24	9.05	7.57	6.51	7.31	5.39
Himachal Pradesh	0.35	0.56	0.34	0.25	0.46	0.29
Jammu & Kashmir	2.07	2.68	2.49	2.25	1.86	0.49
Karnataka	42.27	47.75	49.31	61.8	60.48	44.49
Kerala	24.16	24.37	25.15	26.84	20.46	20.07
Madhya Pradesh	45.02	54.39	62.49	64.29	82.33	81.22
Maharashtra	76.58	80.16	97.14	109.38	111.9	102.87
Orissa	12.23	13.82	16.66	15.95	19.7	25.40
Punjab	10.02	11.36	11.85	8.08	7.35	4.29
Rajasthan	27.1	27.22	30.06	37.93	33.82	26.78
Tamil Nadu	66.92	72.97	78.46	69.27	80.4	49.97
Uttar Pradesh	85.74	96.96	108.71	106.79	108.28	117.88
West Bengal	41.34	50.88	50.09	60.24	44.66	33.38
<b>All India</b>	<b>600.46</b>	<b>646.48</b>	<b>709.4</b>	<b>751.89</b>	<b>763.37</b>	<b>670.07</b>

Source: Planning Commission (1997, 2001).

**Table 3.24: Number of Rural and Urban Poor**

	(Lakh)					
<b>States</b>	<b>1993-94</b>	<b>1977-78</b>	<b>1983</b>	<b>1987-88</b>	<b>1993-94</b>	<b>1999-00</b>
Andhra Pradesh	225.69	197.54	164.58	160.43	153.96	119.01
Assam	81.83	103.38	77.69	75.75	96.36	94.55
Bihar	370.57	401.82	462.05	420.93	493.35	425.64
Gujarat	138.42	130.88	117.92	122.35	105.18	67.89
Haryana	38.32	35.48	29.6	25.37	43.87	17.33
Himachal Pradesh	9.73	13.04	7.41	7.52	15.86	5.13
Jammu & Kashmir	20.48	21.72	15.6	16.36	20.91	3.46
Karnataka	170.67	168.07	149.81	158.61	156.47	104.4
Kerala	135.52	127.22	106.77	88.48	76.41	41.04
Madhya Pradesh	276.23	302.37	277.97	264.31	298.52	298.54
Maharashtra	287.12	329.91	290.89	296.21	305.23	227.99
Orissa	154.47	176.32	181.31	165.91	160.6	169.09
Punjab	40.49	30.23	28.64	25.17	25.11	14.49
Rajasthan	128.51	115.88	126.83	142.9	128.5	81.84
Tamil Nadu	239.52	255.47	260.07	231.07	202.1	130.48
Uttar Pradesh	535.73	504.37	556.74	536.53	604.45	529.89
West Bengal	299.3	310.57	318.69	283.61	254.56	213.49
<b>All India</b>	<b>3213.36</b>	<b>3288.95</b>	<b>3228.97</b>	<b>3070.49</b>	<b>3203.68</b>	<b>2602.5</b>

Source: Planning Commission (1997, 2001).

**Table 3.25: State Specific Poverty Gap Indexes**

(Percent)

States	Official Methodology			Adjusted Estimates		
	1987-88	1993-94	1999-00	1987-88	1993-94	1999-00
<b>Rural</b>						
Andhra Pradesh	4.4	2.9	1.8	8.0	5.8	4.8
Assam	7.4	8.3	8.5	6.5	5.7	6.1
Bihar	12.9	14.7	8.7	13.2	10.7	8.5
Gujarat	5.5	4.1	2.2	8.4	6.8	3.8
Haryana	3.6	5.6	1.3	2.8	3.0	0.7
Himachal Pradesh	2.6	5.6	1.0	2.1	3.0	1.5
Jammu & Kashmir	4.5	5.6	0.6	2.4	1.6	0.7
Karnataka	7.9	6.3	2.7	10.5	8.6	6.1
Kerala	6.4	5.6	1.5	4.8	3.9	1.7
Madhya Pradesh	10.6	9.5	7.7	11.2	8.2	6.6
Maharashtra	9.6	9.3	4.4	10.8	11.2	7.6
Orissa	16.3	12.0	11.7	13.0	9.7	10.5
Punjab	2.0	1.9	0.8	1.0	1.0	0.3
Rajasthan	8.6	5.2	2.1	9.2	4.4	3.0
Tamil Nadu	12.6	7.3	3.8	13.7	9.1	4.6
Uttar Pradesh	9.9	10.4	5.8	7.5	5.8	3.9
West Bengal	11.6	8.3	6.5	7.7	4.2	3.5
<b>All India – Rural</b>	<b>9.4</b>	<b>8.4</b>	<b>5.2</b>	<b>9.2</b>	<b>7.0</b>	<b>5.2</b>
<b>Urban</b>						
Andhra Pradesh	10.6	9.3	5.6	4.9	3.4	1.9
Assam	1.5	0.9	1.5	2.0	2.0	1.9
Bihar	13.0	7.9	6.7	8.2	5.6	5.0
Gujarat	8.2	6.2	2.4	2.8	2.6	1.0
Haryana	3.6	3.0	2.0	2.3	1.9	0.7
Himachal Pradesh	0.7	1.2	0.6	0.2	0.5	0.2
Jammu & Kashmir	2.4	1.2	0.2	0.5	0.5	0.2
Karnataka	14.1	11.4	5.6	5.7	4.5	2.1
Kerala	10.4	5.5	3.9	4.5	2.7	1.7
Madhya Pradesh	13.6	13.4	9.5	4.1	3.5	2.6
Maharashtra	12.3	10.1	6.7	5.3	4.6	2.8
Orissa	11.1	11.4	11.1	4.2	3.0	3.0
Punjab	2.3	1.7	0.6	1.0	1.1	0.4
Rajasthan	9.6	7.0	3.4	4.0	3.2	1.7
Tamil Nadu	11.5	10.2	4.8	6.2	4.5	2.0
Uttar Pradesh	12.2	9.0	6.6	6.3	4.6	3.3
West Bengal	7.4	4.5	2.5	4.2	2.9	1.9
Delhi	2.8	3.9	1.5	0.7	1.7	0.4
<b>All India – Urban</b>	<b>10.4</b>	<b>8.3</b>	<b>5.2</b>	<b>4.8</b>	<b>3.7</b>	<b>2.3</b>

Source: Deaton and Dreze (2002).

Note: The poverty gap indexes labelled “official methodology” are computed from the unit record data using the official poverty lines, and using rules for assigning poverty gap indexes to small states (and to Jammu & Kashmir) that mirror the rules used by the Planning Commission for computing the official head count ratios. The adjusted indexes use the recomputed price indexes to update the poverty lines, and correct for the changes in questionnaire design in the 55<sup>th</sup> Round. All numbers are directly computed from poverty lines and unit record data for each state, and the all India estimates are calculated as weighted averages of the state estimates.

As discussed earlier, analysts like Deaton have argued that the fall in the poverty ratio between 1993-94 and 1999-00 has been overestimated because of the mix up between the 7-day and 30-day recall periods. Deaton's (2001) reestimates show the poverty ratio to be higher by a margin of 2.1 percentage points. Even using that, the poverty decline rate appears to have accelerated to 1.3 percentage points per year during 1993-94 to 1999-00. At the rate of 1.3 percentage points per year it would take about 22 years to wipe off poverty from India, unless, the rate of decline decelerates at lower levels of poverty (Table 3.26).

**Table 3.26: All India Poverty Rates: Average Annual Decline Rates**

<b>Years</b>	<b>Poverty Ratio</b>	<b>Period</b>	<b>Number of Years</b>	<b>Average Annual Decline % Points</b>
1973-74	54.9	1973-74 to 1977-78	4	0.900
1977-78	51.3	1977-78 to 1983	6	1.133
1983	44.5	1983 to 1987-88	4	1.400
1987-88*	38.9	1977-78 to 1987-88	10	1.240
1993-94	36	1987-88 to 1993-94	6	0.483
1999-00	26.1	1993-94 to 1999-00	6	1.650
1999-00**	28.2	1993-94 to 1999-00	6	1.300

Source (Basic Data): Planning Commission (1997, 2001).

Notes: \* Treating 1983 as 1983-84

\*\* Using Deaton's (2001) revised estimates.

The approach paper to the Tenth Plan puts forward the objective of reducing poverty to 15 percent by the end of the Tenth Plan and 10 percent by the end of the Eleventh Plan. At current rates annual fall, these targets appear feasible at an all India level. But if this is disaggregated at the state level, the picture changes. Table 3.27 provides information regarding average annual decline rates in poverty ratio at the state level. The last column gives the difference between average yearly decline rates during 1993-94 to 1999-00 as compared to average performance during 1973-74 to 1993-94. A positive sign indicates that the decline rate has decelerated. Such deceleration is visible in the case of Andhra Pradesh, Goa, Gujarat, Kerala, Madhya Pradesh, Orissa, Punjab, Tripura, and West Bengal.

Table 3.28 shows in column 1, the number of years, it will take if current rates of decline poverty rates are maintained to reach zero poverty levels in different states. Some of the most difficult cases appear to be Assam, Bihar, Madhya Pradesh, Orissa, Sikkim, Tripura, Uttar Pradesh and West Bengal.

**Table 3.27: State Poverty Ratios: Average Annual Decline Rates During Selected Periods**

States	Average Annual Decline in Poverty Ratio (% Points)					Deceleration Rate of Fall (% Points) 1973-74 and 1993-94 Minus 1993-94 and 1999-00
	Between					
	1973-74 and 1999-00	1973-74 and 1987-88	1987-88 and 1993-94	1973-74 and 1993-94	1993-94 and 1999-00	
Andhra Pradesh	1.273	1.618	0.670	1.655	1.070	0.585
Assam	0.582	0.947	-0.485	0.756	0.795	-0.039
Bihar	0.743	0.544	-0.110	0.966	2.060	-1.095
Goa	1.533	1.605	1.145	1.993	1.753	0.240
Gujarat	1.311	1.179	1.238	1.704	1.690	0.014
Haryana	1.024	1.392	-1.530	1.331	2.718	-1.387
Himachal Pradesh	0.722	0.740	-2.068	0.938	3.468	-2.530
Karnataka	1.324	1.109	0.965	1.722	2.187	-0.465
Kerala	1.810	1.864	1.377	2.354	2.118	0.235
Madhya Pradesh	0.937	1.339	0.085	1.218	0.848	0.369
Maharashtra	1.085	0.923	0.577	1.411	1.973	-0.562
Orissa	0.732	0.660	1.397	0.952	0.235	0.717
Punjab	0.846	1.084	0.200	1.100	0.935	0.165
Rajasthan	1.187	0.836	1.170	1.543	2.022	-0.479
Sikkim	0.550	1.046	-0.870	0.716	0.813	-0.098
Tamil Nadu	1.301	0.669	1.758	1.691	2.318	-0.627
Tripura	0.637	2.016	-2.705	0.828	0.762	0.066
Uttar Pradesh	0.997	0.996	0.380	1.296	1.617	-0.321
West Bengal	1.400	1.316	1.557	1.821	1.440	0.381
<b>All India</b>	<b>1.107</b>	<b>1.083</b>	<b>0.625</b>	<b>1.439</b>	<b>1.645</b>	<b>-0.206</b>

Source (Basic Data): As in Table 3.26.

Note: Jammu &amp; Kashmir, Goa, and Nagaland estimates for 1987-88 not comparable.

**Table 3.28: Number of Years Required to Eliminate Poverty at Decline Rates Achieved During 1993-94 to 1999-00**

States	At 1993-94 to 1999-00 Decline Rate		
	Number of Years Required for Poverty Ratio to Become Zero	Poverty ratio	
		After 7 Years	After 12 Years
	(1)	(2)	(3)
Andhra Pradesh	14.74	8.28	2.93
Assam	45.40	30.53	26.55
Bihar	20.68	28.18	17.88
Goa	2.51	0.00	0.00
Gujarat	8.33	2.24	0.00
Haryana	3.22	0.00	0.00
Himachal Pradesh	2.20	0.00	0.00
Karnataka	9.16	4.73	0.00
Kerala	6.00	0.00	0.00
Madhya Pradesh	44.12	31.49	27.25
Maharashtra	12.68	11.21	1.34
Orissa	200.64	45.51	44.33
Punjab	6.59	0.00	0.00
Rajasthan	7.56	1.13	0.00
Sikkim	44.94	30.86	26.79
Tamil Nadu	9.11	4.89	0.00
Tripura	45.22	29.11	25.30
Uttar Pradesh	19.27	19.83	11.75
West Bengal	18.76	16.94	9.74
<b>All India</b>	<b>15.87</b>	<b>14.59</b>	<b>6.36</b>

Source (Basic Data): As in Table 3.26.

Note: Jammu &amp; Kashmir, Goa, and Nagaland estimates for 1987-88 not comparable.

On the basis of OLS regressions, for 15 states in India (including Assam and Jammu & Kashmir from the special category states, leaving Goa, and considering Punjab and Haryana together), Ravallion and Datt (2001) have worked out the trend rates of poverty reduction over the 1960-94 using 24 observations over time related to different NSS rounds (Table 3.29). Three alternative poverty measures were studied, *viz.*, the head count ratio, the poverty gap index and the FGT index (Squared poverty gap index). Clearly, the rate of reduction in poverty is quite different in different states. In Kerala, Andhra Pradesh, Punjab, and Haryana, it was more than 2 percentage points per year. The low rates of reductions were witnessed in Bihar, Madhya Pradesh, Uttar Pradesh, Maharashtra, and Jammu & Kashmir. Only in one case, *viz.*, Assam, the poverty incidence actually increased on a trend basis.

**Table 3.29: Trend Rates of Poverty Reduction by State: 1960-1994**

	<b>Trend Rates of Poverty Reduction (Percent Per Annum)</b>		
	<b>Head Count Index</b>	<b>Poverty Gap Index</b>	<b>Squared Poverty Gap Index</b>
Andhra Pradesh	-2.179	-3.371	-4.295
Assam	0.060	0.054	0.025
Bihar	-0.107	-1.027	-1.797
Gujarat	-1.568	-2.744	-3.619
Karnataka	-1.114	-1.694	-2.159
Kerala	-2.733	-4.447	-5.675
Madhya Pradesh	-0.633	-1.412	-2.070
Maharashtra	-1.013	-1.522	-1.887
Orissa	-1.586	-2.712	-3.697
Punjab and Haryana	-2.547	-3.746	-4.679
Rajasthan	-1.154	-1.883	-2.423
Tamil Nadu	-1.508	-2.315	-2.930
Uttar Pradesh	-0.876	-1.531	-2.115
West Bengal	-1.965	-3.073	-4.015
Jammu & Kashmir	-1.023	-1.382	-1.635

Source: Ravallion and Datt (2001).

Note: Trends calculated as the OLS regression coefficients of logarithms on time.

### 3.11 Human Poverty Index

Estimates of human poverty index have been prepared by the Planning Commission for 1981 and 1991. The human poverty index captures three dimensions of deprivation: economic, educational and health. It consists of a weighted average of (i) proportion of population below poverty line, (ii) proportion of population without access to safe drinking water/sanitation/electricity/medical attention at birth/vaccination and proportion of population living in kutcha houses, (iii) proportion of illiterate population and children not enrolled in schools, and (iv) proportion of population not expected to survive beyond the age

of 40. Estimates are available for 1981 and 1991. Because of some changes in methodology, two sets of estimates were prepared for 1991: one comparable to 1991, and the other, incorporating the revised methodology. Census years are being used because several of the sub-indices require census data. Using the 1991 estimates given later in Table 3.25. (Tables for 1981 and comparable 1991 are given in Tables A23 and A24). We notice that for the combined human poverty index for rural and urban areas among the states, the lowest poverty is seen in Himachal Pradesh at 20.90 and the highest at 50.48 percent in Bihar. In general the value of the human poverty index is higher than the head count ratio. There are also considerable differences in the rural and urban values of index for the same state. With the urban index being significantly lower than the rural index. It is also noted that human poverty index of Union territories remained lower than the special and non-special category states. Chart 3.5 shows that in general the HPI is higher than the HCR for the lower income states.

### **3.12 Increase in Spatial Concentration of Poverty: Rural and Urban Areas**

Table 3.30 highlights the concentration of rural poverty among a limited number of states using estimates for 1999-00. It is seen that nearly 74 percent of the rural poor live in just six states, *viz.*, Orissa, Bihar, Assam, Madhya Pradesh, West Bengal and Uttar Pradesh. Although the urban poverty is spread out a little more (Table 3.25) but even in the case, it can be seen that just eight states account for a little less than 80 percent of the urban poor. These eight states are Orissa, Madhya Pradesh, Bihar, Uttar Pradesh, Maharashtra, Andhra Pradesh, Karnataka and Tamil Nadu. It can be seen that four out of these eight states are relatively better off states. These observations relate to the official poverty estimates prepared by the Planning Commission for 1999-2000.

Table 3.31 indicates that five states, *viz.*, Orissa, Madhya Pradesh, Bihar, Uttar Pradesh and Maharashtra account for 56 percent of the urban poor. Their individual poverty HCR ratios range from little above 26 percent (for Maharashtra to about 43 percent for Orissa). The next four states accounting for a significant share in the total urban poor of the country are Andhra Pradesh, Karnataka, Tamil Nadu and Kerala and middle to high income states.

**Table 3.30: Number and Percentage of Population Below Poverty Line by States 1999-00 (30 Day Recall Period): Rural**

<b>General Category States and Assam</b>			
<b>No.</b>	<b>States/UTs.</b>	<b>No. of Persons (Lakhs)</b>	<b>% of Persons</b>
<b>States Arranged in Descending Order of Head Count Ratio</b>			
<b>First Six States</b>			
1.	Orissa	143.69	48.01
2.	Bihar	376.51	44.30
3.	Assam	92.17	40.04
4.	Madhya Pradesh	217.32	37.06
5.	West Bengal	180.11	31.85
6.	Uttar Pradesh	412.01	31.22
<b>Total Number of Poor</b>		<b>1421.81</b>	
<b>Share of First Six States in Total Rural Poor (%)</b>			<b>73.6</b>

Source (Basic Data): Planning Commission (2001).

**Table 3.31: Number and Percentage of Population Below Poverty Line by States-1999-00 (30 Day Recall Period): Urban**

<b>No.</b>	<b>States/UTs.</b>	<b>Number of Persons (Lakhs)</b>	<b>Percentage of Persons</b>
<b>First Eight States in Descending Order of HCR</b>			
1.	Orissa	25.40	42.83
2.	Madhya Pradesh	81.22	38.44
3.	Bihar	49.13	32.91
4.	Uttar Pradesh	117.88	30.89
5.	Maharashtra	102.87	26.81
6.	Andhra Pradesh	60.88	26.63
7.	Karnataka	44.49	25.25
8.	Tamil Nadu	49.97	22.11
<b>Total Number of Poor</b>		<b>531.84</b>	
<b>Share of First 8 in Total Urban Poor (%)</b>			<b>79.37</b>

Source (Basic Data): Planning Commission (2001).

The pattern of growing spatial concentration of poverty provides some useful insights into the changing incidence of poverty. We have worked out changes in poverty concentration over the five sets of available information during the 26 years' period which is under reference. The spatial concentration of poverty is measured by using the Herfindal Index, which was originally used to measure industrial concentration. In the present case, the basic information relates to the share of each state in the total number of poor in the country. The index is based on measuring the sum of squares of these shares.

The poverty concentration index (PCI) using states as the basic unit may be defined as below:

Let population of all poor be  $M$ , and the number of poor in State  $i$  by  $M_i$ . The share of State  $i$  in total poor is given by  $m_i = (M_i/M)$ . The poverty concentration index (PCI), using states as the basic units, may be defined as below:

$$PCI = \sum (1/m_i)^2 \quad i = 1, 2, \dots, n,$$

where  $n$  is the number of states. It may be noted that the index has a maximum value of 1 when the poor are located only in one state and there are no poor in any other state. Thus we can write

$$PCI (\text{max}) = 1$$

The minimum concentration is seen when each state has an equal share in the number of poor. If total poor are  $M$  and  $n$  is the number of states, and each state has an equal share equal to  $M/n$ , the summation of the shares of these terms would give the minimum value of PCI as indicated below:

$$PCI (\text{min}) = \sum [(M/n)/M]^2 = \sum (1/n)^2 = 1/n$$

As  $n$  is increased PCI (min) would tend to zero. Thus, the index of concentration varies between  $1/n$  and 1.

The estimated value of the concentration index is given in Table 3.32. It will be seen that as far as the rural areas are concerned, the concentration index was estimated at 9.05 for 1973-74. It steadily increased over the years and reached the level of 12.19 in 1999-00. In the case of urban areas, the concentration index is estimated at 8.51 for 1973-74. In this case also, a gradual increase is visible and the index has moved up to the level of 10.14 in 1999-00 relative to 1973-74. We can see that the rural poverty concentration index has increased by about 35 percent in 1999-2000, relative to 1973-74, whereas the urban poverty concentration has increased by about 19 percent during this period.

**Table 3.32: Poverty Concentration Ratios**

	<b>Rural</b>	<b>Urban</b>	<b>Total</b>
1973-74	9.05	8.51	8.71
1977-78	8.95	8.67	8.66
1983	10.12	8.97	9.47
1987-88	10.06	9.09	9.39
1993-94	11.00	9.38	9.91
1999-00	12.19	10.14	10.96
<b>Concentration Level Relative to 1973-74 Level</b>			
1973-74	100.0	100.0	100.0
1977-78	98.8	101.9	99.5
1983	111.8	105.3	108.7
1987-88	111.0	106.8	107.9
1993-94	121.5	110.2	113.8
1999-00	134.6	119.1	125.9

Source (Basic Data): Planning Commission (1997, 2001).

We thus observe that:

- i. Spatial Concentration of rural poverty has been higher than that of urban poverty throughout these years;
- ii. In both cases, the poverty concentration has increased; and
- iii. That the increase is sharper for the rural areas than for the urban areas

### **3.13 Growing Urbanisation of Poverty**

Another visible trend is the growing urbanisation of poverty in almost all states. In this context, we look at the ratio of urban poor to total poor in a given state. Thus, for example, for Andhra Pradesh, in 1973-74, only 21 percent of the total poor reside in urban areas and this ratio has steadily increased upto 1999-00. We find that 51.2 percent of total poor are urban poor (Table 3.33). This means that there has been a steady movement towards the urbanization of poverty in the different states. Only one notable exception is that of Assam. But in this case also, analysts have argued that 1999-00 estimates provided by the Planning Commission need to be revised because they are based on the urban poverty line which is lower than the rural poverty line. The general trend of urbanization of poverty is visible in states like Goa, where the share of urban poor in total poor increased from 24 percent in 1973-74 to 84 percent in 1999-00. In Gujarat and Haryana, there is an increase of about 10 percentage points. In Karnataka, Kerala, and Maharashtra the increase is of a much

larger order. Considering, the All India picture there has been an increase of 7 percentage points in the share of urban poor to the total poor.

**Table 3.33: Growing Urbanisation of Poverty**

States	Share of Urban Poor in Total Poor (%)					
	1973-74	1977-78	1983	1987-88	1993-94	1999-00
Andhra Pradesh	21.0	24.5	30.5	39.9	48.4	51.2
Assam	6.7	5.6	5.5	2.9	2.1	2.5
Bihar	9.2	9.3	9.6	12.0	8.6	11.5
Goa	24.0	29.9	48.0	55.7	80.1	84.3
Gujarat	31.7	29.3	38.2	39.4	40.9	41.4
Haryana	21.5	25.5	25.6	25.7	16.7	31.1
Himachal Pradesh	3.6	4.3	4.6	3.3	2.9	5.7
Jammu & Kashmir	10.1	12.3	16.0	13.8	8.9	14.2
Karnataka	24.8	28.4	32.9	39.0	38.7	42.6
Kerala	17.8	19.2	23.6	30.3	26.8	48.9
Madhya Pradesh	16.3	18.0	22.5	24.3	27.6	27.2
Maharashtra	26.7	24.3	33.4	36.9	36.7	45.1
Orissa	7.9	7.8	9.2	9.6	12.3	15.0
Punjab	24.7	37.6	41.4	32.1	29.3	29.6
Rajasthan	21.1	23.5	23.7	26.5	26.3	32.7
Tamil Nadu	27.9	28.6	30.2	30.0	39.8	38.3
Uttar Pradesh	16.0	19.2	19.5	19.9	17.9	22.2
West Bengal	13.8	16.4	15.7	21.2	17.5	15.6
<b>All India</b>	<b>18.7</b>	<b>19.7</b>	<b>22.0</b>	<b>24.5</b>	<b>23.8</b>	<b>25.7</b>

Source (Basic data): Planning Commission (1997, 2001).

The main trends in the changing profile of poverty incidence in India may be summarised as below:

- i. the incidence of poverty has steadily gone down both for rural and urban areas in all states.
- ii. Rural poverty has become more and more spatially concentrated.
- iii. Urban poverty has also been focused more and more in a limited number of states, but the list includes some of the better off states.
- iv. The concentration of poverty is higher in rural areas, and the spatial concentration has increased markedly over the years.

#### **a. Urban Poverty and Slums**

As noted earlier, the urban poor are more easily drawn into the illegal activities. We had also noted that when the poor live closely together in geographical clusters, i.e., when there is a higher concentration of the poor, they are more easily drawn into disruptive

activities. Therefore, higher concentration ratios and higher urbanisation of poverty provides fertile ground of recruitment of people into activities that have a bearing on the negative externalities related to poverty. An additional notable feature is that urban concentration of poverty leads to development of slums and squalor, which generates health-related negative externalities. It can also be seen that the higher concentration of poverty has been associated with lower growth in the concerned states.

Considerable negative externalities are associated with the concentration of urban poor in the urban slums. The recent report of the Committee on Problems of Slums in Delhi (2002) observes: “Almost all slum dwellers belong to the very poor strata of society in the country” and further that “The characteristics of a slum is the excessive congestion and unhygienic nature of the housing, lacking in basic amenities”.

Slum areas generate negative externalities feeding into health hazards for the non-poor population within the slum or nearby areas. Many of these hazards emanate from poor availability of drinking water. A Nationwide survey on ‘Particulars of Slums’, conducted by the (NSSO) in its 19<sup>th</sup> round had found that nearly 81 percent rural slums did not have access to a tap for drinking water. In the case of urban slums about 35 percent did not have a ‘tap’ as source of drinking water, and in many states about 50 percent of urban slums did not have access to a tap for drinking water. About 60 percent of the urban slums remain waterlogged during monsoon. Around 83 per cent of urban slums did not have an underground sewerage system. An open pucca system of drainage did not exist in 65 percent of the urban slums. About 35 percent of urban slums did not have any arrangement for garbage disposal, the figure being far larger in many of the bigger states. These conditions of urban slums make them a clear source of health hazards not only for the inhabitants themselves, but nearby non-slum residents as well.

Tables 3.34 and 3.35 provides information on the share of slum population to total urban population for 1981, 1991, and 2001. The all India figures indicate that the share of slum population in total urban population has increased from 17.5 percent in 1981 to 21.30 percent in 1991. With the exception of Bihar, Punjab, and Delhi all states show that the share of slum population in total urban population had increased in 1991 compared to 1981. Considerably large increases are noticeable in the case of Haryana, Kerala, Maharashtra, Orissa, Rajasthan, Uttar Pradesh, and West Bengal. These figures are based on the Report of

the Working Group on Urban Housing and Urban Poverty with Focus on Slums prepared for the Tenth Plan. The figures for 2001 slum population however show a reversal of this trend. The share of slum population in total urban population has increased for Andhra Pradesh, Haryana, Madhya Pradesh and marginally also for Maharashtra. In other states, this trend has been reversed. A substantial fall in the share of slum population to total population has been seen in states like Bihar, Gujarat, Kerala, Orissa, Punjab, Rajasthan, Uttar Pradesh, and West Bengal.

**Table 3.34: Changing Share of Slum Population in Urban Population (1981 and 1991)**

States	1981			1991			Difference
	Urban Population	Slum Population	% of Slum to Urban	Urban Population	Slum Population	% of Slum to Urban	In % (1991-1981) % Points
Andhra Pradesh	124.9	28.6	22.9	178.9	43.1	24.1	1.2
Bihar	87.2	32.7	37.5	113.5	26.9	23.7	-13.8
Gujarat	106.0	15.3	14.4	142.5	25.8	18.1	3.7
Haryana	28.3	2.7	9.7	40.5	6.8	16.9	7.2
Karnataka	107.3	5.7	5.4	139.1	12.9	9.3	3.9
Kerala	47.7	4.1	8.6	76.8	12.2	15.9	7.3
Madhya Pradesh	105.6	10.7	10.2	153.4	21.0	13.7	3.5
Maharashtra	219.9	43.1	19.6	305.4	78.7	25.8	6.2
Orissa	31.1	2.8	9.1	42.4	8.4	19.9	10.8
Punjab	46.5	11.7	25.1	59.9	14.1	23.6	-1.5
Rajasthan	72.1	10.3	14.2	100.7	24.0	23.8	9.6
Tamil Nadu	159.5	26.8	16.8	190.8	35.7	18.7	1.9
Uttar Pradesh	199.0	25.8	13.0	276.1	58.4	21.2	8.2
West Bengal	144.5	30.3	21.0	187.1	51.9	27.8	6.8
Delhi	57.7	18.0	31.2	84.7	22.5	26.5	-4.7
<b>All India</b>	<b>1597.3</b>	<b>279.1</b>	<b>17.5</b>	<b>2176.1</b>	<b>462.6</b>	<b>21.3</b>	<b>3.8</b>

Source: Report of the Working Group on Urban Housing and Urban Poverty with Focus on Slums for the Tenth Plan (2002) and Population Census 2001.

### 3.14 Rural and Urban Poverty: A Comparative Perspective

#### a. Rural Poverty

Rural poverty in India is often considered the core of poverty in India, because of the large number of rural poor, high incidence of poverty in rural population, their limited access to information, security, health and education. The rural poor are spread out, difficult to reach, and have limited economic opportunities. They have limited connections, and low social capital. Rural teachers, shopkeepers, and artisans are often well-off though landless. Hill (1972) and Reardon, *et. al.* (1992) have noted that in West Africa rural non-farm

employment and non-occupancy of farmland indicate lower risk of poverty. Visaria (1977) and Lipton (1985) have observed that households who own and operate as much as 3 or 4 hectares of bad land can be very poor. In better farming areas, lack of land is correlated with poverty. Ravallion and Sen (1994) note that the prospects for reducing aggregate rural poverty by land-based redistributions are limited. It is important to note that infrastructure development including investments in rural infrastructure, can generate positive effects leading to sizeable income gains (both farm and non-farm) in underdeveloped rural economies [Antle (1983), Binswanger, *et. al.* (1993)].

**Table 3.35: Changing Share of Slum Population in Urban Population (1991 and 2001)**

States	(Population in Lakh)			Difference in % (2001-1991) % Points
	Urban Population	Slum Population	% of Slum to Urban	
Andhra Pradesh	205.04	51.49	25.11	1.0
Bihar	146.66	8.17	5.57	-18.1
Gujarat	188.99	13.46	7.12	-11.0
Haryana	61.14	14.21	23.24	6.4
Karnataka	179.20	12.67	7.07	-2.2
Kerala	82.67	4.53	5.48	-10.4
Madhya Pradesh	202.78	31.76	15.66	2.0
Maharashtra	410.20	106.44	25.95	0.2
Orissa	54.96	6.35	11.55	-8.4
Punjab	82.46	11.51	13.96	-9.6
Rajasthan	132.05	12.06	9.13	-14.7
Tamil Nadu	272.42	25.3	9.29	-9.4
Uttar Pradesh	366.83	43.51	11.86	-9.3
West Bengal	224.87	38.22	17.00	-10.8
Delhi	128.20	20.25	15.80	-10.7
<b>All India</b>	<b>2853.5</b>	<b>402.97</b>	<b>14.12</b>	<b>-7.1</b>

Source: As in Table 3.34.

Note: Bihar, Up, and MP are the combined states where total are obtained by adding up the respective new and old states.

Table 3.36 gives a comparison of human poverty in rural and urban areas. Rural human poverty is higher than urban by about 19 percentage points, on average. As Table 3.37 indicates, six states, *viz.*, Orissa, Bihar, Assam, Madhya Pradesh, West Bengal, and Uttar Pradesh have an HCR which is higher than 30 for rural poverty. Together, they account for nearly 74 percent of the total number of rural poor in the country, as per the 1999-00 official estimates. In their case the HCR ranges from 32 to 48 percent. Clearly, for any rural poverty alleviation policy, these ought to be the focus states.

**Table 3.36: Human Poverty Index-1991 (Not Comparable with 1981)**

States/UTs.	Rural		Urban		Combined	
	Value	Rank	Value	Rank	Value	Rank
Andhra Pradesh	43.19	20	25.12	25	38.34	19
Arunachal Pradesh	50.75	29	25.65	26	47.40	30
Assam	49.32	27	22.52	22	46.29	28
Bihar	53.65	31	29.70	31	50.48	32
Goa	15.58	1	13.78	3	36.10	17
Gujarat	31.83	14	20.87	18	28.05	13
Haryana	31.64	13	18.57	14	28.41	14
Himachal Pradesh	21.67	4	9.91	1	20.90	5
Jammu & Kashmir	34.94	15	17.67	10	30.95	15
Karnataka	35.28	16	21.59	19	30.99	16
Kerala	24.57	6	17.23	8	22.73	7
Madhya Pradesh	45.43	23	25.69	27	40.79	22
Maharashtra	29.30	11	17.65	9	24.73	8
Manipur	43.84	21	26.51	28	39.82	21
Meghalaya	55.81	32	20.15	17	49.41	31
Mizoram	37.19	17	14.07	4	26.47	12
Nagaland	45.00	22	23.56	24	41.30	23
Orissa	47.97	26	28.29	30	45.22	27
Punjab	28.04	9	18.47	13	25.25	10
Rajasthan	51.17	30	26.73	29	44.73	26
Sikkim	38.14	18	17.80	11	38.59	20
Tamil Nadu	30.31	12	18.61	15	26.45	11
Tripura	46.32	25	21.97	21	42.71	24
Uttar Pradesh	50.02	28	32.62	32	46.65	29
West Bengal	42.43	19	23.22	23	37.35	18
Andaman & Nicobar Islands	28.80	10	16.32	7	25.24	9
Chandigarh	25.07	7	15.07	5	15.96	2
Dadra & Nagar Haveli	45.66	24	21.95	20	43.64	25
Daman & Diu	23.88	5	15.82	6	19.90	4
Delhi	21.02	3	17.99	12	18.23	3
Lakshadweep	15.67	2	12.26	1	13.89	1
Pondicherry	25.86	8	19.57	16	22.52	6
<b>All India</b>	<b>42.25</b>		<b>23.03</b>		<b>37.42</b>	

Source: Estimated from the Report (National Human Development Report, 2001).

- Notes: 1. The HPI is a composite of variables capturing deprivation in three dimensions of human development *viz.*, economic, educational and health. These have been captured by proportion of population below poverty line, proportion of population without access to safe drinking water/sanitation/electricity, medical attention at birth/vaccination and proportion living in Kutch houses; proportion of illiterate population and children not enrolled in schools; and proportion of population not expected to survive beyond age 40. See the Technical Note for the estimation methodology and other details.
2. For sake of completeness, for some variables used in estimating the indices, the data for small States/UTs. have been estimated/assumed following, in general, principles of physical contiguity or similarity in socio-economic or demographic profile. The details are available in the Technical Note.
3. These indices are not comparable with HPIs estimated for 1981 on account of different variables used for capturing economic deprivation. The change facilitates use of more appropriate variables available since 1991.

**Table 3.37: Number and Percentage of Population Below Poverty Line by States: 1999-00 (30-Day Recall Period): Rural**

General Category States and Assam							
No.	States/UTs.	Number of Persons (Lakhs)	Percentage of Persons	No.	States/UTs.	Number of Persons (Lakhs)	Percentage of Persons
In Descending Order of HCR: First Five States				In Descending Order of HCR: Third Five States			
1.	Orissa	143.69	48.01	11.	Gujarat	39.80	13.17
2.	Bihar	376.51	44.30	12.	Andhra Pradesh	58.13	11.05
3.	Assam	92.17	40.04	13.	Kerala	20.97	9.38
4.	Madhya Pradesh	217.32	37.06	14.	Haryana	11.94	8.27
5.	West Bengal	180.11	31.85	15.	Himachal Pradesh	4.84	7.94
<b>Total number of poor</b>		<b>1009.8</b>		<b>Total number of poor</b>		<b>135.68</b>	
In Descending Order of HCR: Second Five States				In Descending Order of HCR: Other States			
6.	Uttar Pradesh	412.01	31.22	16.	Punjab	10.20	6.35
7.	Maharashtra	125.12	23.72	17.	Jammu & Kashmir	2.97	3.97
8.	Tamil Nadu	80.51	20.55	18.	Goa	0.11	1.35
9.	Karnataka	59.91	17.38	<b>Total number of poor</b>		<b>37.75</b>	
10.	Rajasthan	55.06	13.74				
<b>Total number of poor</b>		<b>732.61</b>		<b>All India</b>		<b>1932.43</b>	<b>27.09</b>
Share of first six states in total rural poor (%)						<b>73.6</b>	

Source (Basic Data): Government of India, Press Information Bureau, Poverty Estimates, Press Releases, Dated March 11, 1997 and February 22, 2001.

Since nearly 74 of the total poor in India are counted as rural poor, the growth of the agricultural sector is a critical determinant. The long-term growth in agriculture has been about 2.5 percent per annum. While growth in non-agricultural activities (including, services) has picked up during the nineties, agricultural growth continues to be sluggish. The share of agriculture in GDP is only 25 percent. However, it supports, with some non-agricultural activities including rural industries, nearly 68 percent of the total population. Both the average income in rural areas is bound to be lower and subjected to lower growth than the non-rural areas. Agricultural growth is also highly volatile, making poverty numbers volatile, because poverty is sensitive both to prices and real incomes. The poverty alleviation strategy must consider whether it would consist largely of encouraging rural-urban migration, or tackling the problem while keeping the rural poor within the rural areas. With rural-urban migration, poverty may only shift from rural to urban areas, unless adequate strategies are put in place to tackle the urban poverty problem.

Government programmes aimed at rural poverty alleviation have been large in number and commanded large budgetary resources. The main programmes currently in operation are Sampoorna Grameen Rozgar Yojana (SGR), Pradhan Mantri Gram Sadak Yojana, Indira Awaas Yojana (IY), Pradhan Mantri Gramodaya Yojana (PMG), and Credit-Cum-Subsidy Scheme for Rural Housing (CCS).

## b. Urban Poverty

In the context of urban poverty, the non-special category states which have a poverty ratio of above 30 percent are Bihar (32.91), Madhya Pradesh (38.44), Orissa (42.83) and Uttar Pradesh (30.89). In this case, the number of total urban poor of these four states add to 40.8 percent of total urban poor. However, if we add Maharashtra and Tamil Nadu as states having a significant number of urban poor, then these six states account for 64 percent of the urban poor in India. One noticeable pattern is that in the case of the special category states, the urban poverty head count ratio is quite low. Table 3.38 arranges states according to descending order of HCR in the context of urban poverty. Eight states, *viz.*, Orissa, Madhya Pradesh, Bihar, Uttar Pradesh, Maharashtra, Andhra Pradesh, Karnataka, and Tamil Nadu account for nearly 80 percent of urban poor in the country.

**Table 3.38: Number and Percentage of Population Below Poverty Line by States: 1999-00 (30-Day Recall Period): Urban**

No.	States/UTs.	Urban		No.	States/UTs.	Urban	
		Urban Number of Persons (Lakhs)	Percentage of Persons			Urban Number of Persons (Lakhs)	Percentage of Persons
First five States in descending order of HCR				Third five States in descending order of HCR including Delhi			
1.	Orissa	25.40	42.83	11.	Gujarat	28.09	15.59
2.	Madhya Pradesh	81.22	38.44	12.	West Bengal	33.38	14.86
3.	Bihar	49.13	32.91	13.	Haryana	5.39	9.99
4.	Uttar Pradesh	117.88	30.89	14.	Delhi	11.42	9.42
5.	Maharashtra	102.87	26.81	15.	Goa	0.59	7.52
<b>Total number of poor</b>		<b>376.50</b>		<b>Total number of poor</b>		<b>78.87</b>	
Second five States in descending order of HCR				Other States in Descending order of HCR			
6.	Andhra Pradesh	60.88	26.63	16.	Assam	2.38	7.47
7.	Karnataka	44.49	25.25	17.	Punjab	4.29	5.75
8.	Tamil Nadu	49.97	22.11	18.	Himachal Pradesh	0.29	4.63
9.	Kerala	20.07	20.27	19.	Jammu & Kashmir	0.49	1.98
10.	Rajasthan	26.78	19.85	<b>Total number of poor</b>		<b>7.45</b>	
<b>Total number of poor</b>		<b>202.19</b>		<b>All India</b>		<b>670.07</b>	<b>23.62</b>
Share of first five in total urban poor (%)			56.19	Share of first 8 in total urban poor (%)			79.37

Source (Basic Data): Government of India, Press Information Bureau, Poverty Estimates, Press Release, February 22, 2001.

Urban poverty generally is qualitatively different from rural poverty. While rural poverty is related more to inadequacy of income, urban poverty is related apart from income shortfalls to unhygienic conditions of living. Rural poverty has income deficiency at its core; urban poverty has sanitation and health conditions at its core. Cities attract the rural poor who often land into or create urban slums. Often construction activities require unskilled labour drawn from rural areas who colonise places around the construction sites developing into slum and squatter settlements. In the Indian context, Dandekar and Rath (1971) wrote: "...

The character of urban poverty is the consequence of the continuous migration of the rural poor into the urban areas in search of a livelihood, their failure to find adequate means to support themselves there and the resulting growth of pavement and slum life in the cities”.

Rural poverty is marked by connections to agriculture and land. Urban poverty is more heterogeneous in income generation and location patterns. Studies of Asian developing countries in the late 1980s and also West Africa [Hill (1972), Reardon, *et. al.* (1992)] have shown that the rural poor depended more on agriculture than the rural non-poor [Quibria and Srinivasan (1991)]. However, about one-third of rural income, and one-quarter of employment, typically derive from non-farm activities [Chuta and Liedholm (1981)], but their prosperity depends substantially on forward and backward production and consumption linkages [Hazell and Haggblade (1993), Hazell and Ramasamy (1991)].

Urban poverty is quite heterogeneous making formation of anti-poverty policy much difficult. The urban poor exhibit highly diverse pattern of activities and problems. Lipton and Ravallion (1995) observe: “It is possible to focus rural anti-poverty policy on improving the amount, productivity, stability, and distribution of farm inputs, employment, and output, and their social and physical infrastructures. This is why – despite the urban bias of public spending and personnel allocation in most LDCs – there is a much clearer and more production-oriented menu of anti-poverty policies for rural areas than for towns”.

The migration of rural poverty to urban area has been extensively discussed in the literature. The Harris-Todaro (1970) framework attempts to explain the rural-to-urban migration mainly in terms of rural-urban expected earning differentials. It implies that assetless and jobless persons in the rural areas will be attracted more to the urban areas. However, their failure to be absorbed in the high productivity sector implies that they effectively transfer their poverty from the rural to the urban areas (Todaro 1969, 1980). Rural poverty has a tendency to increase the urban immigration for employment which, in turn, expands the relative size of urban informal sector employment. The residual absorption of labour in the low productivity informal sector reduces the consumption expenditure per capita and thus inflates the ratio of urban poverty. Since industrial employment affects the share of informal sector employment negatively and the latter responds positively to migration from the rural areas, it is quite likely that among the migrant workers a large majority are engaged in the informal sector. The above findings tend to lend support to the essence of the ‘over-

urbanisation' thesis. Mitra (1992) estimates the elasticity of urban poverty with respect to rural poverty at mean values. These are in the range of 0.02 to 0.07 in alternative variants of the model. Mitra, using a recursive model framework, has tested the rural to urban migration hypothesis in the Indian context, and reported that while there is a clear link between rural and urban poverty, the elasticity of urban poverty with respect to rural poverty is extremely low. Since the elasticity of urban poverty with respect to rural poverty is extremely low, it is not correct in his view to trace the primary cause of urban poverty in the phenomenon of spillover of rural poverty. In fact, many of the urban poor have been residing in the cities for several decades—the inflow of rural population into the urban areas just adds at the margin to the existing magnitude of poverty. Thus for the reduction of urban poverty one has to realise the importance of urban employment measures instead of seeking its solution only in terms of rural employment programmes.

The urban informal sector (UIS) has traditionally been linked to both the rural sector and the urban formal sector through migration and remittances. It is characterised by features like easy entry, non-implementability of minimum wages, weak safety standards, low capital requirements, small enterprise units producing goods mainly consumed by the poor. More recently, the UIS is perceived as a source of strength with its diversity, low unit costs, heterogeneity of products, and wide range of skills. Lipton and Ravallion (1995) observe: “In explaining poverty in the UIS, current thinking puts greater emphasis on individual characteristics such as human capital endowments than on the “structural” features of the economy arising out of a Todaro (1969) migration equilibrium with a fixed urban sector wage. Poverty in the rural sector tends to be explained more by low access to physical assets (particularly land), farm technology, non-farm employment opportunities, and health care and schooling, than by labour-market distortions as in the urban sector”.

Urbanisation can reduce overall poverty if rural poor are attracted to the cities and find productive employment. It offers better education facilities, as also better health facilities, more opportunities to interact, better information base, larger market, and access to public services like bus transport. However, unless conditions are not adequately conducive, urbanization may just mean shifting rural poor to urban slums with far worse living conditions than in the rural areas. The DFID report on ‘Meeting the Challenge of Urban Poverty’ (2000) observes:

“Urban poverty is therefore invariably associated with overcrowded, unsanitary living conditions within large slum settlements, with limited or no access to basic utilities, or services such as health, education, energy and law and order. Indeed, in many instances, the lack of access to basic utilities forces the poor to pay many more times the unit cost of water and energy than the rich do.”

The higher density of urban population also means lower unit delivery costs in respect of certain services due to economies of scale. On the other hand, the pressure of people on limited areas, increases the price of land, and also leads to deterioration of the environmental degradation.

Pack (1998) in a study of a number of U.S. cities contends that a large share of local public expenditures in cities is poverty related, especially those that are indirectly related. He finds that the largest poverty-related expenditure burdens come from *indirect* poverty-related expenditures—expenditures on police, fire, courts, general administrative functions—rather than from primary poverty functions like public welfare, health and hospitals. Often the primary poverty functions of local governments are financed largely by intergovernmental revenues but other types of expenditures associated with poverty receive little or no intergovernmental assistance. Many of the expenditures closely related to poverty—in particular, public welfare and health (although not hospitals)—are financed largely by the federal and state governments. Nonetheless, the burdens borne by local governments are still substantial. The main determinants of public expenditures identified in his study that are related to poverty are listed below:

- i. The greater the per capita income of the community, the greater is public expenditures on the poor. And, the greater the other resources available to the community, i.e., the lower the tax price to the local residents of a particular bundle of goods, the greater is the public expenditures on the poor.
- ii. Public expenditures also are made to counteract and prevent the negative externalities generally associated with high poverty rates (Cullen and Levitt, 1996; Case and Katz, 1991). Crime is one of the most frequently cited examples. There is a statistically significant positive relationship between poverty rates and crime rates in these large cities. Additional expenditures on crime prevention, policing and courts are to be expected where crime rates are higher. There is, however, also substantial variation in crime rates among cities with similar poverty rates. Differences in poverty rates among these cities explain about 20 percent of the difference in crime rates.
- iii. Poverty rates may influence expenditures as communities respond to poverty by providing for poor persons the types of goods believed to influence both the quality of life of the poor and increase the likelihood of moving out of poverty.

Thus, greater expenditures might be made on libraries, parks and community recreation programmes.

- iv. Political economy models show that high rates of political mobilisation in the poor community may result in increased expenditures as elected officials respond to the preferences of their poor constituents.
- v. The costs of delivering services in cities with higher poverty rates has also been found to be high. This is the case for education, where the costs of educating the poor have been found to be higher than for the non-poor. Higher salaries may be needed to attract police officers to cities with higher crime rates, and the elasticity of expenditures with respect to unit costs has been found to be very low and thus expenditures increase with unit costs. Ladd and Yinger (1989) find that increases in the costs of such public functions are not reflected in decreases in the quality of services demanded, but rather in increasing expenditures.

Pack (1998) draws some important policy conclusions. If poverty is viewed as a national problem related to macroeconomic policies, migration policy, changes in intergovernmental aid programmes, then many national policies can be seen to have contributed to the overall poverty rate and to the very uneven distribution of poverty among cities. These contribute to the substantial financial responsibility for primary poverty functions that falls on local own revenue sources even after accounting for intergovernmental aid. As a result, there are both equity and efficiency arguments for assistance to cities with high percentage of poor persons. The conclusion that greater assistance to cities is appropriate is not meant to ignore the argument that a better alternative might be to direct aid to poor persons, rather than to cities with high poverty rates. The urban poor, it is considered, live largely in slums or near-slums. They would thus be helped by a shift of investment away from publicly built, so-called “low-cost” housing for middle-class civil servants, towards loans for private construction with provision of water and electricity.

In the context of urban poverty in India, the Report of the Sub-Group under the Working Group on Urban Poverty Alleviation for the Tenth Five Year Plan (Ministry of Urban Development and Poverty Alleviation, 2001) notes that “Urban poverty in case of many states is due to lack of development; but in some other states it is because of development – its nature and sectoral composition”. The Sub-Group Report also notes that the incidence of urban poverty is negatively related to the size of the town. It observes “the probability of being poor, given that a person is in a particular town, is the highest in towns having a population of less than 50,000”.

The 49<sup>th</sup> round (January-June, 1993) of NSSO carried out a nationwide survey on ‘condition of slum areas in cities’, covering Class I cities in India with population of 1 lakh or more in 1971 census. A slum was defined as follows:

“as a real unit having twenty five or more kutcha structures mostly of temporary nature, or fifty or more households residing mostly in kutcha structures, huddled together, or inhabited persons”.

The Government of India, in the context of the Environmental Improvement of Urban Slums (EIUS) defined “slums” as:

“A slum area means any area where such dwellings predominate which by reason of dilapidation, over crowding, faulty arrangement of design of building, narrowness or faulty arrangement of streets, lack of ventilation, light or sanitation facilities, inadequacy of open spaces and community facilities or any combination of these factors, are detrimental to safety, health or morale”.

The NSSO survey showed that there were 117227 declared and undeclared slums in the country of which 60916 were in the rural sector and 5631 in the urban sector. Around 5 percent of rural slums and 36 percent of urban slums were “declared slums” by the civic authorities. More than 89 percent of the urban slums were located in residential areas, with 5 and 3 percent of the slums being formed in industrial and commercial areas respectively.

At the all India level, around one-third each of the urban slums had pucca, semi-pucca, and kutcha structures. Around 65 percent of urban slums had a “tap” as the source of drinking water, while more than a quarter of the slums get drinking water through a tube well/hand pump. About 75 percent of urban slums reported electrification. Around 60 percent of urban slums remained water logged during monsoon.

Around 47 percent of urban slums had pucca (all weather) roads. More than 84 percent of the slums had pucca cartable approach roads. Underground sewerage system existed in 17 percent of these slums. Drainage system existed in 70 percent of the slums with 35 percent having an open pucca system and 20 percent having an open kutcha system, 8 percent of them having underground and rest having covered pucca system. About 35 percent of urban slums did not have any arrangement for garbage disposal. In a majority of urban slums, garbage is disposed off by the municipality or corporation. In 98 percent of urban

slums, a motorable road, and in 90 percent, primary schools, and in 63 percent, hospital health centres were available within a distance of 1 km.

Government programmes aimed at urban poverty alleviation have a long history. Some of the main landmarks are noted below:

**1958:** Start of Urban Community Development (UCD) pilot project with an area-oriented approach.

**1972:** Start of Environmental Improvement of Urban Slums (EIVS).

**1985:** Expansion of Urban Basic Services (UBS) programme, already implemented during 1981-84 in 42 towns with the help of UNICEF to 168 towns.

**1989:** Four pronged strategy comprising

- i. employment creation for low income communities through promotion of micro enterprises and public works,
- ii. housing and shelter upgradation,
- iii. social development planning with special focus on development of children and women, and
- iv. environmental upgradation of slums.

With these objectives, two schemes were launched.

- 1989:** i. Nehru Rozgar Yojana (NRY)  
ii. Urban Basic Services for Poor (UBSP)

**1995:** Start of Prime Minister's Integrated Urban Poverty Eradication Programme (PMI UPEP) made applicable to 345 Class II towns and 79 specifically identified district headquarters and hill areas.

**1997:** Swarnajayanti Shahri Rozgar Yojana (SJSRY): In SJSRY, the earlier schemes of UBSP, NRY and PMI UPEP were merged. SJSRY has a urban self-employment programme (USEP) through promoting self-employment ventures, and the urban wage employment (UWEP) component. It also emphasises creating community structures, and applicable to all urban town in India. Much of the non-slum urban poor, live on streets, in and around railway and bus-stations, railway tracks, religious places. They are scattered all over the place, making urban governance difficult. Poor living conditions in slum and squatter conditions also leads to exposure to health hazards due to exposure to pollution and domestic and industrial waste.

### **3.15 Poverty and the Tenth Plan**

Taking into consideration the growth trajectories of per capita incomes, agriculture yields, per capita plan expenditure, and the state specific poverty lines, the Tenth Plan projects state specific poverty head count ratios, assuming that the inflation rate for the poverty line is the same as that for the overall GSDP.

The overall poverty ratio is expected to decline to 19.3 percent in 2006-07, with most of the poor being concentrated in just a few states, *viz.*, Bihar, Madhya Pradesh, Orissa, Uttar Pradesh, West Bengal, and the North Eastern states (Table 3.39). Based on these projections, some states like Haryana, Himachal Pradesh, Goa, Gujarat, and Punjab will have negligible levels of poverty. However, taking into account the likely migration to these states from the other poor states, in some of these states, the poverty ratio has been kept at 2 percent.

The risk factors in this context relate to under-achievement of the targeted growth rates, and allocation of lower per capita plan expenditures than anticipated. The impact of the planning process on poverty alleviation can be improved by focusing attention on the high poverty incidence states rather than relying on a general planning process.

### **3.16 Summary**

It has been noted that since 1973-74, poverty estimates in India based on NSS data show persistent decline at a rate of almost 1 percentage point every year. Although there is some debate as to the rate of decline of poverty, especially in the nineties, two features of the poverty profile in India stand out. One, poverty has become less but spatially more concentrated. Rural poverty is concentrated in a few poor states. Urban poverty is also spatially concentrated but in this list some of the middle to higher income states are also present. Poverty has also become more urbanised in the sense that the number of urban poor in total poor has increased in almost all states. The increasing urbanisation and spatial concentration of poverty call for a qualitative change in fiscal policies, making these states specific and targeted. Rural and urban poverty are qualitatively different and call for different types of policy intervention. Also, since urban poverty is linked to rural poverty, policies should also address the issue of its increasing urbanisation of poverty.

**Table 3.39: Poverty Reduction Targets for the Tenth Plan**

Sl. No.	States/Union Territories	Poverty Projection for 2007					
		Rural		Urban		Combined	
		Percentage of Poor	Number of Poor	Percentage of Poor	Number of Poor	Percentage of Poor	Number of Poor
1.	Andhra Pradesh	4.58	26.97	18.99	41.75	8.49	68.72
2.	Arunachal Pradesh	37.89	3.54	4.48	0.14	29.33	3.68
3.	Assam	37.89	95.36	4.48	1.78	33.33	97.14
4.	Bihar	44.81	482.16	32.69	54.74	43.18	536.91
5.	Goa	2.00	0.13	2.00	0.16	2.00	0.29
6.	Gujarat	2.00	6.88	2.00	4.38	2.00	11.25
7.	Haryana	2.00	3.30	2.00	1.51	2.00	4.81
8.	Himachal Pradesh	2.00	1.18	2.00	0.14	2.00	1.32
9.	Jammu & Kashmir	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
10.	Karnataka	7.77	28.66	8.00	16.34	7.85	45.00
11.	Kerala	1.63	4.03	9.34	8.01	3.61	12.04
12.	Madhya Pradesh	28.73	192.07	31.77	74.46	29.52	266.54
13.	Maharashtra	16.96	101.61	15.20	72.68	16.18	174.30
14.	Manipur	37.89	8.10	4.48	0.27	30.52	8.37
15.	Meghalaya	37.89	7.99	4.48	0.24	31.14	8.23
16.	Mizoram	37.89	1.88	4.48	0.23	20.76	2.12
17.	Nagaland	37.89	8.01	4.48	0.21	31.86	8.22
18.	Orissa	41.72	139.12	37.46	23.57	41.04	162.69
19.	Punjab	2.00	3.40	2.00	1.95	2.00	5.35
20.	Rajasthan	11.09	54.41	15.42	23.44	12.11	77.86
21.	Sikkim	37.89	2.08	4.48	0.03	33.78	2.12
22.	Tamil Nadu	3.68	12.46	9.64	31.61	6.61	44.07
23.	Tripura	37.89	10.70	4.48	0.28	31.88	10.98
24.	Uttar Pradesh	24.25	373.16	26.17	111.25	24.67	484.41
25.	West Bengal	21.98	137.53	8.98	22.21	18.30	159.73
26.	Andaman & Nicobar Islands	3.68	0.10	9.64	0.14	5.82	0.24
27.	Chandigarh	2.00	0.02	2.00	0.19	2.00	0.21
28.	Dadra & Nagar Haveli	2.00	0.04	2.00	0.02	2.00	0.06
29.	Daman & Diu	2.00	0.03	2.00	0.01	2.00	0.04
30.	Delhi	2.00	0.19	2.00	3.18	2.00	3.38
31.	Lakshadweep	1.63	0.01	9.34	0.02	4.59	0.03
32.	Pondicherry	3.68	0.13	9.64	0.07	7.72	0.83
	<b>All India</b>	<b>21.07</b>	<b>1705.26</b>	<b>15.06</b>	<b>495.67</b>	<b>19.34</b>	<b>2200.94</b>

Source: Planning Commission, Tenth Five Year Plan (2002-2007), Vol. III – State Plans Trends, Concerns and Strategies.

## Chapter 4: POVERTY, INCOME DISTRIBUTION AND GROWTH PROCESSES

### 4.1 Introduction

Growth processes have a critical bearing on the nature and incidence of poverty. Economic growth, in conjunction with other factors, can have a significant impact in reducing poverty. At the same time, high levels of individual income and asset inequalities can act as a hindrance in reducing poverty through growth. Thus, both the magnitude of growth and its distributional dimensions are of importance in the context of poverty reduction.

### 4.2 Growth and Poverty Reduction

In his recent work, Srinivasan (2001) observes that although only a few developing countries have succeeded in sustaining rapid growth for a long period and in reducing poverty significantly, the evidence does suggest an association between episodes of rapid growth and poverty reduction. In his view, policies and processes can be identified *a priori*, some of which would be expected to generate sustained growth and poverty reduction while others would not lead either to growth or poverty reduction. A rate of growth that seems to reduce poverty significantly in one country can have very little effect on the poor of another country.

It is useful to identify the poverty reducing vis-à-vis poverty increasing features of the growth. In this context, Bardhan (1996) writes:

“In situations of severe capital market imperfections, the escape routes from poverty for the unskilled and the assetless may remain blocked, while growth improves the prospects for capital-intensive or skill-intensive projects. The centripetal forces of growth with increasing returns may drain resources away from backward regions reinforcing regional polarisation, as economic geographers have repeatedly shown. Large projects of industrialisation and commercialisation may uproot and disenfranchise sections of the poor from their traditional habitats and their access to common poverty resources”.

At the same time, there are a number of situations in which equity promotes efficiency, and lack of equity, hampers it. Rampant poverty breeds crime and ‘extra-legal appropriative activities’ (Grossman, 1992) and political instability, which can have damaging consequences for investment and macro-economic efficiency. There is also a link between

nutritional intake and work efficiency in situations of extreme poverty. A more egalitarian distribution of land by reducing malnourishment and improving employability of the currently unemployed, may lead to a rise in the aggregate output in the economy (Dasgupta and Ray, 1986).

Redistribution policies can support economic growth by correcting market failures, especially imperfections of the credit and insurance markets that particularly affect the poor. Expanding access to credit, can make small farmers and artisans economically more viable by allowing them to enlarge their scale of production, or take up more high-return, high-risk occupations. Activities like better education and health for the poor have important positive externalities for the rich. Better education for women is often associated with better education, nutrition, and health of children (particularly daughters). Similarly, better opportunities for outside work for young women can lead to socially more beneficial fertility behaviour through raising marriage age.

Markets and institutions of governance have a critical role in the context of growth, poverty, and inequality. Changes in institutions for risk taking and sharing, such as the replacement of informal risk sharing arrangements among members of a small community (e.g., households in a village) by facilitating participation in well functioning markets, can affect the pattern of resource allocation, particularly, relating to selection of crops, use of fertilisers, etc. Growth, and its impact on poverty, are also affected by the efficiency of the legal system particularly for enforcing rights and contracts.

Rapid growth could be detrimental to poverty reduction if it erodes the asset base of the poor including common property resources to which they had free access. A shift in public expenditure away from the provision of subsidies on goods and services extensively used by the poor to sustain growth promoting investment in infrastructure may adversely affect poverty. Unsustainable growth brought about through inflationary financing could increase poverty.

### **4.3 Growth and Poverty Reduction: Some Empirical Results**

Datt (1997, 1999), Datt and Ravallion (1992, 1997, 1998a, 1998b) and Ravallion and Datt (1996a, 1996b, 1999) have analysed the determinants of and factors (including policy

instruments) that influence the trends in **poverty**. Some of their main findings can be summarised as follows: One, **poverty** ratio falls by *one percent* for every *one percent* increase in net domestic product per capita; and two, a decomposition of the changes in **poverty** ratio into a growth component (i.e., growth in mean consumption) and a redistribution component, shows that nearly 87 percent of the observed decline in **poverty** ratio was accounted for by the growth component. The decomposition of growth and income distribution and their impact separately on poverty is discussed later in this chapter. Further, the sectoral composition of growth is important as rural economic growth contributes far more to **poverty** reduction than urban economic growth. Also, initial conditions relating to human resources and infrastructural development accounted for a sizeable share of the differences between states in reducing rural **poverty**.

Ravallion and Datt (1999) address the problem of why growth is more pro-poor in some economies than others. They examine the evolution of poverty measures across major states in India which facilitates the construction of a long time series. Cross-state differences in the poverty-reduction impact of various growth sources in India are then tested and analyzed. Ravallion and Datt use the diverse experiences of states to shed light on the question whether these differences are due to variations in rates and sectors of growth, or whether there are differences in the actual impact of that growth. Given that the latter factor is found to be important, Ravallion and Datt examine further the ways in which differences in initial state conditions can affect the poverty-reducing effects of growth. Their starting point is based largely on modelling aggregate (rural and urban) poverty measures, and relaxing the traditional assumption that the impact of growth on poverty reduction is uniform across states.

Ravallion and Datt's study reveals that, in the long-run, the geographic breakdown of India's non-farm economic growth has not been pro-poor. Non-farm growth is more pro-poor when initial conditions in the states indicate higher female literacy rates, higher initial farm yields, lower infant mortality, and lower urban-rural disparities in consumption levels and landlessness. When these variables are controlled, initial urbanization rates and initial non-farm product are not found to have a significant impact on the non-farm output elasticity of poverty. By using state poverty measures for India over 1960–1994, while allowing for state fixed effects, Ravallion and Datt found that higher farm yields, higher state development spending, higher urban and rural non-farm output and lower inflation were all poverty

reducing. The null hypothesis that all these variables, except for non-farm growth, had the same elasticity across states for a given poverty measure, could not be rejected. But the elasticity of poverty to non-farm growth differed significantly across states, allowing Ravallion and Datt to derive a state-specific measure of how pro-poor economic growth was over this period in India.

It was also found that the national rate of growth depended on the geographic distribution of growth as well as its overall rate. Again, differences in initial conditions were reflected in cross-state differences in the impact of non-farm economic growth on consumption poverty. The sectoral breakdown of growth was more significant to poverty reduction in states with lower standards of initial conditions. For a growing non-farm economy, human resource development and more equal land distribution seem to be strongly connected to poverty reduction, as is literacy for pro-poor growth. For example, more than half of the difference between the elasticity of the head count index of poverty to non-farm output for Bihar (the state with lowest elasticity) and Kerala (the highest) is attributable to the latter's substantially higher initial literacy rate (Ravallion and Datt 1999, p. 20).

In the Ravallion and Datt (2001) study, the data set consists of 15 states and annual observations pertaining to the period 1960 to 1994. Three sets of poverty indices were used as dependent variables, *viz.*, the head count index, the poverty gap index and the squared poverty gap index. The output variables are: (i) real agricultural output per hectare of net sown area, and (ii) real non-agricultural output per person. After trying out various specifications, Ravallion and Datt accepted the results were the coefficient of real agricultural output is common across states but the impact non-farm output is different in different states. In both cases higher output leads to a reduction in the poverty ratio. With respect to the head count ratio, one percentage point in real agricultural output per hectare of net sown area leads to a reduction of 0.11 percent. In the case of non-agricultural output per person, the impact of growth of one percent leads to a reduction in the head count ratio but the impact differs across states ranging from 0.13 percent in Bihar to 0.62 percent in West Bengal.

Increase in real per capita state development expenditure, which represents a fiscal variable is also shown to have a negative impact on the poverty index. One percent increase in per capita development expenditure leads to 0.14 percent fall in the head count ratio. This influence is also hypothesised as uniform across states. The influence of the inflation rate is

poverty increasing. One percent increase in the inflation rate leads to a 0.42 percent increase in the poverty. The results are summarised in Table 4.1.

**Table 4.1: Regressions for the State Poverty Measures Allowing for Inter-State Differences in Elasticities to Non-Farm Output**

Variables	Head Count Index		Poverty Gap Index		Squared Poverty Gap Index	
	Coefficient	t-Ratio	Coefficient	t-Ratio	Coefficient	t-Ratio
Real agricultural output per hectare of net sown area (current + lagged) (YLD)	-0.11	-4.74	-0.201	-5.46	-0.271	-5.35
Real per capita state development expenditure lagged (GOV)	-0.14	-2.57	-0.241	-2.79	-0.338	-2.86
<b>Real non-agricultural output per person: current + lagged (NFP)</b>						
Andhra Pradesh	-0.291	-8.89	-0.425	-8.19	-0.524	-7.37
Assam	-0.199	-5.05	-0.259	-4.13	-0.314	-3.65
Bihar	-0.13	-2.59	-0.335	-4.21	-0.501	-4.58
Gujarat	-0.285	-6.93	-0.444	-6.81	-0.55	-6.14
Karnataka	-0.249	-7.06	-0.36	-6.42	-0.444	-5.77
Kerala	-0.542	-14.8	-0.859	-14.79	-1.087	-13.64
Madhya Pradesh	-0.184	-4.92	-0.318	-5.35	-0.421	-5.16
Maharashtra	-0.191	-5.04	-0.248	-4.13	-0.27	-3.27
Orissa	-0.33	-9.67	-0.531	-9.8	-0.7	-9.42
Punjab and Haryana	-0.343	-10.09	-0.466	-8.65	-0.554	-7.49
Rajasthan	-0.336	-7.39	-0.493	-6.84	-0.605	-6.11
Tamil Nadu	-0.277	-7.97	-0.397	-7.2	-0.479	-6.33
Uttar Pradesh	-0.253	-6.12	-0.359	-5.47	-0.444	-4.93
West Bengal	-0.618	-11.57	-0.937	-11.06	-1.204	-10.35
Jammu & Kashmir	-0.176	-5.12	-0.23	-4.21	-0.273	-3.65
Inflation rate (INF)	0.419	5.19	0.587	4.58	0.704	4.00
Time trend	0.017	6.46	0.027	6.51	0.036	6.21
Root mean square error	0.094		0.1491		0.2047	
R2	0.918		0.918		0.91	

Source: Ravallion and Datt (2001).

Note: All variables are measured in natural logarithms. The dependent variables are log poverty measures. A positive (negative) sign indicates that the variable contributes to an increase (decrease) in the poverty measure. The estimated model also included state-specific intercept effects, not reported in the Table. The number of observations used in the estimation is 272.

In discussing their results, Srinivasan (2001) argues that viewing parameters of a relationship between two endogenous variables (in this case, **poverty** and net domestic product) as stable and as reflecting deeper processes is incorrect. Also, data problems, in particular due to changes in sample design, plague their analysis of data that go back to the 1950s. Conditions in terms of rural development (in both absolute terms and relative to urban areas) and human resources, low farm productivity, low rural living standards relative to urban areas and poor basic education all inhibited the prospects of the poor participating in growth of the non-farm sector.

Recent evidence emphasises the negative impact of inequality on growth. Both income inequality and asset inequality have a material impact on growth. Roland Benabou (1997) refers to at least 13 cross-country empirical analyses in the 1990's reporting a negative

effect of inequality on growth. Authors have speculated that inequality slows growth because it generates political and macroeconomic instability, leads to higher fiscal deficit reflecting the median voter's interests, and given weak capital markets and resulting liquidity constraints for the poor, reduces savings and investments, especially in human capital. The study by Birdsall, *et. al.* (1995) contrasts the virtuous cycle coming from high accumulation of human capital and labour-demanding export expansion in East Asia with the vicious cycle of import substitution and limited education in Latin America.

Higher initial income inequality is negatively associated with long-term growth. Differences in the rate of capital accumulation account for an important part of differences in growth rates across countries. Asset inequality appears to be even more important. With variables measuring initial asset inequality (i.e., initial land distribution and the initial distribution of human capital) in the equation, income inequality itself is no longer statistically significant. The effect of education inequality persists when other determinants of growth are included, and as the dummy variable for countries of the Latin American and Caribbean region shows, any region-specific effect of income inequality disappears once asset inequality is accounted for.

Estimates indicate that the elasticity of income growth of the poor with respect to overall growth is well above 1. Initial inequalities in the distribution of land and of human capital have a clear negative effect on economic growth, and the effects are almost twice as large for the poor as for the population as a whole. An unequal distribution of assets, especially of human capital, affects overall growth, and it affects income growth of the poor disproportionately. A more equitable distribution of assets increases the incomes of the poor, reducing poverty directly. Also, by reducing the negative effect on growth of income inequality, it increases aggregate growth and further reduces poverty indirectly.

#### **4.4 Growth and the “Elasticity of Connection”**

Timmer (1997) has also examined the link between growth and poverty reduction using a different analytical model while using a cross-country framework. Timmer estimated what he calls the 'elasticity of connection' between the poor and the rest of the economy. This elasticity indicates the extent to which the poor share in the overall GDP growth. In particular, it is defined as the degree to which a percentage increase in overall GDP translates

into a percentage increase in the income of the poorest quintile. Instead of using regressions based on growth episodes, Timmer regresses the level of per capita GDP growth on the level of income for all five income quintiles simultaneously, using a fixed-effects framework. This model found that while the poor do participate in growth in many economies, the extent of their participation is much lower in more unequal countries. While the poor do benefit from growth on average, this average masks a great deal of variation and the poor are particularly disadvantaged in unequal countries.

In some economies, the incomes of the poor have grown faster than per capita GDP, and in others, the poor have been left behind. Economic structure, particularly sectoral composition of growth, affects poverty alleviation. In developing countries with highly unequal income and asset distribution, the poor may be substantially disadvantaged in the growth process.

In estimating the elasticity of connection, Timmer regresses the level of income of each quintile on overall per capita GDP, by including country and time fixed effects (dummy variables for each country included and for each decade from the 1960's to the 1990's). The country fixed effects allow shifts in the regression intercept for each country, but assume the same slope, or elasticity of connection, for all countries. The fixed effects for decades allow a shift in the regression intercept for each 10-year decade. As the model examines the sectoral composition of growth between agriculture and non-agriculture, the countries included are those that have a significant agriculture sector, are reasonably large, and are considered developing countries.

Timmer finds that in unequal countries, there is a pronounced Kuznets effect: the elasticity of connection for the poorest quintile is significantly lower than for the higher quintiles: the poor appear to be much more disconnected from the growth process in these economies. The elasticity of connection for the poorest quintile is 0.257 for agriculture and 0.449 for non-agriculture. In contrast, for those economies with better income distribution, the elasticity of connection for the poor in the agriculture sector is 1.146 and 1.018 for non-agriculture. This is slightly higher than the elasticities for the upper quintiles, suggesting a slight "anti-Kuznets" effect in these economies.

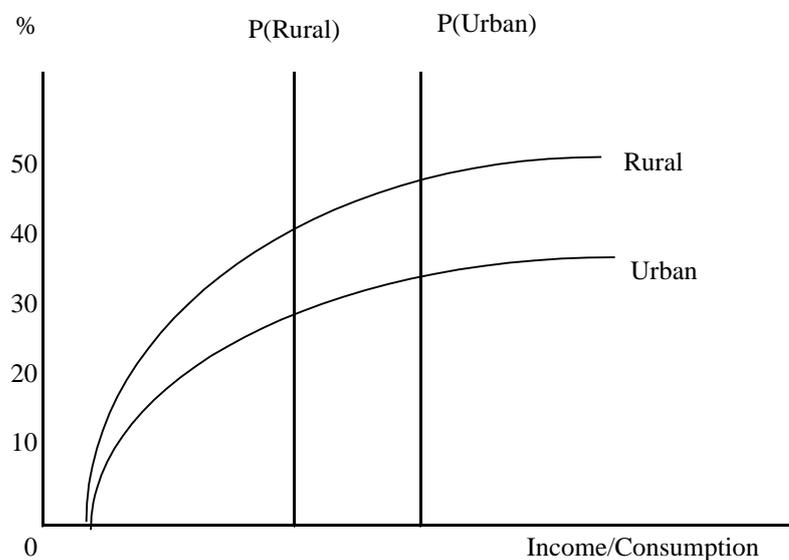
These results indicate that two fundamentally different growth processes may be at work with respect to the role of labor productivity in agriculture and non-agriculture. In countries where the income gap is relatively small, labour productivity in agriculture is slightly but consistently more important in generating incomes in each of the five quintiles. Also more, agricultural productivity has a noticeable “anti-Kuznets” effect in these countries. A similar effect is seen for the non-agricultural sector and this impact is even more important for the poor because the non-agricultural sector is large (on average 75 percent of the overall economy). It grows faster than the agricultural economy over sustained periods of time.

The contrast with countries where the relative income gap is large, i.e., more than twice the average per capita income, is sharp. In the poorest quintile, workers are virtually disconnected from the national economy. The elasticity of connection rises sharply by income class and exceeds one for the top quintile.

#### 4.5 Growth, Income Distribution and Poverty: Some Results for India

##### a. Cumulative Distribution Function

Cumulative Distribution Function (CDF) indicate the change in poverty incidence as a result of shifts in the poverty line. In Figure 4.1, the x-axis shows nominal values and y-axis shows the cumulative percent of the population. If the poverty line intersects the CDF in a steep part, a small change in the poverty line will cause a large increase in the incidence of poverty.



**Figure 4.1: Cumulative Distribution Function**

## 4.6 Inequality, Growth and Poverty

The incidence of poverty is fully determined by mean income and inequality in income. An increase in mean income and a reduction in inequality of income can both lead to a reduction in the incidence of poverty. Their combined poverty reducing effect can be quite substantial.

In Figure 4.2, the distribution of income is shown. The vertical axis shows the percentage of households with incomes of different levels. Incomes are shown on the horizontal axis. The mean income is shown by line  $\mu$  and the poverty line by the line P. A shift in the mean income will shift the entire income distribution curve to the right.

If there is uniform growth as shown in Figure 4.2, the income distribution curve shifts to the right. Mean income increases from U to U'. The poverty line intersects the income distribution curve to the left of the earlier intersection showing a reduction in poverty. In Figure 4.3, if the mean income remains unchanged but inequality is reduced, the curve becomes more dense around the mean. In this case also, the poverty line intersects the new income distribution curve at a lower height, showing reduction in poverty.

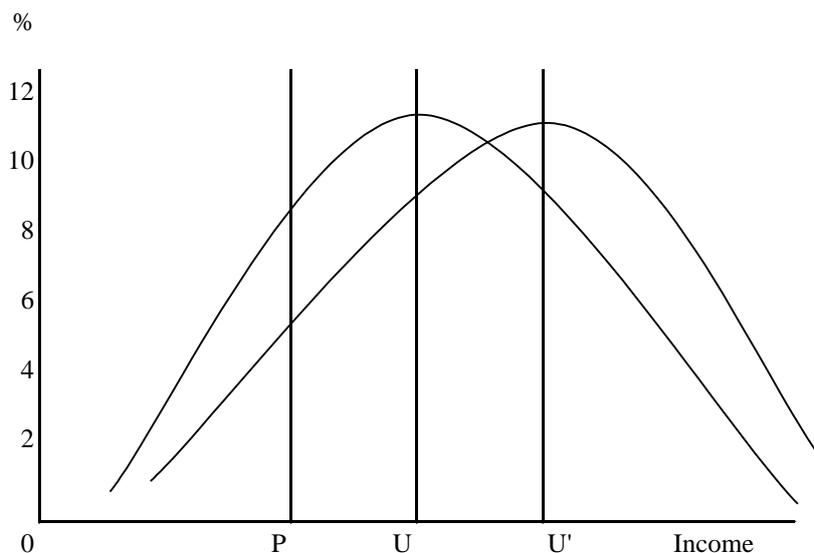
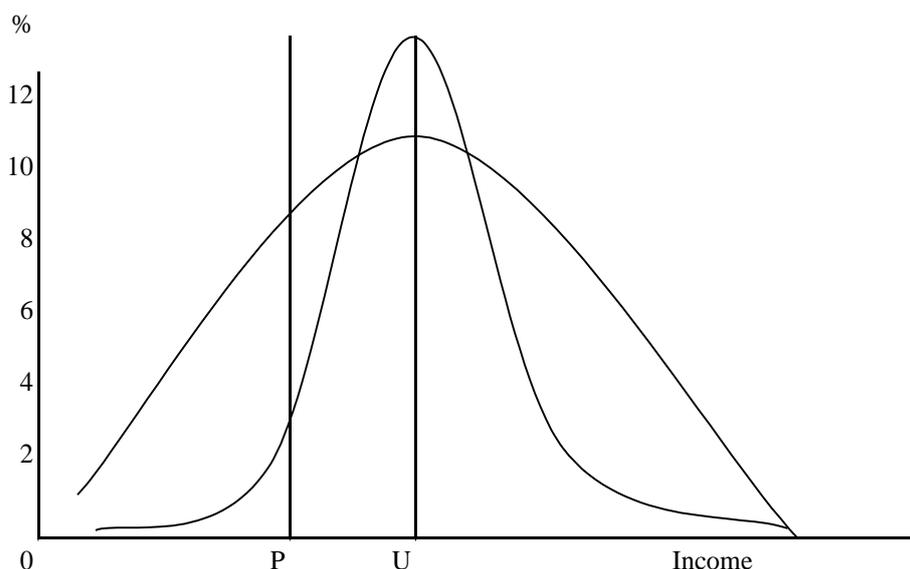


Figure 4.2: Higher Growth: Mean Income Shifts



**Figure 4.3: Better Income Distribution, Same Mean Income**

In the context of the interface between growth and poverty, it is useful to decompose the impact of income growth and income distribution on poverty. One major policy concern in recent years has been whether wide differences in the poverty across regions in India are due to the differences in the mean income or the differences in the distribution of income (Dhongde: 2003). There have been several attempts in the past to decompose the total change in poverty over a period of time (Kakwani and Subbarao: 1990, Datt and Ravallion: 1992 Shorrocks and Kollenikov: 2001, Dhongde: 2002). In a recent Study, Dhongde (2003) analysed how much of the total differences in the State and National level poverty can be explained by differences between state and national mean income and differences in their income distribution. Based on NSSO data, decomposition of poverty is done for the year 1999-00<sup>2</sup>. Income level is proxied by mean consumption expenditure<sup>3</sup> for both rural and urban areas. Fifteen major States in India are included, which account for around 97 percent of the total population of the country. Because of the differences in the price level, the data are adjusted for price fluctuations by the using official poverty line.

The study noted that in the year 1999-00, the performance of the states differed significantly in terms of their mean level of income and distribution of income. The mean consumption expenditure and the corresponding Gini coefficients are shown in Table 4.2. Having estimated mean income (proxied by consumption expenditure) and distribution

<sup>2</sup> For a detailed methodology on spatial decomposition of poverty see Dhongde (2003).

<sup>3</sup> The expenditure series is not only more stable than the income series but also the differences in the income and expenditure narrows down considerably when considered for the poor (Dhongde, 2003).

reflected in their respective gini coefficients, spatial decomposition of poverty showed that the differences in the poverty between state and national level is largely explained by the differences in their mean income. In all cases, except one, higher than average mean income level implied lower than average poverty level and vice versa. However, there were certain exceptions in urban areas where low level of poverty was the result of not only higher levels of income but also more equitable distribution of income. The study draws important policy implications arguing for higher rates of growth of income at state level where the poverty levels are very high.

**Table 4.2: Per Capita Consumption Expenditure and their Gini Coefficients**

States	Mean Per Capita Exp.		Gini Coefficients	
	Rural	Urban	Rural	Urban
Andhra Pradesh	604.35	808.30	0.26	0.33
Assam	404.70	1117.11	0.22	0.31
Bihar	403.90	776.13	0.23	0.34
Gujarat	592.36	850.49	0.24	0.30
Haryana	656.83	1043.85	0.24	0.28
Karnataka	583.19	786.03	0.28	0.34
Kerala	711.91	913.45	0.32	0.34
Madhya Pradesh	462.63	675.98	0.27	0.33
Maharashtra	533.61	808.11	0.27	0.35
Orissa	415.00	676.47	0.26	0.33
Punjab	725.22	1104.52	0.27	0.29
Rajasthan	546.92	788.83	0.23	0.30
Tamil Nadu	613.36	951.57	0.31	0.40
Uttar Pradesh	485.06	750.79	0.26	0.33
West Bengal	533.37	1007.62	0.29	0.36

Source: Dhongde (2003).

Dhongde (2003) looks at the incidence of poverty of states in India in 1999-00 in relation to the all India poverty levels. The study aimed at measuring as to how much of the total difference of poverty of a state and poverty at the all India level could be explained by the difference in the mean incomes as compared to extent to which it could be explained by the difference in the distribution of income.

The study finds that the difference between state and national level poverty is largely explained by the difference in the mean incomes. Differences in state and all India distribution of income were less important in explaining differences in poverty levels.

There were some exceptions, particularly for urban poverty where low levels of poverty resulted not only from a higher income level but also better distribution of income.

The main results of the study are summarised in Tables 4.3 and 4.4. The poverty ratios are adjusted for differences in state prices (See Dhongde, 2003). In the case of rural poverty, states with higher than national poverty HCR like Assam, Bihar, Madhya Pradesh, Orissa, and Uttar Pradesh, it is the difference in mean incomes which more than fully explains the difference.

**Table 4.3: Decomposition of the Head Count Ratio in 1999-00: Rural**

States	Head Count Ratio* (Percent)	Total Difference with all India Ration (Percentage Points)	Mean Component (Percentage Points)	Distribution Component (Percentage Points)
Andhra Pradesh	11.76	13.06	9.29	3.77
Assam	37.46	-12.63	-20.78	8.15
Bihar	40.6	-15.80	-22.38	6.59
Gujarat	12.40	12.43	7.72	4.71
Haryana	8.40	16.43	12.73	3.70
Karnataka	16.38	8.44	7.50	0.95
Kerala	12.88	11.94	17.22	-5.28
Madhya Pradesh	32.96	-8.14	-9.28	1.14
Maharashtra	21.96	2.86	1.83	1.03
Orissa	40.96	-16.13	-18.42	2.29
Punjab	7.91	16.92	16.50	0.41
Rajasthan	12.98	11.85	3.31	8.53
Tamil Nadu	18.98	5.84	10.15	-4.30
Uttar Pradesh	27.43	-2.61	-5.39	2.78
West Bengal	23.95	0.87	1.81	-0.94
<b>All India</b>	<b>24.83</b>			

Source: Dhongde (2003).

Note: \* Head count ratio expressed in percent terms.

**Table 4.4: Decomposition of the Head Count Ratio in 1999-00: Urban**

States	Head Count Ratio* (Percent)	Total Difference with all India Ration (Percentage Points)	Mean Component (Percentage Points)	Distribution Component (Percentage Points)
Andhra Pradesh	26.35	-1.37	-1.95	0.58
Assam	9.54	15.44	10.38	5.06
Bihar	29.42	-4.43	-4.15	-0.29
Gujarat	17.82	7.16	0.54	6.63
Haryana	8.61	16.38	7.31	9.06
Karnataka	27.20	-2.22	-3.15	0.93
Kerala	20.25	4.74	3.73	1.00
Madhya Pradesh	36.47	-11.49	-13.23	1.74
Maharashtra	28.68	-3.69	-1.83	-1.86
Orissa	36.71	-11.73	-11.00	-0.72
Punjab	6.90	18.08	9.90	8.18
Rajasthan	21.39	3.59	-3.09	6.68
Tamil Nadu	23.81	1.17	2.92	-1.75
Uttar Pradesh	29.88	-4.90	-5.98	1.08
West Bengal	16.49	8.49	8.45	0.04
<b>All India</b>	<b>24.98</b>			

Source: Dhongde (2003).

Note: \* Head count ratio expressed in percent terms.

In the case of urban poverty, cases where the inequality component also appears to be important are Gujarat, Haryana, Punjab and Rajasthan.

Deaton (September 2002, EPW) speaks of (P. 3744) two areas of “regression” during the nineties: increase of economic inequality and the decline in female-male ratio among children from 945 girls per thousand boys in the 0-6 years age-group in 1991 to 927 girls per thousand boys in 2001. He argues that economic growth may facilitate the spread of sex-selective determination by making use of the sex-determination technology more affordable. The largest declines of the female-male ratio among children between 1991 and 2001 occurred in some of the better-off states, viz., Gujarat, Haryana, Himachal Pradesh, Punjab and Delhi.

Deaton (2002) provides a decomposition of the fall in the poverty head count ratio between 1993-94 and 1999-00 as being due to growth and change in inequality (Tables 4.5 and 4.6). It is clear that a very large portion of the decline is attributable to growth rather than any reduction in inequality. Growth implies an increase in average per capita expenditure (APCE). Column 2 in Table 4.5 shows Deaton’s estimate of percentage point reduction in HCR associated with a distribution neutral 1 percent increase in APCE. This derivative depends positively on the fraction of people living at or near the poverty line. His estimates show (column 4 in Table 4.5) that growth alone would have reduced the poverty HCR more than the actual, imply the impact of increased inequality in reducing the effect of growth. In the case of rural poverty, growth almost fully accounts for the reduction of poverty with much adverse impact of worsened income distribution. In the case of urban poverty, the influence of increased income inequality is relatively larger, but the influence of growth is predominant.

Table 4.5 shows that inequality in urban incomes is much higher than that in rural incomes.

For updating the official poverty line used by the Planning Commission, CPIAL and CPIIW are reweighted using national level consumption patterns of people around the poverty line in 1973-74. The basic price data are the same as for CPIAL and CPIIW, but the commodity level prices are weighted using the more recent and more poverty relevant weights.

**Table 4.5: Growth and the Head Count Ratio, 1993-94 to 1999-00**

States	HCR <sub>50</sub>	Derivative with Respect to Growth	Six Years Growth	Change in HCR <sub>55</sub> Inequality Fixed	Change in HCR <sub>55</sub> Actual
<b>Rural</b>					
Andhra Pradesh	29.2	-0.90	2.8	-2.5	-3.0
Assam	35.4	-1.27	0.9	-1.4	0.1
Bihar	48.6	-1.06	6.9	-8.2	-7.4
Gujarat	32.5	-0.91	15.1	-12.1	-12.4
Haryana	17.0	-0.63	31.0	-12.9	-11.3
Himachal Pradesh	17.1	-0.75	16.2	-8.3	-7.3
Jammu & Kashmir	10.1	-0.50	5.4	-2.6	-4.0
Karnataka	37.9	-0.91	9.5	-9.0	-7.2
Kerala	19.5	-0.62	19.6	-10.3	-9.5
Madhya Pradesh	36.6	-0.93	6.6	-6.5	-5.3
Maharashtra	42.9	-0.81	14.1	-10.9	-11.0
Orissa	43.5	-1.04	1.4	-1.2	-0.5
Punjab	6.2	-0.34	20.2	-4.0	-3.8
Rajasthan	23.0	-0.78	7.0	-5.5	-5.7
Tamil Nadu	38.5	-0.90	15.7	-13.3	-14.1
Uttar Pradesh	28.6	-0.79	8.3	-6.6	-7.2
West Bengal	25.1	-0.97	2.1	-2.0	-3.2
<b>All India</b>	<b>33.0</b>	<b>-0.88</b>	<b>8.7</b>	<b>-6.8</b>	<b>-6.7</b>
<b>Urban</b>					
Andhra Pradesh	17.8	-0.62	18.5	-9.0	-6.9
Assam	13.0	-0.64	8.8	-3.1	-1.2
Bihar	26.7	-0.79	4.8	-4.0	-2.0
Gujarat	14.7	-0.55	20.9	-8.7	-8.3
Haryana	10.5	-0.47	23.0	-6.3	-6.0
Himachal Pradesh	3.6	-0.26	28.5	-2.9	-2.4
Jammu & Kashmir	3.1	-0.15	8.0	-0.4	-1.8
Karnataka	21.4	-0.60	26.5	-12.9	-10.6
Kerala	13.9	-0.46	18.2	-7.1	-4.2
Madhya Pradesh	18.5	-0.63	14.1	-8.0	-4.6
Maharashtra	18.2	-0.45	16.7	-6.1	-6.2
Orissa	15.2	-0.54	0.0	0.1	0.4
Punjab	7.8	-0.38	17.9	-4.9	-4.4
Rajasthan	18.3	-0.59	15.4	-8.4	-7.5
Tamil Nadu	20.8	-0.66	25.1	-12.9	-9.6
Uttar Pradesh	21.7	-0.59	10.1	-6.0	-4.4
West Bengal	15.5	-0.56	11.5	-5.8	-4.3
Delhi	8.8	-0.26	30.7	-5.7	-6.4
<b>All India</b>	<b>17.8</b>	<b>-0.56</b>	<b>16.6</b>	<b>-7.4</b>	<b>-5.9</b>

Source: Deaton and Dreze (2002).

The “double information asymmetry” problem arises when higher level governments do not know what is needed, and local governments do not know how to do it.

**Table 4.6: Inequality Measures**

States	Log AM-LogGM <sup>a</sup>			Variance of Logs		
	50 <sup>th</sup> Round	55 <sup>th</sup> Round	55 <sup>th</sup> Round Adjusted	50 <sup>th</sup> Round	55 <sup>th</sup> Round	55 <sup>th</sup> Round Adjusted
Andhra Pradesh	0.14	0.09	0.13	0.24	0.17	0.22
Assam	0.05	0.07	0.06	0.10	0.13	0.11
Bihar	0.08	0.07	0.08	0.16	0.13	0.16
Gujarat	0.10	0.09	0.11	0.17	0.18	0.18
Haryana	0.16	0.10	0.23	0.28	0.19	0.31
Himachal Pradesh	0.13	0.10	0.14	0.22	0.17	0.24
Jammu & Kashmir	0.10	0.06	0.07	0.16	0.12	0.14
Karnataka	0.12	0.10	0.12	0.21	0.18	0.22
Kerala	0.15	0.14	0.16	0.26	0.24	0.27
Madhya Pradesh	0.13	0.10	0.12	0.22	0.18	0.22
Maharashtra	0.16	0.11	0.16	0.27	0.20	0.28
Orissa	0.10	0.10	0.12	0.18	0.18	0.21
Punjab	0.13	0.10	0.14	0.22	0.19	0.24
Rajasthan	0.12	0.07	0.10	0.20	0.14	0.18
Tamil Nadu	0.16	0.14	0.15	0.27	0.23	0.24
Uttar Pradesh	0.13	0.10	0.12	0.23	0.18	0.21
West Bengal	0.11	0.09	0.08	0.17	0.15	0.15
<b>All India – Rural</b>	<b>0.14</b>	<b>0.11</b>	<b>0.14</b>	<b>0.23</b>	<b>0.21</b>	<b>0.24</b>
Andhra Pradesh	0.17	0.16	0.17	0.30	0.29	0.33
Assam	0.13	0.16	0.14	0.25	0.30	0.27
Bihar	0.15	0.17	0.17	0.27	0.30	0.30
Gujarat	0.14	0.14	0.14	0.25	0.25	0.26
Haryana	0.13	0.14	0.15	0.24	0.27	0.28
Himachal Pradesh	0.38	0.16	0.42	0.37	0.29	0.40
Jammu & Kashmir	0.13	0.09	0.12	0.24	0.16	0.21
Karnataka	0.16	0.18	0.17	0.31	0.32	0.34
Kerala	0.20	0.17	0.22	0.31	0.32	0.37
Madhya Pradesh	0.18	0.17	0.18	0.29	0.29	0.33
Maharashtra	0.21	0.21	0.21	0.40	0.36	0.40
Orissa	0.15	0.14	0.16	0.29	0.26	0.29
Punjab	0.13	0.14	0.14	0.23	0.25	0.25
Rajasthan	0.14	0.13	0.14	0.25	0.23	0.26
Tamil Nadu	0.21	0.27	0.20	0.39	0.34	0.35
Uttar Pradesh	0.17	0.18	0.19	0.31	0.31	0.34
West Bengal	0.19	0.20	0.19	0.34	0.31	0.35
Delhi	0.29	0.21	0.30	0.43	0.39	0.46
<b>All India – Urban</b>	<b>0.19</b>	<b>0.20</b>	<b>0.21</b>	<b>0.34</b>	<b>0.34</b>	<b>0.37</b>
<b>All India</b>	<b>0.17</b>	<b>0.18</b>	<b>0.19</b>	<b>0.29</b>	<b>0.29</b>	<b>0.32</b>

Source: Deaton and Dreze (2002).

Note: AM is the arithmetic mean, and GM is the geometric mean. The difference in their logarithms is mean relative deviation, which is a measure of inequality.

Bhalla (2002) uses the concept of ‘Shape of Distribution Elasticity’ (SDE), which indicates proportionate change in the HCR, following a one percent change in growth, assuming that there is no change in the distribution. He defines

$$dP = (g + I) * SDE$$

where  $dP$  is the change in the head count ratio,  $g$  is the growth in average per capita consumption and  $i$  is the change in the share of consumption of the poor on or near the poverty line.

For rural Assam, the SDE is high at 1.3 in 1983. For urban Maharashtra, it is low at 0.6 in 1983. Bhalla (2003) argues that the kind of elasticities estimated by Ravallion and Dutt are not so relevant for predicting changes in the poverty HCR. One has to take into account the shape of the income distribution curve around the poverty line. The higher the SDE, the larger would be the impact of an increase in the growth rate in reducing the poverty HCR. Bhalla (2003) observes “ ... if the impact of growth is assessed via the ‘mediation’ of SDE, then the correct growth-poverty elasticity is often 50 to 100 percent larger than one which is conventionally estimated.

In Tables 4.7 to 4.9, Bhalla gives state-wise estimates of SDE for rural, urban and combined India for 1983 and estimates the HCR for 1999 using change in inequality and change in growth of per capita consumption over 1983 to 1999.

**Table 4.7: Growth Inequality Poverty Connections: Rural India, 1983-1999**

States	Gini		Change in Gini	Change in Inequality	Growth in Per Capita Consumption	Total Growth	SDE	Change in HCR		HCR	HCR
	1983	1999	(1983-99)	(1983-99)	(1983-99)	(1983-99)	1983	Predicted (1983-99)	Annual (1983-99)	1983	1999
Andhra Pradesh	29.7	23.8	-22.1	14.6	9.0	23.6	0.8	-19.0	-16.2	27.3	11.0
Assam	20.0	20.3	1.5	-2.5	1.9	-0.6	1.3	0.9	-3.9	44.3	40.4
Bihar	26.2	20.8	-23.1	7.1	18.6	25.7	0.8	-20.4	-20.9	65.3	44.4
Gujarat	26.6	23.8	-11.1	4.3	17.8	22.1	0.9	-18.9	-16.9	29.3	12.5
Haryana	28.4	24.9	-13.2	7.3	17.5	24.8	0.8	-20.5	-14.0	21.5	7.4
Himachal Pradesh	27.2	24.5	-10.5	10.0	12.1	22.1	0.7	-14.9	-10.3	18.4	8.0
Karnataka	30.9	24.4	-23.6	16.7	13.2	29.9	0.8	-23.7	-19.1	36.3	17.2
Kerala	31.9	28.9	-9.9	7.6	37.0	44.6	0.9	-39.3	-30.7	40.1	9.4
Madhya Pradesh	29.7	25.4	-15.6	10.1	6.9	17.0	0.9	-14.4	-12.8	50.3	37.4
Maharashtra	29.1	26.2	-10.5	5.6	22.1	27.7	0.9	-24.0	-22.9	46.3	23.4
Orissa	27.1	24.7	-9.3	3.2	22.8	26.0	0.8	-21.2	-20.0	68.5	48.4
Punjab	28.8	25.3	-13.0	13.7	6.7	20.4	0.5	-9.8	-7.9	14.1	6.2
Rajasthan	34.6	21.3	-48.5	31.8	1.6	33.4	0.7	-24.7	-20.9	34.3	13.4
Tamil Nadu	36.6	28.4	-25.4	15.4	30.1	45.5	0.8	-35.9	-34.1	54.4	20.4
Uttar Pradesh	29.1	24.9	-15.6	8.1	11.9	20.0	0.9	-17.1	-16.0	47.4	31.4
West Bengal	29.9	24.6	-28.0	14.3	26.2	40.5	0.8	-31.6	-32.8	64.3	31.5
<b>India</b>	<b>30.4</b>	<b>26.3</b>	<b>-14.5</b>	<b>7.8</b>	<b>18.5</b>	<b>26.3</b>	<b>0.9</b>	<b>-24.2</b>	<b>-20.9</b>	<b>48.2</b>	<b>27.3</b>

Source: Bhalla (2003).

Notes: 1. SDE is the 'shape of distribution elasticity' defined as the expected change in the poverty for each 1 percent of growth assuming that distribution of income remains unchanged.

2. Inequality change is the (log) change in the consumption share of the poor. This change is computed as the change in the share of the bottom 20 percent, if the HCR for the base year 1983, was below 25 per cent, or of the bottom 40 percent if the HCR in 1983 was between 25 and 45 percent, etc.

3. Total growth in income is the sum of (log) growth in per capita consumption and log change in inequality.

4. Predicted change in head count ratio is given by the product of total growth and SDE.

5. Source of data: unit record NSS data for 1983 and 1999.

**Table 4.8: Growth Inequality Poverty Connections: Urban India, 1983-1999**

States	Gini		Change in Gini (1983-99)	Change in Inequality (1983-99)	Growth in Per Capita Consumption (1983-99)	Total Growth (1983-99)	SDE (1983)	Change in HCR		HCR (1983)	HCR (1999)
	1983	1999						Predicted (1983-99)	Annual (1983-99)		
	Andhra Pradesh	33.1									
Assam	26.1	32.5	21.9	-13.3	28.9	15.6	0.9	-13.7	-8.6	16.4	7.7
Bihar	30.4	32.3	6.1	-2.9	10.1	7.2	0.8	-5.4	-3.8	38.0	34.2
Gujarat	28.7	29.1	1.4	-2.2	31.6	29.4	1.1	-31.8	-22.3	37.3	15.0
Haryana	38.7	29.1	-28.5		15.6	15.6	0.9		-17.3	27.4	10.1
Himachal Pradesh	44.7	30.7	-37.6	30.0	35.4	65.4	0.4	-27.2	-19.1	22.2	3.1
Karnataka	34.2	32.8	-4.2	4.3	26.4	30.7	0.7	-21.7	-19.1	44.2	25.1
Kerala	40.5	32.6	-21.7	13.4	24.2	37.6	0.6	-24.2	-22.4	42.4	20.0
Madhya Pradesh	30.0	31.9	6.1	-4.3	21.2	16.9	0.8	-13.7	-15.8	54.3	38.5
Maharashtra	34.6	35.4	2.3	-0.1	-1.6	-1.7	0.6	1.0	0.9	26.3	27.1
Orissa	29.1	29.6	1.7	-0.7	-3.1	-3.8	0.9	3.4	2.3	41.2	43.5
Punjab	35.6	29.4	-19.1	22.6	25.4	48.0	0.6	-26.8	-19.0	24.4	5.4
Rajasthan	33.8	28.5	-17.1	12.6	15.2	27.8	0.8	-21.6	-17.7	37.2	19.5
Tamil Nadu	35.2	38.8	9.7	-5.5	41.2	35.7	0.7	-26.1	-25.7	48.5	22.8
Uttar Pradesh	31.8	33.2	4.3	-3.1	22.6	19.5	0.8	-15.9	-14.2	45.3	31.1
West Bengal	33.5	34.6	3.2	1.8	11.9	13.7	0.8	-10.3	-6.2	21.3	15.0
Delhi	36.0	36.2	0.6	-2.2	36.9	34.7	0.7	-23.3	-17.8	27.0	9.2
<b>India</b>	<b>33.9</b>	<b>34.7</b>	<b>2.3</b>	<b>-1.8</b>	<b>31.5</b>	<b>29.7</b>	<b>0.8</b>	<b>-22.6</b>	<b>-21.7</b>	<b>45.1</b>	<b>23.4</b>

Source: Bhalla (2003).

Notes: As in Table 4.7.

**Table 4.9: Growth Inequality-Poverty Connections: All India, 1983-1999**

States	Gini		Change in Gini (1983-99)	Change in Inequality (1983-99)	Growth in Per Capita Consumption (1983-99)	Total Growth (1983-99)	SDE (1983)	Change in HCR		HCR (1983)	HCR (1999)
	1983	1999						Predicted (1983-99)	Annual (1983-99)		
	Andhra Pradesh	31.3									
Assam	21.2	24.5	14.5	-7.1	7.3	0.2	1.2	-0.3	-4.9	41.3	36.5
Bihar	27.8	24.1	-14.3	7.6	18.0	25.6	0.8	-20.3	-17.9	62.1	44.3
Gujarat	28.4	28.6	0.7	-0.9	23.3	22.4	0.9	-19.5	-16.2	33.3	17.1
Haryana	30.6	26.9	-12.9	6.2	17.9	24.1	0.8	-18.3	-14.7	23.5	8.8
Himachal Pradesh	29.0	27.1	-6.8	8.3	20.1	28.4	0.8	-22.7	-15.0	23.1	8.1
Karnataka	33.2	31.3	-5.9	7.7	18.4	26.1	0.7	-17.7	-15.8	41.1	25.3
Kerala	33.6	30.4	-10.0	6.9	34.0	40.9	0.9	-34.8	-28.1	40.4	12.3
Madhya Pradesh	30.7	29.3	-4.7	3.5	11.3	14.8	0.9	-13.9	-10.2	51.5	41.3
Maharashtra	34.1	35.3	3.5	-2.1	14.4	12.3	0.7	-8.5	-9.0	41.1	32.1
Orissa	28.4	27.8	-2.1	0.7	20.3	21.0	0.9	-17.8	-15.1	65.4	50.3
Punjab	30.3	27.1	-11.2	14.9	12.7	27.6	0.4	-12.0	-11.1	17.2	6.1
Rajasthan	35.0	24.6	-35.3	27.0	5.2	32.2	0.7	-21.3	-19.7	36.1	16.3
Tamil Nadu	37.1	36.6	-1.4	1.7	36.0	37.7	0.8	-30.6	-26.2	52.4	26.2
Uttar Pradesh	30.2	28.2	-6.9	4.4	14.9	19.3	0.8	-16.3	-15.1	47.4	32.3
West Bengal	32.8	29.8	-9.6	8.1	23.5	31.6	0.8	-24.8	-25.0	54.3	29.3
Delhi	36.2	41.1	12.7	4.7	15.9	20.6	0.7	-13.4	-5.5	11.5	5.9
<b>India</b>	<b>32.5</b>	<b>32.0</b>	<b>-1.6</b>	<b>1.6</b>	<b>23.6</b>	<b>25.2</b>	<b>0.8</b>	<b>-20.1</b>	<b>-18.9</b>	<b>48.2</b>	<b>29.4</b>

Source: Bhalla (2003).

Notes: As in Table 4.7.

The SDE estimates vary across states for rural areas from a low of 0.48 for Punjab to a high of 1.30 for Assam with average for India being 0.92. For urban India, the SDE estimates vary from a low of 0.56 for Punjab to a high of 1.08 for Assam with the average of 0.76 for India.

In his estimates, the combined HCR in 1999 is 29.4, whereas both the rural and urban HCR are at 27.3 and 29.4 are below it. However, SDE's can vary enormously. On the basis of the observation based on the fact that NSS data from 1983 and 1999 do not indicate any increase in inequality, and the Gini coefficient appears to have declined, an estimate of per capita consumption growth can provide an upper bound for an estimate of poverty in 1999-00. He uses growth in real wages of the poorest of the poor, *viz.*, unskilled workers in rural agriculture to reflect growth in per capita expenditure. Accordingly, Bhalla (2003) suggests that poverty in India in 1999 was less than 12 percent.

#### **4.7 Inflation and the Incidence of Poverty**

Just like growth, price variations also have a considerable impact on the incidence of poverty. Deaton and Tarozzi (1999) examine the role of the price index in the estimation of poverty. Accuracy of price and poverty calculations is quite important at times when historically high rates of GDP growth do not seem to be resulting in sustained reduction in poverty. One of the tools used for these calculations is the measurement of inflation, which is important not just for establishing rates of inflation in urban and rural areas but comparing price levels between them and between different states.

The two most important indexes in India are the Consumer Price Index for Industrial Workers (CPIIW) and the Consumer Price Index for Agricultural Labourers (CPIAL). Deaton and Tarozzi refer to problems with these indexes associated largely with the unusually long periods between revisions. They provide estimates for the rate of inflation over the six year period for India, for the 17 largest states, by sector, and for Delhi. Separate indexes are also provided for urban and rural sectors for the 17 states and India, as well as across states by sector. Deaton and Tarozzi's calculations utilise information from the surveys on prices themselves, providing a measure of unit value. Despite problems such as goods and services without defined units, or the difference between a unit value and an actual price, research shows that that the total expenditure elasticity of unit values is small.

Deaton and Tarozzi find that the unit value data from NSS consumption surveys are useful for cross-checking other price indexes, and that there is good agreement between the rate of increase of the official CPIAL and CPIIW indexes and those reported in the NSS surveys. They have also found that although there seems to be little bias in the CPIIW, the CPIAL might have been growing too quickly (corresponding with what Deaton and Tarozzi would expect from using an outdated Laspeyres index). Based on these results, Deaton and Tarozzi suggest that between 1987-88 and 1993-94, there was not a great difference in the rate of decline between urban and rural poverty (according to the headcount measure) and that rural poverty decline has been understated in official poverty counts.

Deaton and Tarozzi also take issue with some of the current poverty calculation procedures based on Expert Group Report of 1993 methods that result in urban prices which are significantly higher than rural prices. They find no evidence in the NSS purchase data that corresponds with this finding. There is also a discrepancy between the interstate price indexes incorporated in the Expert Group and official poverty lines, and those generated by the purchase data in this study. One of the main conclusions of their paper is that current official practice produces larger errors in calculating the distribution of poverty within a country than in calculating the changes in poverty levels over a period of time. Updating base poverty lines involves ‘correcting’ these for urban to rural price and interstate price differences, and Deaton and Tarozzi have shown that such specific numerical corrections are not easy to make.

#### **4.8 Human Development and Poverty**

Economists including Adam Smith have generally considered the accumulation of physical capital, especially embodied technical progress, as poverty reducing. Better health was seen by Smith as a consequence, as also a cause of greater working capacity, higher wages, and improved living standards. The classical economists saw that education could well enhance the labour-productivity and hence living standards of the poor. Public and/or subsidised “mass” basic education was strongly advocated by the classical economists (Himmelfarb 1984, pp. 120-121), partly because it was expected to reduce total fertility rates. However, more recently, human development is being visualised in a wider context. Human development in a broad sense is defined as “enlarging people’s choice in a way that enables them to lead longer, healthier and fuller lives” [Ranis and Stewart (2000)]. In a narrower

sense, it relates to the health and education of the people. Poverty and human development have a strong inter-face.

First, lack of human development in itself is poverty. Thus, illiteracy, poor health, and lack of education below a certain threshold are constituents of poverty, as discussed earlier in this paper. Second, with human development, i.e., through proper education and health, choices regarding income opportunities widen, and productivity is augmented than would generally be available to an educated person or a person in ill-health. Third, focus on human development is a potent means of fiscal intervention to reduce poverty in a country. Public expenditure on education and health, especially elementary education and primary health can lead to sustained reduction in poverty levels. Positive productivity effects are also generated from human infrastructure development, particularly basic health and education as noted by Schultz (1988), Behrman and Deolalikar (1988), and Jimenez (1995).

Ranis and Stewart (2000) suggest decomposing public expenditure on human development into three components:

- i. Public expenditure ratio: share of public expenditure in GDP,
- ii. Human development allocation ratio: share of human development expenditure in total public expenditure, and
- iii. Human development priority ratio: share of priority human development expenditure in total human development expenditure.

They have argued that, with decentralisation, the human development allocation and priority ratios almost always improve. Between growth and human development, Rains and Stewart talk about “two chains”, one running from human development to economic growth, and the other from economic growth to human development. In the first chain, with human development, productive capabilities of economic agents (workers, managers, and farmers) increase, the organisational capabilities also increase, leading to better technology and production processes. The structure of output contains greater variety, exports increase, and overall growth increases.

The chain from growth to human development can be traced as follows: with higher growth, government earns and spends more relative to GDP, the composition of its spending favours the human development priority sectors more; at the same time, with higher per

capita incomes, household expenditure also increases in favour of health and education. The impact on poor households is higher when growth and fiscal policies are human development – oriented.

Lipton and Ravallion (1995) note that undifferentiated subsidisation of human capital formation is unlikely to be inherently pro-poor. They observe: “Income elasticities of demand for education and health care of unity or higher are plausible for LDCs [Theil and Finke (1985), Schieber and Poullier (1989), Gertler and van der Gaag (1990)]. However, a consensus is emerging in favour of differentiated expansion in primary education and basic health care, as an instrument for poverty reduction [World Bank (1990)]”.

Empirical studies on incidence of subsidies note that existing allocations to primary education and basic health care are generally pro-poor, as much as subsidies per head received by the poor account for a relatively higher proportion of their income or expenditure, as the rich to shift to private market for health and education in search of better quality of services. Allocations to education and health care above primary level, however, favour the non-poor as they have better access to higher education and specialty hospitals.

#### **4.9 Poverty and “Well Being” in India**

Cassen (2002) looks at “Well being” in 1990s and argues that several socioeconomic indicators show little or limited improvement in well being as against the sharp fall in poverty measures by the head count ratio.

- i. The IMR has fallen in the nineties but at a slower rate than in the 1980s. The same is true of child mortality. The SRS figures show a much greater decline in the 1980s than in the 1990s.
- ii. There has been little change in the rate of rise of overall life expectancy.
- iii. Fertility has declined in the 1990s a rate faster than that in the past. The SRS data show that the Total Fertility Rate (TFR) fell from 4.5 in the early eighties to 3.3 in 1996-97. The fall was only to 4.5 in 1980 from 5.0 in 1970.
- iv. There has been considerable increase in literacy, which rose by a margin of 13.7 percentage points from 51.63 percent to 65.38 percent during the nineties. The corresponding increase in the eighties was only 8.6 percentage points.
- v. Rural school attendance for boys aged 6-10, according to NHFS data rose from 71.4 percent in 1992-93 to 83.2 percent in 1998-99. For girls the figures were 55.0 percent and 75.1 percent, on all India bases.

- vi. Some sources suggest a worsening of the calorie intake upto 1993-94. For example, Hanchate (2001), based on NSS data, found a decline in per capita cereal consumption on all India basis between 1972-73 and 1993-94, with a gradually reducing income elasticity of demand for cereals. However, for the poorest fifth, the quantity of cereals consumed rose by a margin of 0.25 percent per year. Translated into nutrient intakes, the picture is quite positive for the poor; an increase in protein and calorie intakes of the two lowest quintiles, growing at 1 percent and 0.3 percent per year respectively.
- vii. Cassen observes that data on environment show worsening in almost all respects during the 1990s.

#### **4.10 Poverty and Calorie Intake in India**

Meenakshi and Vishvanathan (2003) have contended that in spite of the fact that income poverty has declined over the 1980s and 1990s, calorie intakes have declined. As such calorie deprivation has increased during 1983 and 1999-00. However, the depth and severity of nutrient deprivation and incidence of abject calorie deprivation has declined during this period. For rural areas the decline was on average 70 calories per capita over 1983 to 1999-00. This decrease has occurred in all states. This has implied that the head count ratios based on calorie thresholds have increased between 1983 and 1999-00 for rural households.

Table 4.10 shows of the head count ratio in term of percent consuming below 2400 calories per day. These head count ratios are compared to the HCR derived by using the official poverty line.

Table 4.11 shows the head count ratios for 1983 and 1999-00 for alternative calorie norms.

**Table 4.10: Some Summary Statistics on Calorie Intake and Poverty**

States	Average Calorie Intake Per Capita Per Day (Kcal)		Median Calorie Intake Per Capita Per Day (Kcal)		Head Count Ratios (Percent Consuming Below 2400 Calories Per Day)		Head Count Ratios of Poverty (Percent with Below OPL Incomes)	
	1983	1999-00	1983	1999-00	1983	1999-00	1983	1999-00
Andhra Pradesh	2204	2021	1988	1955	68.5	80.7	35.8	11.1
Bihar	2189	2121	2081	2034	67.6	74.9	60.5	44.0
Gujarat	2113	1986	1988	1904	72.6	80.5	39.0	13.2
Haryana	2554	2455	2325	2313	54.1	55.1	27.5	8.3
Himachal Pradesh	2636	2454	2499	2307	44.5	56.5	23.9	8.0
Jammu & Kashmir	2569	2631	2480	2577	44.5	39.7	31.6	4.0
Karnataka	2260	2028	2097	1905	64.0	78.9	40.0	17.4
Kerala	1884	1982	1749	1904	81.5	81.2	48.5	9.4
Madhya Pradesh	2323	2062	2175	1932	62.5	78.4	53.7	37.1
Maharashtra	2144	2012	2021	1926	73.1	83.3	54.6	23.7
Orissa	2103	2119	1995	2051	70.9	74.6	66.2	48.0
Punjab	2677	2381	2479	2221	46.2	62.8	18.5	6.4
Rajasthan	2433	2425	2324	2292	54.2	56.7	46.7	13.7
Tamil Nadu	1861	1826	1720	1727	80.6	86.5	59.1	20.6
Uttar Pradesh	2399	2327	2252	2176	58.4	64.5	50.8	31.2
West Bengal	2027	2095	1902	2009	76.0	75.6	66.7	31.9

Source: Meenakshi and Vishvanathan (2003).

**Table 4.11: Head Count Ratios of Calorie Deprivation, Alternative Norms**

States	2200 Norm		1800 Norm		2700 (Per Consumer Unit Norm)	
	1983	1999-00	1983	1999-00	1983	1999-00
Andhra Pradesh	56.9	69.7	30.0	36.9	53.8	68.1
Bihar	56.9	62.4	32.4	32.5	53.3	60.3
Gujarat	63.8	70.4	36.6	41.0	62.0	68.4
Haryana	42.8	43.5	19.3	18.4	40.1	44.5
Himachal Pradesh	33.8	42.7	14.8	12.1	30.3	40.7
Jammu & Kashmir	31.9	28.9	13.0	7.3	30.4	27.6
Karnataka	55.2	69.9	35.7	41.8	53.2	68.6
Kerala	74.0	70.3	53.2	42.8	72.3	67.2
Madhya Pradesh	51.6	68.0	24.9	38.5	47.9	66.7
Maharashtra	61.6	70.5	34.2	39.2	58.8	69.2
Orissa	60.6	61.7	35.1	29.1	58.7	60.4
Punjab	36.8	48.1	19.8	20.6	35.6	46.0
Rajasthan	43.4	43.0	22.7	15.5	40.2	40.1
Tamil Nadu	74.6	78.7	54.4	55.4	72.7	77.7
Uttar Pradesh	47.1	52.0	24.0	23.0	43.3	48.7
West Bengal	67.3	63.3	43.8	34.1	67.0	64.2

Source: Meenakshi and Vishvanathan (2003).

#### **4.11 Summary**

Growth affects poverty and poverty affects growth. The poverty reducing impact of growth is larger when initial asset inequalities are less. Policy interventions that can improve credit and insurance market conditions for the poor and address issues of asset inequalities can improve the impact of growth on poverty reduction. Empirical analysis in the Indian context, indicates that enhancement of mean income is essential for poverty reduction. The results also show positive impact of better income distribution on the reduction of poverty. The structure of sectoral growth is also important, and under certain conditions non-farm growth can have a significant impact on poverty reduction. The more “connected” the poor are with the rest of the economy, the more effective will growth be in reducing poverty. In a long-term perspective emphasis on human development is even more important. Human development is by itself an improvement in capability and it also sustains growth. Fiscal policies can be used both to support human development and growth in a manner that maximises their impact on poverty reduction.

## Chapter 5: POVERTY AND FISCAL PROCESSES

### 5.1 Introduction

The rationale for fiscal intervention for reducing poverty derives from the existence of positive externalities associated with lower poverty which would lead to an environment where conflict and health hazards will be minimised attracting investment and facilitating growth. But the rationale could be premised on more fundamental grounds steeped in ethical values and norms for ensuring a minimum consumption/income level for the population at large.

Musgrave (1999) lists “Relief of Poverty” as an important “Fiscal Task” in a listing of Fiscal Tasks for a modern economy. He observes: “... There is a wide agreement that a safety net is called for and that some minimum should hold. The problem is how to provide it efficiently. The best solution is preventive, for example, education, a buoyant labour market, and adequate child care facilities. But direct support is needed as well”.

From a public choice perspective also, redistribution of incomes generally towards backward classes and, particularly towards the poor, is expected because the backward classes and the poor have larger share in the total votes than their share in income. Many of the under-privileged sections of the society, with a high incidence of poverty in their respective classes, have mandated political representations like those arising from reserved constituencies for scheduled castes and scheduled tribes in India, which can be used to support redistributive policies in favour of the poor. Political awareness of the poor in India is on the rise. In the pilot surveys that we have conducted so far, we have not come across a single household which does not own a voter card, and who does not vote in all elections – local, state level, and central. Clearly, this political consciousness converts into redistributive initiatives, and poverty reducing budget initiatives at all levels of government, although the efficacy of these interventions requires further examination.

Fiscal processes affect poverty levels both indirectly and directly: indirectly, through their impact on growth and inflation, and directly through public provision of private goods and services, and specific poverty alleviation programmes. In this context, the quality of access of the poor to public goods like law and order, justice, and administration is quite

important. Such access often requires that private costs be incurred. All three tiers of the government, namely, central, state, and local are involved in poverty alleviation programmes. The central and state governments sponsor a variety of programmes and schemes aimed precisely at these objectives. Government budgets support poverty alleviation programmes through a variety of income transfers schemes or self-selective food-for-work type of programmes. Such direct support however is only a fraction of the much larger indirect subsidisation programme. In these subsidy provisions, although much larger resources may be involved, most benefits could be appropriated by the non-poor if the subsidy is not designed and administered carefully.

## **5.2 Fiscal Policies and Poverty Alleviation**

Flow Chart 5.1 provides an outline of the channels through which fiscal policies can affect the incidence of poverty in a country.

First, the size of the budget itself indicates the capacity of the government to intervene. Secondly, the structure of its expenditure programmes determines the relative strengths of direct and indirect interventions for poverty alleviation. Expenditures on services that are in the nature of public goods like law and administration can serve as pro-poor instruments, provided access costs are taken care of. Thirdly, expenditure on education and health constitute a long-term strategy for combating poverty through human development. Fourthly, expenditure on infrastructure increases growth prospects and thereby reduces poverty. These are all avenues of indirect intervention.

In addition, there is an array of direct fiscal interventions to alleviate poverty. These include social security income-transfers, short-term employment programmes, programmes for housing, and micro-finance programmes. The efficacy of fiscal intervention depends on a number of supporting conditions. For example, reduction in asset inequalities can improve the impact of growth. Minimisation of access costs can improve the poverty reducing impact of provision of public goods and services. Well-targeted direct policy intervention would be efficient if leakages are minimised.



- i. Multiple policy objectives should not be attempted by a single policy instrument.
- ii. Efficiency should not be sacrificed by introducing distortionary policies, even if apparently pro-poor.
- iii. Targeted interventions are better than generalised subsidies even if there are administrative costs.
- iv. Asset inequalities should be looked into in addition to income shortfalls.
- v. A safety net should be used to supplement other direct and indirect interventions.

Often, in the name of the poor, excessive, untargeted and distortionary policy intervention has been resorted to in many countries. In a review article Bardhan (1996) writes:

“In the recent past and, even currently, the governments in many poor countries have heavily interfered in the market in the name of helping the poor. They have used high tariffs, quantitative trade restrictions and overvalued exchange rates, subsidised credit and underpriced energy, water, and other publicly provided inputs to help domestic producers. They have used price control and made restrictions on agricultural commodities to keep food prices low for the urban poor. They have used industrial and investment licences to keep larger producers at bay and help small-scale, sometimes inefficient, producers. They have imposed high marginal tax rates and public sector dominance in production with the objective of reducing concentration of income and wealth. The experience of the last four decades has shown that many of these policies have been counterproductive from the point of view of both efficiency and equity”.

Even if all markets, including in particular, labour markets were functioning well, there would always be some individuals who are weakly connected to the income generation processes of the economy because of their particular circumstances such as, severe disabilities. The functioning of the labour market is particularly important, as labour is the main asset of the poor. By definition the poor have limited access to income earning opportunities and have to depend on public provision and subsidisation of a variety of services. A more rapid growth, to the extent it raises government revenues and augments public expenditures devoted to goods and services (such as education, health, sanitation and hygiene) that are disproportionately consumed by the poor, could reduce non-income facets of poverty such as poor health, high infant mortality and morbidity, lower life expectancy, etc.

In the context of fiscal reforms, if expenditure cuts are necessitated, the design of these cuts will have significant implications for the poor. If the poor initially benefit little from public spending, then they can lose little from cuts. However, even though poorly targeted, public expenditures in many developing countries do benefit the poor, and there will be an adverse impact, even if short-term adjustment requiring cuts is made in public expenditure. The *composition* of public expenditure cuts is quite important. Several countries have combined aggregate budget contraction with rising shares (and occasionally rising absolute levels) of public spending in the social sectors, including targeted transfers as documented by Ribe, *et. al.* (1990), World Bank (1990), and Selowsky (1991). This is partly the case in many Indian states also, including major states like Maharashtra, Tamil Nadu, Kerala and Karnataka.

Effective coverage of poor by government programmes depends on the institutional environment also, including local administrative capabilities, the incentives facing local administrators, and their interface with the poor.

In this context, Lipton and Ravallion (1995) list the following issues for consideration:

- i. If all distortions are removed, but many of the poor can find work only by accepting a return insufficient to prevent poverty, are further incentive or expansionary measures toward “labour-intensive growth” justified?
- ii. What is the role of asset redistribution in reducing poverty? Asset redistribution may be essential for a reasonable rate of poverty reduction in some circumstances: when initial inequality is so great that distribution-neutral growth brings few gains to the poor; when poverty is so severe that growth and redistribution are both needed; or when rapid growth is for some reason unattainable.
- iii. Should some safety nets (guaranteeing food or work) *always* be available, while protection against extreme or localised hardships is provided on an ad-hoc basis? Under what circumstances do private insurance markets, informal insurance arrangements, or even public investments such as irrigation which help stabilise incomes, provide more cost-effective risk reduction for the poor than formal safety nets?
- iv. Although poverty often induces its victims to degrade natural resources, so do some of its remedies [Barbier (1988), Dasgupta and Maler (1990), Leach and Mearns (1991), Vosti, *et. al.* (1992), Leonard (1989)]. Is there a trade-off between reducing poverty and protecting the environment, and how should it be handled?

- v. The “country strategies” (World Bank 1991a) seek to reduce poverty mainly through economy-wide *policies*. Does this divert resources from, or does it stimulate, efforts to improve the poverty impact of major public sector *projects* at each stage of the project cycle, from identification through post-evaluation?
- vi. What is the economics of international non-aid actions? If a given amount of trade liberalisation or debt restructuring is on offer, how (if at all) should it be allocated to favour the poor?

### **5.3 Evaluating the Impact of Fiscal Policies on the Poor**

#### **a. Methodological Difficulties**

Fiscal policies are used not just for poverty alleviation but to serve multiple objectives. Van de Walle and Nead (1995) emphasise that the policy objective against which policy outcome is to be measured must be clearly defined. Resources are often wasted, and it becomes difficult to assess the efficacy of a fiscal instrument, if there are several objectives associated with a single instrument. Even if poverty alleviation is the main concern, it must be clearly spelt out. Atkinson (1995) writes: “Even if the alleviation of poverty were the overriding concern, the relative efficiency of different policies would depend on the precise way in which poverty is measured and the sharpness with which the poverty objective is defined”.

There are several difficulties in estimating the benefit incidence of government expenditures. It is difficult to price publicly provided goods since often markets do not exist or costs bear little relation with consumers’ evaluations. Prices as well as several household characteristics vary across individuals so that a given total expenditure implies different standards of living for different individuals. Further, in the presence of quantitative restrictions, even if correct prices are known and these are the same across identical individuals, it is difficult to evaluate benefits since individuals are forced to consume more or less than what they would like to do.

In the context of measuring the distributional impact of public goods, Cornes (1995) argues that in evaluating the impact of public spending, the marginal valuation by recipients is relevant in measuring the impact on individual welfare. This however is usually not undertaken for lack of relevant information. Important difficulties arise, according to Cornes (1995), when:

- i. Government produces a good and supplies it at a subsidised price while allowing the consumers to act as price takers, with possible complications arising from nonlinear subsidies.
- ii. Subsidised commodity is allocated in a way that involves non-price rationing. Not only the prices vary across individuals, but so too the way the rationed commodity also varies across beneficiaries. This is typically the case with in-kind subsidies.
- iii. In the case of a pure non-excludable good, the subsidy is accompanied by quantity rationing, where the price of a publicly provided good is zero for all consumers and the rationed quantity is the same for all.

A general problem in evaluating policy outcomes is the lack of the counter-factual enabling comparison of situations with and without the policy change. The understanding of the dynamic aspects of the incidence of public spending on poverty has also been greatly constrained by data limitations.

#### **b. Impact of Public Expenditure on the Poor: Some Results**

It is generally believed that the more finely a scheme attempts to target, the higher will be the administrative costs due to imperfect information [Atkinson (1995), Besley and Kanbur (1993)]. An important consideration is that private behaviour responds to public intervention, whether targeted or untargeted. The problem could be more pronounced for targeted interventions. In particular, there may be adverse work incentives and an incentive to falsify their situation by potential recipients.

Hammer, Nabi and Cercone (1995) examined the impact of government spending in the social sectors from the early 1970s through the late 1980s in Malaysia. They examined, based on household use rates, the share of government subsidies on health and education service recovered by quintiles of households ranked by their per capita household income. Their methodology is similar to the one used by Meerman (1979) which provides an earlier set of results for comparison, thereby giving an idea of change over time.

Household use rates are determined separately for the three levels of education (primary, secondary and higher). In the case of health, use is represented by the household's number of health care visits to a public health facility centres during the year, on an inpatient and outpatient basis. Subsidy received by each household through its use of public facilities is done by subtracting fees collected from users from the unit cost to the government of

providing the services. Subsidies are aggregated across households to get each expenditure quintile's share of per capita government subsidies.

**Table 5.1: Share of Total Inpatient Days and Outpatient Visits to Public Facilities by Quintile of Household Per Capita Income, Malaysia 1974 and 1984**

Quintile	1974		1984	
	Inpatient	Outpatient	Inpatient	Outpatient
1	19	22	25	24
2	27	20	21	23
3	10	23	19	21
4	24	18	20	18
5	20	16	16	15

Source: Hammer, Nabi, and Cercone (1995), p. 526.

From nearly equal use of facilities in 1974, the poor increased their use of public facilities, relative to the rich (Table 5.1). The decline in the use of public inpatient facilities by the wealthy relative to the poor is mirrored in the share of visits to private facilities. There appears to have been an improvement in the targeting performance of public expenditures on health care rather than the suspected deterioration.

Hammer, Nabi and Corcone's regression results on health indicate:

1. Immunisation rates and water supply have the strongest and most robust effects on health status.
2. There is evidence (although not robust) that the greater the number of doctors per thousand persons, the better is the health status.
3. Income, *per se*, has little effect on health status. However, it is an important determinant of demand for private medical care that affects health status.

Aggressive policies to ensure universal primary education and expansion of secondary level programs have benefited all Malaysians by increasing primary and secondary school participation rates and by raising educational attainment at all levels. Malaysia allocated more than 16 percent of government spending to education programs. Educational expenditure at all three levels became more equitably distributed over time. In 1974, 28, 19 and 3 percent of primary, secondary, and higher education expenditures, respectively, were received by the poorest fifth of the population. In 1989, the figures were 36, 32, and 10 percent, the main reason for the increase being achievement of virtual universalisation of primary education. In the early 1970s, only 85 percent of poor children attended primary

school. Even in 1970, expenditure on primary education was progressive. In higher education also, the share of expenditure going to the poorest 20 percent increased from 3 to 10 percent. Net effects of subsidies for education system as a whole shows that the correlation with income is very weak. Even though primary and secondary expenditures are highly progressive, the size of the higher education budget and its regressivity make the net effect of educational expenditure very flat with respect to income.

For higher education, the richest 40 percent of the population still capture more than 50 percent of all educational expenditures. Given that the schooling at lower levels produce higher social returns, potential improvements can be made by reallocating government subsidies to the primary and secondary levels of education. Expenditures on health and education can be considered as productive investments in the human capital of the economy and therefore serve a role more than that of a mere transfer of income.

In relation to education, their regression results indicate that public expenditure on primary education is a significant factor in stimulating higher transition rates, though it is not as important as income. The higher resources per state in the poorer areas genuinely compensate for the direct effect of lower incomes, thereby making the total effect of income nil.

#### **5.4 Poverty and Fiscal Processes in India**

In India, the central, state and local government utilise budgetary resources for pro-poor fiscal intervention in a number of ways, although the efficiency of these interventions needs to be carefully assessed. First, the provision of public goods and merit goods from the budget of central and sub-national governments has an impact on the poor. Secondly, there are a number of central sector and centrally sponsored schemes that are aimed at some aspect of poverty reduction. Thirdly, a fiscal transfers system that is guided by equity considerations also serves to cope with alleviation of poverty in relatively poorer states. Fourthly, local governments can play a significant role as they are better informed about the local conditions, and local preferences.

**a. Public and Merit Goods**

In central and state budgets there are a number of public goods where the beneficiary is the common man. For these, either there are no charges, or only limited charges are leviable. Important among these are security (police), law and order, and general administration (registration of land), etc. However, in each case, access to these services involves private costs, which include travelling and waiting time. Governments also provide merit goods like education and health which are highly subsidised, and therefore intended to be pro-poor. Here also, access may be denied because private costs are involved in accessing the service. There are non-price barriers which may result in screening out the poor from accessing the highly subsidised social and economic services.

**b. Fiscal Transfers to Sub-National Governments**

In determining the flow of resources from the centre to the states, and from the states to the local bodies, the 'equity' objective has been paramount, thereby providing higher per capita transfers to the states or local bodies with weaker resource bases. However, whether the utilisation of these funds has been in favour of intra-state equity or in favour of the poor has not been assessed. In general, the equity based transfers also get pooled in the general resources of the state or local governments. In India, in the case of fiscal transfers recommended by the Finance Commission and Planning Commission, there is a clear emphasis on progressive transfers to states. In general, poorer states get higher per capita transfers, within comparable groups like special and general category states. However, once resources are available to a state, the intra-state exercise of resource allocation across regions and districts could be highly regressive.

**c. Role of Central Government**

The central government intervenes through various central sector and centrally sponsored schemes meant primarily for the benefit of the poor. Currently, the centre is sponsoring an array of schemes directed towards the rural and urban poor. Among the rural schemes, the following may be mentioned: (i) Jawahar Gram Samridhi Yojana, (ii) Swarnajayanti Gram Swarozgar Yojana, (iii) Employment Assurance Scheme, (iv) Sampoorna Grameen Rozgar Yojana, (v) National Social Assistance Programme, (vi) Pradhan Mantri Gramodaya Yojana with three components relating to Gram Sadak, Grameen Awaas, and Drinking Water, (vii) Indira Awaas Yojana, (viii) Samagra Awaas Yojana, (ix)

Food for Work Programme, (x) Annapurna, (xi) Krishi Shramik Samajik Suraksha Yojana, and (xii) Shiksha Sahayog Yojana.

In the context of poverty alleviation schemes, states are able to implement few schemes at their own initiative for want of resources. Most schemes are centrally sponsored schemes where the state is able to provide its share of funding, and few resources are left to take up schemes at state's own initiative.

#### **d. Role of Local Governments**

Decentralisation of governance including assignment of spending and revenue raising powers to the third tier is expected to strengthen the impact of fiscal policies on poverty reduction, by improving the efficiency of fiscal intervention. The argument supporting such a contention is based on the better information base that the local governments may have about the local conditions along with better understanding and responsiveness to local preferences.

In India, the process of decentralisation was considerably strengthened in recent years by the 73<sup>rd</sup> and 74<sup>th</sup> amendments to the Constitution in the early 1990s. The responsiveness to the concerns of the poor may have been strengthened by the consciousness of poor as voters and also because of stipulation that a minimum of 33 percent of sarpanches (Panchayat Chairpersons) should be women. Further, there are reservations of scheduled castes and scheduled tribes according to their share in population.

The local bodies have been given resources through recommendations of the Central Finance Commission as well as the rough respective State Finance Commissions. In addition, they participate in the execution of many of the plan schemes of centre, states and centrally sponsored schemes. Both in terms of their core functions of service provision and their developmental functions of building local infrastructure and augmenting economic activities, the process of decentralisation in India is likely to have an important impact on poverty reduction.

Crook and Sverrisson (2001) observe that only four states in India, *viz.*, West Bengal, Karnataka, Kerala, and Madhya Pradesh have introduced functioning decentralised systems. They also observe that “in terms of scope of participation, West Bengal's record of representation of the poor, whether defined by castes, occupation, or land ownership is

good". Kerala is also cited for its experiment with decentralised planning. The record of Kerala, West Bengal, Karnataka and Madhya Pradesh in reducing incidence of poverty is quite encouraging.

## **5.5 Trends in Budgetary Expenditures in India**

Table 5.2 looks at salient changes in the combined budgetary expenditures of the central and state governments over the period 1980-81 to 2000-01. One clear trend is that total budgetary expenditures net of interest and pension payments has fallen from the peak of 24.9 percent in 1986-87 to about 19 percent in 1999-00. Since interest payment and pension reflect transfer payments, clearly there has been a fall in expenditure of government relating to the purchase of current goods and services. This also indicates a fall in the capacity of the government to intervene directly for poverty alleviation programmes. If we look at three year averages for selected periods, it is clear that expenditure on education and allied heads, as well as medical and public health, and water supply and sanitation has virtually remained stagnant over the 90s while that for agriculture and allied services has fallen. These sectors will require an increase in their relative shares if sustainable poverty alleviation is to be considered as a primary fiscal objective. The largest fall in the relative share is seen in capital expenditure relative to GDP. While capital expenditure is also expected to grow as part of a restructuring plan for budgetary expenditures, it will have greater poverty alleviating content if such expenditure is on building infrastructure especially those involving construction activities including rural road connectivity.

## **5.6 Subsidies of Central and State Governments**

Table 5.3 provides four comprehensive estimates to subsidies pertaining to 1987-88, 1992-93, 1994-95, and 1998-99 covering central as well as state budgets. The basic approaches in these studies are similar, although there are some methodological differences and their results are not strictly comparable. In each case, the estimated subsidies have been shown as percentage to the GDP and revenue receipts of the central and state governments. The GDP at market prices relates to the 1993-94 base series at current market prices. These GDP numbers are different from those used in the respective studies originally. As such, the size of subsidies relative to GDP indicated here is different from the corresponding numbers given in the respective studies. It is shown that the volume of subsidies was 13.51 percent of

GDP in 1994-95, and had possibly increased from just below 12 percent in 1987-88, although, as noted, the results are not strictly comparable. The 1998-99 subsidy levels relative to GDP are almost the same as that for 1994-95. It is clear that one cannot maintain a large subsidy programme based on borrowing because subsidies are currently consumed with very little asset creation, and the borrowing has to be serviced by future tax payers who are not inheriting corresponding assets. Table 5.3 shows that as percentage of revenue receipts, subsidies have continued to rise in successive years covered in these studies.

**Table 5.2: Trends in Budgetary Expenditures: Selected Heads Combined**

Years	Revenue Expenditure	Capital Expenditure	Total Expenditure	Education including Scientific Services and Research	Medical and Public Health and Water Supply and Sanitation	Agriculture and Allied Services	Interest Payments	Pensions and Other Retirement Benefits	(% to GDP)
									Total Expenditure net of Interest Payments and Pensions
1980-81	16.49	7.74	24.24	2.62	1.13	1.95	2.06	0.27	21.90
1981-82	16.53	6.99	23.51	2.62	1.14	1.53	2.23	0.30	20.98
1982-83	17.77	6.72	24.49	2.84	1.19	1.92	2.46	0.34	21.69
1983-84	17.83	6.70	24.54	2.77	1.23	1.96	2.53	0.35	21.66
1984-85	19.28	7.32	26.60	2.96	1.23	2.34	2.93	0.40	23.28
1985-86	20.16	6.99	27.14	3.08	1.61	1.95	3.14	0.62	23.38
1986-87	21.27	7.75	29.02	3.17	1.31	1.95	3.44	0.69	24.88
1987-88	21.73	6.56	28.29	3.34	1.34	1.97	3.67	0.99	23.63
1988-89	21.31	5.85	27.17	3.25	1.25	1.94	3.90	0.98	22.29
1989-90	22.15	5.84	28.00	3.42	1.19	2.01	4.22	0.99	22.78
1990-91	21.62	5.31	26.93	3.29	1.15	2.06	4.40	0.91	21.62
1991-92	21.98	4.41	26.38	3.17	1.12	1.93	4.75	0.94	20.70
1992-93	21.25	4.94	26.20	3.08	1.10	2.04	4.79	0.99	20.42
1993-94	21.35	4.63	25.98	3.05	1.11	1.99	4.95	1.00	20.03
1994-95	21.19	3.93	25.12	2.96	1.10	1.98	5.13	1.21	18.78
1995-96	20.68	3.61	24.29	2.91	1.05	1.82	4.96	1.02	18.30
1996-97	20.67	2.81	23.47	2.91	1.04	1.67	5.11	1.09	17.27
1997-98	21.09	3.16	24.25	2.98	1.11	1.73	5.16	1.22	17.87
1998-99	22.13	3.40	25.53	3.22	1.18	1.90	5.32	1.51	18.71
1999-00	23.24	3.45	26.69	3.47	1.18	1.88	5.70	1.92	19.07
2000-01(RE)	24.43	3.56	28.00	3.52	1.27	1.90	5.93	1.87	20.20
<b>Averages</b>									
1980-81 to 1982-83 (1)	16.93	7.15	24.08	2.69	1.15	1.80	2.25	0.30	21.52
1990-91 to 1992-93 (2)	21.62	4.89	26.50	3.18	1.13	2.01	4.65	0.95	20.91
1997-98 to 1999-00 (3)	22.16	3.34	25.49	3.23	1.16	1.84	5.39	1.55	18.55
<b>Differences</b>									
<b>3-1</b>	5.23	-3.81	1.41	0.54	0.00	0.04	3.14	1.24	-2.97
<b>3-2</b>	0.54	-1.55	-1.01	0.04	0.03	-0.18	0.75	0.60	-2.36

Source (Basic Data): Indian Public Finance Statistics, Various Issues, Ministry of Finance, Government of India.

**Table 5.3: Comprehensive Estimates of All India Budget Subsidies:  
Estimates for Selected Years**

Study	Year	Estimated Subsidies	GDP at Market Prices	Combined Revenue Receipts	(Rs. crore)	
					Subsidy as % of GDP	Revenue Receipts
M-R (1992)	1987-88	42324	354343	66838	11.90	63.32
Tiwari (1996)	1992-93	95373	748367	135422	12.74	70.43
NIPFP (1997)	1994-95	136844	1012770	178012	13.51	76.87
NIPFP (2003)	1998-99	235752	1740935	274769	13.54*	85.80

Source: Mundle and Rao (1992); Tiwari, A.C. (1996); Srivastava and Sen, *et. al.* (1997); Srivastava and Bhujanga Rao, *et. al.* (2003), *Indian Public Finance Statistics* (various issues); *National Accounts Statistics* (2000); *CSO and Economic Survey, 2001-02*.

Note: \* 13.54 percent after taking into account adjustment for salary arrears for the states also.

Table 5.4 gives estimates of central budgetary subsidies for six selected years. The methodology for the two latter years 1995-96 and 1996-97, differs marginally from the one used for the 1994-95 estimates, but similar to that for 1998-99. The level of subsidy appears to have gone down in 1995-96 and 1996-97 relative to the earlier years, although the results are not strictly comparable. Even then in 1996-97, 3.5 percent of the GDP and nearly 38 percent of the central revenue receipts were accounted for by the budget subsidies of the centre. It is thus clear that subsidies are too large in the case of centre as well as the states. Estimates for 1998-99, however, indicate an increase in the central budgetary subsidies relative to the GDP.

**Table 5.4: Comprehensive Estimates of Central Government Subsidies: A Comparison**

Year	Subsidies	Revenue Receipts	GDP	(Rs. crore)	
				Subsidies as % of Revenue Receipts	GDP
M-R (1992)	16065	37037	354343	43.38	4.52
Tiwari (1996)	36829	74128	748367	49.68	4.92
NIPFP (1997)	43089	91083	1012770	47.31	4.25
NIPFP (2001)	42941	110130	1188012	38.99	3.61
NIPFP (2001)	47781	126279	1368208	37.84	3.49
NIPFP (2003)	79828	149485	1740935	53.40	4.59

Source: As in Table 5.3; Srivastava and H.K. Amar Nath (2001); GoI (1995); and GoI (2000).

Note: Revenue Receipts and Fiscal Deficits: Receipts Budget of the Central Government.

Many subsidies are administered through inputs. Important examples are power, diesel, transport, fertilisers, and irrigation. Table 5.5 indicates that out of some major items that serve mainly as inputs, nearly 49 percent of central non-merit economic subsidies, and

about 66 percent of state non-merit economic subsidies are input-based. These numbers should be taken only as rough indicators. It may be noted that input subsidies included here are only broad categories, and some of the subsidies within these may be administered to final goods. On the other hand, some other input subsidies are not included here.

**Table 5.5: Important Input Based Subsidies: 1994-95**

Services	Centre	As % of Economic (Non-Merit) Subsidies	States	As % of Economic (Non-Merit) Subsidies	(Rs. crore)	
					All India	As % of Economic (Non-Merit) Subsidies
Irrigation	132.72	0.39	14213.04	36.60	14345.76	19.80
Power	3928.94	11.68	8034.84	20.69	11963.78	16.51
Industries	10877.95	32.35	2593.99	6.68	13471.94	18.59
Transport	1485.40	4.42	833.93	2.15	2319.33	3.20
<b>Total</b>	<b>16425.01</b>	<b>48.84</b>	<b>25675.80</b>	<b>66.11</b>	<b>42100.81</b>	<b>58.10</b>
Total Non-Merit						
Eco. Ser. Subsidies	33627.59	100.00	38837.37	100.00	72464.96	100.00

Source: As in Table 5.3.

Since many subsidies are input-based, the incidence of the subsidy cannot be controlled. Even in those cases like the food subsidy where subsidies are administered with respect to the final good, the targeting is very poor. This has been brought out in several studies undertaken from time to time. For example, in Jha (1994), in respect of targeting through the PDS, a distinction was made between the proportion of poor beneficiaries in all beneficiaries and the proportion of poor beneficiaries using the PDS among all the poor. These ratios were referred to as targeting ratios TR1 and TR2. The first ratio indicates the extent to which the poor are covered by the PDS. The obverse of this ratio (100-TR1) indicates inclusion error, i.e. coverage of non-poor who ought to be excluded but are included. The obverse of the second ratio (100-TR2) indicates exclusion error from the PDS, i.e. percentage of people who ought to be covered but in effect remain excluded from the PDS. Jha found that the exclusion error for different commodities in the PDS ranged between 30 and 90 percent and was higher than the inclusion error which ranged between 30 and 60 percent. Targeting is bad also because of a clear urban bias in the PDS and because of the remoteness of many backward areas. Further, it is not only the number of poor covered by the PDS but also the lower magnitude of the benefit derived by the poor which indicates inadequate targeting. Jha had observed: “per capita subsidy to the poorest consumers is much below the average. The aggregate subsidy is only about Rs. 2.50 per capita per month—a meagre five percent of the mean expenditure of a person in the poorest decile”.

In recent years, some attempts were made to improve the targeting of PDS by introducing a revamped public distribution scheme (RPDS). Some states have also made a distinction between the consumers above and below the poverty line (APL/BPL) by using coloured ration cards. The central government has introduced a differentiation between the extent of subsidy for APL and BPL beneficiaries. However, most of the APL quota is not lifted and it is the BPL quota which may be getting distributed among the poor and non poor alike owing to lack of effective identification and poor implementation. The Expenditure Reforms Commission, citing a major independent survey, in its report (July, 2000) observed that “in rural India, 17 percent do not own ration cards” and that “18 percent of the below poverty households do not hold ration cards”. Lack of adequate targeting is also reflected in the case of fertiliser subsidies. Several studies [e.g. Gulati (1990), Mazumdar (1993)] have indicated that nearly half of the fertiliser subsidy is appropriated by the industry. Of the remaining half, the benefits are available to both rich and poor farmers, but with their greater purchasing power larger benefits are appropriated by the richer farmers. The benefit of the fertiliser subsidy is available to both poor and rich farmers.

The bigger problem, however, is the targeting of the implicit subsidies. Here, no targeting can be done by definition. The benefits of these subsidies are distributed according to the pattern of consumption of subsidised goods (inputs/outputs). Since this pattern reflects the pattern of income distribution, the effect is likely to be highly regressive. Some evidence is provided in Srivastava and Sen, *et. al.* (1997) about the overall regressivity of the state subsidies. The higher per capita income of a state, the higher tends to be the per capita subsidy. This is especially noticeable in the case of non-merit subsidies. Table 5.6 shows estimated income elasticities of per capita subsidies. The results relate to 15 major states. Income elasticities are positive for merit as well as non-merit subsidies but the magnitude is much higher for non-merit subsidies.

**Table 5.6: Income Elasticity of Per Capita Subsidies**

<b>Variables</b>	<b>Intercept*</b>	<b>Coefficient*</b>	<b>R<sup>2</sup></b>
Total	0.073 (0.061)	0.77 (5.708)	0.69
Merit	0.527 (0.364)	0.575 (3.537)	0.45
Non-Merit	-0.902 -(0.775)	0.842 (6.429)	0.74

Note: \* Figures in parentheses refer to t-values. The variables are taken in logarithms.

More generally, the issue of equity needs to be considered keeping in view the impact of the entire fiscal and regulatory system comprising taxes, subsidies, fiscal deficit, government expenditures, and administered prices. But subsidies in India have a significant impact on the overall equity of the fiscal regime because of their size and spread.

## **5.7 Central Sector and Centrally Sponsored Schemes**

A significant fiscal intervention having a bearing on poverty alleviation comes from central sector and centrally sponsored schemes that relate to state subjects. These schemes run in conjunction with state's own schemes, pertaining to areas like health, education, employment, social welfare, women's welfare, agriculture, roads, etc.

A major problem in the implementation of these schemes is inadequate coordination between the centre, states, and district administration. A second problem is the multiplicity of schemes. Many of the schemes overlap in terms of their targets and objectives. The implementing agencies, *viz.*, the district administration are inundated with multiple schemes and frequent changes in them. The potential beneficiary remains ill informed about the availability and scope of these schemes. Some of the major schemes currently under operation are given in Annexure 2.

There are at least six institutional mechanisms looking at programmes that may have a bearing on poverty alleviation at the local level: the elected local body (Panchayat, Gram Sabha, Block and Zila Samiti), the District Rural (Urban) Development Agency which is a registered body and handles many central schemes bypassing the state government, the M.P. and M.L.A. local area development funds, the state government, and a number of autonomous user societies (like irrigation). There are many alternative centrally sponsored schemes virtually addressing the same subject. In many schemes, states have to counterpart funds. In some of micro-credit schemes, commercial, and cooperative banks are involved. Given the involvement of a large number of agencies handling the same subject, there are considerable overlaps and coordination problems resulting into efficiency losses.

### **a. Number and Multiplicity of Schemes**

Recently a special sub committee of the NDC headed by Shri K.C. Pant looked at the overall rationalisation of the CSS schemes. It noted that at the last count, there were 360 CSS

at the inception of the 10<sup>th</sup> Plan. It suggested that 49 schemes may be discontinued and another 161 schemes should be merged with a view to reducing the total number of schemes to 53. It was also suggested that nine schemes should be transferred to the states.

#### **b. Pattern of Their Inter-State Distribution and Utilisation**

The distribution and utilisation of the central and centrally sponsored schemes does not show a pattern that can be considered as related to the pattern of income levels or the pattern of incidence of poverty (Table 5.7).

**Table 5.7: Per Capita Grants for Central and Centrally Sponsored Schemes**

<b>States</b>	<b>Average 1991-92 to 1992-93</b>	<b>Average 1993-94 to 1995-96</b>	<b>Average 1996-97 to 1998-99</b>	<b>Average 1999-00 to 2000-01</b>
Andhra Pradesh	68.21	84.58	87.70	105.98
Assam	59.57	92.74	67.87	91.24
Bihar [old]	54.10	65.72	15.65	57.05
Goa	98.08	129.15	118.22	151.83
Gujarat	35.81	71.75	50.73	57.41
Haryana	61.50	78.87	95.15	91.87
Karnataka	63.39	89.98	83.08	136.17
Kerala	56.20	84.14	73.90	72.73
Madhya Pradesh [Old]	71.87	100.05	110.02	87.97
Maharashtra	61.88	67.64	56.37	63.28
Orissa	93.10	95.46	82.62	88.31
Punjab	52.74	67.22	63.05	87.24
Rajasthan	91.77	123.98	117.88	124.96
Tamil Nadu	61.28	68.74	69.23	94.63
Uttar Pradesh [Old]	72.64	65.82	44.11	45.90
West Bengal	29.62	29.84	48.96	54.54

Source (Basic data): RBI Bulletin on State Finances.

Considering the average over 1999-00 to 2000-01, the per capita grant for central and centrally sponsored schemes for Bihar, for example, was Rs. 57, and for Uttar Pradesh about Rs. 46 per annum. In comparison, for some of the better off states, it was considerably higher, e.g., Andhra Pradesh (Rs. 106), Goa (Rs. 152), Karnataka (Rs. 136). In one case, among the low income states, viz., Rajasthan, the per capita grant on account of CS and CSS schemes was Rs. 125. The effect of this larger magnitude is clearly visible as Rajasthan's head count ratio for rural poverty was at 13.7 percent in 1999-00, which was half of the all India average in spite of facing persistent drought conditions.

### **c. Implementation Difficulties Including ‘Transmission’ Losses**

Targeting poverty alleviating policies by areas and groups with suitably designed programmes can deliver much more effective results. Many analysts have argued in favor of targeted programmes in the context of their studies in other contexts also. For example, Grosh (1995) observes that targeted programmes have much greater incidence than general price subsidies. On the other hand, untargeted programmes waste considerable resources as the benefits are appropriated by the non-poor population. Such leakages have been estimated in a number of studies as ranging from 40 to 80 percent (See, Giovanni and Stewart, 1995). On the other hand, the administrative costs of targeting have been estimated in the range of 6 to 9 percent of the cost of programmes (see Grosh, 1995). The critical trends in the poverty profile of the country indicate spatial concentration, growing urbanisation of poverty, and growing share of slum population in total population. All these trends suggest that better results can be obtained by focusing poverty reduction policies on specific regions rather than having generalised subsidies or poverty-alleviating schemes having a common design for all states as in the case of many centrally sponsored schemes. It has been indicated that total resources required for near elimination of poverty in the country are not large and could well be justified as a draft on budgetary resources due to their high negative externalities.

## **5.8 Designing a Social Safety Net**

A social safety net requires the consideration of the overall volume that would be needed. It also needs clear rules as to how safety net system would respond when the macro system is shocked by high inflation or low growth, drought conditions, excess rainfall, or other natural calamities. The central and state budgets are required to earmark amounts for the safety net program.

The relative resource gap (RRG) is defined as the sum of the shortfall of incomes of the poor from the poverty line relative to GDP at market prices, i.e.,

$$RRG = \sum (z - y_i)/Y$$

where

$i = 1, \dots, n$  and  $y_i$  per capita income of the poor in state  $i$ , and  $y =$  GDP at market prices and  $z$  is the poverty line.

The issue of constructing a social safety net using budgetary resources requires a consideration of (i) resources required for a comprehensive social safety net, (ii) identification of conditions in which individuals would be entitled to income and/or programme support, and (iii) aspects of administration of the relevant support mechanism.

In the context of overall resource requirement, estimation of the resource gap, relative to GDP, provides an estimate of the overall resource requirements for supporting the poor.

The RRG provides an estimate of resource requirement for a perfectly targeted programmes of income support that would keep all poor on or above the poverty line. This is only a variant of the poverty gap index with the modification that the aggregate gap is considered in relation to GDP at market prices.

Table 5.8 gives the estimated resource gap for rural, urban, total poor using the official poverty estimates. It appears that for 1999-00, only about 1.17 percent of GDP would have been required by way of fully targeted income support to completely eliminate poverty.

**Table 5.8: Estimated Resource Gap on the Basis of  
PGI: All India**

As % of GDP at Market Prices (1999-00)		
	<b>Resource Gap (Rs. Crore)</b>	<b>Percent of GDP (Percent)</b>
Rural	14580.4	0.756
Urban	8038.7	0.417
Total	22619.1	1.172
Memo: GDPmp 1999-00		1929641

Source (Basic Data): As in Tables 3.3 and 3.5.

Tables 5.9 and 5.10 give the state-wise break down of the resource gaps for rural and urban poverty separately.

The calculations are based on estimates of poverty gap (PGI) provided by Deaton and Dreze (2002), where

$$PGI = \frac{\sum (z - y_i)}{n}$$

**Table 5.9: Estimation of Minimum Resources Required for Closing the Poverty Gap 1999-00: Rural**

No.	States/UTs.	Number of Persons (Lakhs)	HCR	Total Population (Crore)	PGI Official Methodology	Poverty Line Official	Estimated Resource Gap (Rs. Crore)
1.	Andhra Pradesh	58.13	11.05	5.26	1.8	262.9	298.8
2.	Assam	92.17	40.04	2.30	8.5	365.4	858.0
3.	Bihar	376.51	44.30	8.50	8.7	333.1	2955.3
4.	Gujarat	39.80	13.17	3.02	2.2	318.9	254.5
5.	Haryana	11.94	8.27	1.44	1.3	362.8	81.7
6.	Himachal Pradesh	4.84	7.94	0.61	1.0	367.5	26.9
7.	Jammu & Kashmir	2.97	3.97	0.75	0.6	327.6	17.6
8.	Karnataka	59.91	17.38	3.45	2.7	309.6	345.8
9.	Kerala	20.97	9.38	2.24	1.5	374.8	150.8
10.	Madhya Pradesh	217.32	37.06	5.86	7.7	311.3	1686.9
11.	Maharashtra	125.12	23.72	5.27	4.4	318.6	887.4
12.	Orissa	143.69	48.01	2.99	11.7	323.9	1361.1
13.	Punjab	10.20	6.35	1.61	0.8	362.7	55.9
14.	Rajasthan	55.06	13.74	4.01	2.1	344.0	347.4
15.	Tamil Nadu	80.51	20.55	3.92	3.8	307.6	549.6
16.	Uttar Pradesh	412.01	31.22	13.20	5.8	336.9	3094.3
17.	West Bengal	180.11	31.85	5.65	6.5	350.2	1544.5
<b>Sum of 17 States</b>				<b>70.1</b>			<b>14516.7</b>
<b>All India</b>		1932.43	27.09	71.3	5.2	327.6	<b>14580.4</b>
As percent of GDP at current market prices					<b>Sum of 17 States</b>		0.752
Memo: GDPmp 1999-00				1929641	<b>All India</b>		0.756

Source (Basic Data): As in Tables 3.3 and 3.5.

**Table 5.10: Estimation of Minimum Resources Required for Closing the Poverty Gap 1999-00: Urban**

No.	States/UTs.	Number of Persons (Lakhs)	HCR	Total Population (Crore)	PGI Official Methodology	Poverty Line Official	Estimated Resource Gap (Rs. Crore)
1.	Andhra Pradesh	60.88	26.63	2.29	5.6	457.4	702.70
2.	Assam	2.38	7.47	0.32	1.5	343.99	19.73
3.	Bihar	49.13	32.91	1.49	6.7	379.78	455.83
4.	Gujarat	28.09	15.59	1.80	2.4	474.41	246.18
5.	Haryana	5.39	9.99	0.54	2.0	420.2	54.41
6.	Himachal Pradesh	0.29	4.63	0.06	0.6	420.2	1.89
7.	Jammu & Kashmir	0.49	1.98	0.25	0.2	420.2	2.50
8.	Karnataka	44.49	25.25	1.76	5.6	511.44	605.57
9.	Kerala	20.07	20.27	0.99	3.9	477.06	221.06
10.	Madhya Pradesh	81.22	38.44	2.11	9.5	481.65	1160.16
11.	Maharashtra	102.87	26.81	3.84	6.7	539.71	1664.98
12.	Orissa	25.40	42.83	0.59	11.1	473.12	373.73
13.	Punjab	4.29	5.75	0.75	0.6	388.15	20.85
14.	Rajasthan	26.78	19.85	1.35	3.4	465.92	256.46
15.	Tamil Nadu	49.97	22.11	2.26	4.8	475.6	619.13
16.	Uttar Pradesh	117.88	30.89	3.82	6.6	416.29	1258.18
17.	West Bengal	33.38	14.86	2.25	2.5	409.22	275.77
<b>Sum of 17 States</b>				<b>26.5</b>			<b>7939.1</b>
<b>All India</b>		670.07	23.62	28.37	5.2	454.11	<b>8038.70</b>
As percent of GDP at current market prices					<b>Sum of 17 States</b>		0.411
Memo: GDPmp 1999-00				1929641	<b>All India</b>		0.417

Source (Basic Data): As in Tables 3.3 and 3.5.

The resource gap is the highest for Uttar Pradesh followed by Bihar, Madhya Pradesh, and Orissa for rural poor. For urban poor, resource gap is the highest for Maharashtra, followed by Uttar Pradesh and Madhya Pradesh.

This amounts to a total of Rs. 22619 crore or about 1.17 percent of GDP at market prices for 1999-00. Thus, a fraction of resources currently employed for administering the subsidy regime of about 13 percent of GDP can keep the poor on or above the poverty thresholds. Thus, it is not the shortage of resources which constraints the complete elimination of poverty. The fiscal regime is unable to address the poverty problem effectively both because it is ill-directed and also because poverty is the result of complex developmental, fiscal, and sociological processes. However, this does not mean that just single transfer of a little more than one percent of GDP can completely eliminate poverty in the country. Some of the constraints in following such a policy relate to the difficulties in identification of the poor, change in their poverty status from year to year, and disincentive effects that could follow from such an income transfer policy. However, these estimates do show that even allowing for targeting errors, it will not take a large amount of resources to address the poverty problem.

One has to recognise, however, that a case is not being made for using an income-support policy that makes up for the exact difference between the poverty line and the average income of the identified poor so as to keep poverty incidence at zero level year after year. In practice, there would be many difficulties in following such a policy.

First, such a policy can have significant adverse incentives. As soon as the poor learn that such a policy is in place, their effort to earn whatever meager income they are earning would go down, leading to an increase in the gap between poverty line and the mean income. Secondly, a targeting of such high precision would require substantial administrative costs.

Thirdly, the exact design of such a policy would need to be worked out. Fourthly, although income gaps will be filled up, this is with reference to a nutrition-related poverty line. Gaps in respect of other dimensions of poverty particularly, health and education will remain. Fifthly, the existing levels of poverty are dependent to an extent on the present policies however untargeted these may be. If these are restructured, or reorganised, then the impact on the existing poverty levels would need to be identified.

The empirically relevant question is that if such programmes could be designed as could deliver income support to the targeted poor, in a manner which minimize the adverse incentives, it will take a very limited amount of resources to overcome poverty and minimize its negative externalities. The features of the poverty profile that have been highlighted in this paper, *viz.*, its high spatial concentration, and the rising share of urban poor provide critical information in designing the targeting strategy.

Further, allocation of additional resources can be justified on the ground of the negative externalities. As poverty is reduced and kept at a minimum level, considerable savings will be generated through the elimination of these negative externalities, reducing health expenditures as well as resources allocated for countering incidence of illegal activities. On the positive side growth rate will be stepped in high areas of high poverty incidence areas, as investment and economic activities grow.

Much of the required resources can actually come from reorganizing several present welfare oriented policies derive their justification in the context of supporting the poor, but are either not targeted properly or are wasted in subsidizing inefficiencies. The vast subsidy regimes that are run by central and state governments, for example, constitute untargeted policy intervention which is known to subsidize largely inefficiencies.

The additional requirement of resources can also be converted into number of additional days per year for which employment needs to be generated per household. It is assumed that the average size of the family consists of 5 members and that employment is offered at Rs. 50 per day of work. Minimum wages offered in government schemes currently from Rs. 48 to Rs. 52 in many states.

Table 5.11 provides estimates for rural areas, state-wise figures indicate that in Andhra Pradesh per poor household 51 more person days of additional employment needs to be created whereas in Assam or Orissa a little more than 3 months of additional employment per poor household needs to be created. When a household has two working adults in the family, this number needs to be halved.

**Table 5.11: Estimation of Minimum Additional Employment Required for Closing the Poverty Gap: Rural**

Sl. No.	States/UTs.	Number of Poor Persons (Lakhs)	Number of Poor Households (Lakhs)	Estimated Resource Gap (Rs. Crore)	Number of Additional Days of Employment Generation (Crore)	Number of Additional Days of Employment Per Family
1.	Andhra Pradesh	58.13	11.626	298.8	5.98	51.40
2.	Assam	92.17	18.434	858.0	17.16	93.09
3.	Bihar	376.51	75.302	2955.3	59.11	78.49
4.	Gujarat	39.80	7.96	254.5	5.09	63.93
5.	Haryana	11.94	2.388	81.7	1.63	68.44
6.	Himachal Pradesh	4.84	0.968	26.9	0.54	55.54
7.	Jammu & Kashmir	2.97	0.594	17.6	0.35	59.41
8.	Karnataka	59.91	11.982	345.8	6.92	57.71
9.	Kerala	20.97	4.194	150.8	3.02	71.92
10.	Madhya Pradesh	217.32	43.464	1686.9	33.74	77.62
11.	Maharashtra	125.12	25.024	887.4	17.75	70.93
12.	Orissa	143.69	28.738	1361.1	27.22	94.73
13.	Punjab	10.20	2.04	55.9	1.12	54.83
14.	Rajasthan	55.06	11.012	347.4	6.95	63.10
15.	Tamil Nadu	80.51	16.102	549.6	10.99	68.26
16.	Uttar Pradesh	412.01	82.402	3094.3	61.89	75.10
17.	West Bengal	180.11	36.022	1544.5	30.89	85.76
	Sum of 17 States			14516.7	290.33	
	<b>All India</b>	<b>1932.43</b>	<b>386.486</b>	<b>14580.4</b>	<b>291.61</b>	<b>75.45</b>

Source (Basic Data): As in Tables 3.3 and 3.5.

Table 5.12 presents corresponding estimates for urban areas. As compared to the rural areas, where on average, for the all India picture, 2.5 months additional employment per household needs to be created, in the case of urban poverty 4 month of additional employment per poor household needs to be created.

In designing a social safety net, it is useful to distinguish between policies meant for, protection of the poor as against those meant for ‘promoting’ their income. Ravallion (1995) observes that the standard incidence table cannot tell us how much of any reduction in poverty was due to better *protection* of those vulnerable to poverty, versus better performance at *promoting* the poor (see Dreze and Sen 1989). The same post-intervention distribution of living standards can be produced in any number of ways; for example, two policies may yield the same number of poor, yet in one case many more fall into poverty, and many escape, than in the other. Clearly, we may be far from neutral to such differences when evaluating a social safety net. It is useful to distinguish a policy’s ability to protect the poor—interpretable as its

impact on transient poverty—from its ability to promote the poor—its impact on persistent poverty.

**Table 5.12: Estimation of Minimum Additional Employment Required for Closing the Poverty Gap: Urban**

Sl. No.	States/UTs.	Number of Poor Persons (Lakhs)	Number of Poor Households (Lakhs)	Estimated Resource Gap (Rs. Crore)	Number of Additional Days of Employment Generation (Crore)	Number of Additional Days of Employment Per Family
1.	Andhra Pradesh	60.88	12.176	702.70	14.1	115.4
2.	Assam	2.38	0.476	19.73	0.4	82.9
3.	Bihar	49.13	9.826	455.83	9.1	92.8
4.	Gujarat	28.09	5.618	246.18	4.9	87.6
5.	Haryana	5.39	1.078	54.41	1.1	100.9
6.	Himachal Pradesh	0.29	0.058	1.89	0.0	65.3
7.	Jammu & Kashmir	0.49	0.098	2.50	0.0	50.9
8.	Karnataka	44.49	8.898	605.57	12.1	136.1
9.	Kerala	20.07	4.014	221.06	4.4	110.1
10.	Madhya Pradesh	81.22	16.244	1160.16	23.2	142.8
11.	Maharashtra	102.87	20.574	1664.98	33.3	161.9
12.	Orissa	25.40	5.08	373.73	7.5	147.1
13.	Punjab	4.29	0.858	20.85	0.4	48.6
14.	Rajasthan	26.78	5.356	256.46	5.1	95.8
15.	Tamil Nadu	49.97	9.994	619.13	12.4	123.9
16.	Uttar Pradesh	117.88	23.576	1258.18	25.2	106.7
17.	West Bengal	33.38	6.676	275.77	5.5	82.6
	Sum of 17 States			7939.10	158.8	
	<b>All India</b>	<b>670.07</b>	<b>134.014</b>	<b>8038.70</b>	<b>160.8</b>	<b>120.0</b>

Source (Basic Data): As in Tables 3.3 and 3.5.

## 5.9 Short and Long Run Policy Interventions

The key feature of long run strategies for combating poverty is that they offer more lasting solutions to reducing poverty. These will bring about permanent reduction in poverty. Over time, as long run policies become effective, the requirement and dependence on short policies will diminish.

Examples of long term policies are investment in education, health, and physical infrastructure. Allocation of larger resources on these sectors would lead to permanent reduction in the incidence of poverty. Policies that create assets and continuing employment potential also fall within this category.

Short term policies are designed to instantly attend to the poverty problem. They are effective only as long as they are in operation. Food for work programmes and other relief schemes concerning droughts, floods, and other calamities also fall in this group. Even the PDS is a relief scheme rather than capacity strengthening scheme. The more one spends on the longer term schemes, the smaller the burden on the short term, relief-oriented schemes.

Since the income and employment of the poor are closely related to rural poor, particularly the agricultural activities, much of the volatility in agricultural growth also makes the income profile of the poor highly volatile. Analysts have also noted (Bhalla and Hazell, 2003) that there has been a steep deceleration in the rate of growth of in the crop sector from 90s compared with the 80s. The growth rate of all crops taken together, the average growth in 90s is found to be only 2.38 percent per annum against 3.46 percent per annum during the 80s. The decline in the growth rate of infrastructure investment in agriculture over a long period of time, declining efficiencies of input use, technological stagnation and surplus cereal production along with the falling prices have been noted as the main causes in the deceleration of agricultural growth in India in 90s. The second reason that has led to the decline in the employment in agriculture is the increasing capitalisation of agriculture. It has been noted that increase over a time, as a result the labour intensity in the agriculture has declined. In Punjab, in case of paddy man hours per hectare declined from 857.5 during 1981-82 to only 450.4 in 1998-99. The corresponding reduction in Haryana was from 831.0 man hours to 584.1 in 1998-99. Similar fall has also been noted in the case of wheat in Punjab and Haryana. The overall employment elasticity for the economy has fallen from 0.473 during 1973-74 to 1993-94 and 0.156 during 1993-94 to 1999-00. In agriculture output growth has conventionally been associated with high growth in employment but in this case also there has been a steep decline in employment elasticity which has fallen from 0.49 during 1973-74 to 1993-94 to only 0.005 during 1993-94 to 1999-00. This pattern has been noted in most states and for most crops. The sector-wise employment elasticity has shown in Table 5.13.

**Table 5.13: Elasticity of Employment wrt Net Value Added**

	Period						
	1983-84	1994-88	2000-94	1994-78	2000-78	1994-74	2000-74
Agriculture, etc., and Allied	0.490	0.443	0.005	0.443	0.335	0.491	0.361
Mining	1.362	0.379	-0.534	0.428	0.537	0.981	0.614
Manufacturing	0.537	0.298	0.226	0.251	0.354	0.554	0.470
Electricity	0.746	0.312	-0.509	0.249	0.210	0.785	0.449
Construction	3.427	-0.022	1.095	0.686	1.451	1.070	1.084
Secondary	0.791	0.233	0.365	0.306	0.520	0.661	0.587
Trade	0.608	0.583	0.697	0.320	0.676	0.747	0.741
Transport	0.891	0.652	0.540	0.289	0.603	0.666	0.636
Services	0.750	0.642	-0.052	0.225	0.387	0.622	0.432
Tertiary	0.734	0.616	0.350	0.296	0.530	0.676	0.586
All Sectors	0.542	0.413	0.156	0.299	0.350	0.473	0.384

Source: Bhalla and Hazell (2003).

## 5.10 Micro Level Policies

While macro policies relate to growth of output and employment, monetary policies and inflation, and budgetary allocation to areas such as health, education, and other poverty related interventions, micro policies aim at individually targeted interventions. Two areas for micro interventions relate to micro credit and micro insurance.

### a. Micro Credit

Micro credit schemes have succeeded in a significant way in many countries. In India also, these are showing signs of success although the progress may be different in different states. Micro credit is extended to the poor without the need for a collateral. It is based more on his participation in the self-help groups. Many banks are now entering this market on the ground that this is a viable marketing option as compared to earlier where they participated under compulsion and regulation. The lowering of the interest rates in general has also helped. Micro credit directed to poor is also one aspect retail banking.

The immediate success of the Kisan Credit Card scheme is an important dimension of micro credit. Extension of this scheme to the informal sector is now being undertaken. The Kisan Credit Card Scheme was launched in 1998-99. Since its inception it has progressively become more popular and has been taken up by 27 Commercial Banks, 378 District Central Cooperative Banks/State Cooperative Banks and 196 Regional Rural Banks (RRBs) in the

country. The number of Kisan Credit Card issued had reached a number of 2.71 crore cards upto September 2002 and the amount of credit involved was Rs. 640,000 crore. Recently NABARD has formulated a model scheme of channelising its financial support out of its Cooperative Development Fund (CDF) by way of one time grant to all SCBs and DCCBs with the budget allocation of Rs. 6 crore.

There is also a scheme announced in 2002-03 Budget for a Crop Insurance Cover for the Kisan Credit Card holders upto a maximum amount of Rs. 50,000 and has also been operationalised by a number of banks.

The concept of Self-Help Groups promoted by NABARD for financing the poor by formal institutions and non-formal institutions was started in 1991-92 by linking SHGs with formal crop agencies.

#### **b. Micro Insurance**

Table 5.14 shows growth rates in output of agriculture indicated by GDP in agriculture at constant 1993-94 prices and compares it with corresponding growth rates for the aggregate GDP. The 'variability' of agricultural output is considerably larger than that of the aggregate GDP. The maximum annual growth in agricultural output was 17 percent in 1967-68 and minimum -13.5 percent in 1965-66 and 13.4 percent in 1979-80. The corresponding range for GDP as a whole was 10.5 and -5.2. This is depicted also in Chart 5.1.

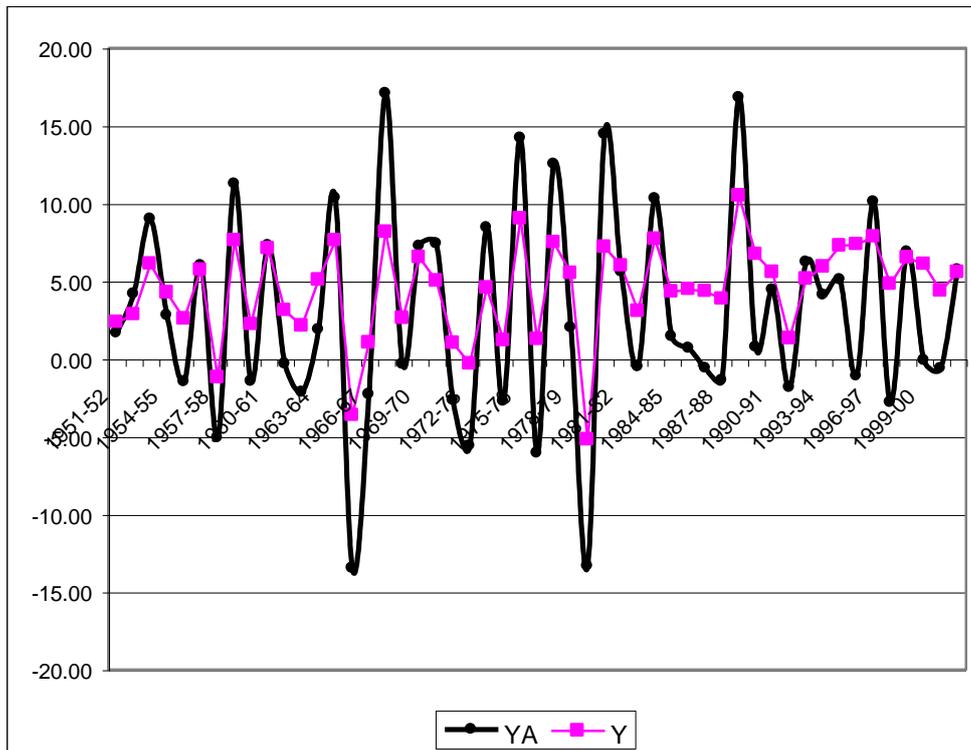
Similar variability is also seen in agricultural prices (Table 5.15) relative to the implicit price deflator for the aggregate GDP. The range of annual percentage variation is between 22.84 percent in 1973-74 at the maximum and -17 percent in 1954-55 at the minimum. For the price deflator of aggregate GDP, this range is between 17.2 percent at the maximum and -10 percent at the minimum.

Clearly, farmers are exposed to large fluctuations in output as well as prices, which leads to variations in agricultural incomes. The element of uncertainty in agriculture is recognised to be far higher than that in other sectors.

**Table 5.14: Growth Rates of GDP at Factor Cost in Agriculture and Aggregate GDP**

Years	Agriculture	Total GDP	Years	Agriculture	Total GDP
	YA	Y		YA	Y
1951-52	1.64	2.33	1976-77	-6.08	1.25
1952-53	4.16	2.84	1977-78	12.51	7.47
1953-54	8.99	6.09	1978-79	1.99	5.50
1954-55	2.80	4.25	1979-80	-13.36	-5.20
1955-56	-1.48	2.56	1980-81	14.44	7.17
1956-57	5.99	5.69	1981-82	5.61	5.97
1957-58	-5.08	-1.21	1982-83	-0.52	3.06
1958-59	11.25	7.59	1983-84	10.29	7.68
1959-60	-1.46	2.19	1984-85	1.44	4.31
1960-61	7.28	7.08	1985-86	0.69	4.45
1961-62	-0.32	3.10	1986-87	-0.61	4.33
1962-63	-2.15	2.12	1987-88	-1.39	3.83
1963-64	1.87	5.06	1988-89	16.81	10.47
1964-65	10.33	7.58	1989-90	0.74	6.70
1965-66	-13.47	-3.65	1990-91	4.43	5.57
1966-67	-2.29	1.02	1991-92	-1.85	1.30
1967-68	17.07	8.14	1992-93	6.22	5.12
1968-69	-0.35	2.61	1993-94	4.10	5.90
1969-70	7.25	6.52	1994-95	5.08	7.25
1970-71	7.41	5.01	1995-96	-1.13	7.34
1971-72	-2.66	1.01	1996-97	10.10	7.84
1972-73	-5.63	-0.32	1997-98	-2.82	4.79
1973-74	8.43	4.55	1998-99	6.87	6.51
1974-75	-2.76	1.16	1999-00	-0.11	6.07
1975-76	14.20	9.00	2000-01	-0.63	4.37
			2001-02	5.73	5.57

Source (Basic Data): National Income Accounts, CSO.



**Chart 5.1: Growth Rates: Agriculture and Aggregate GDP at Factor Cost**

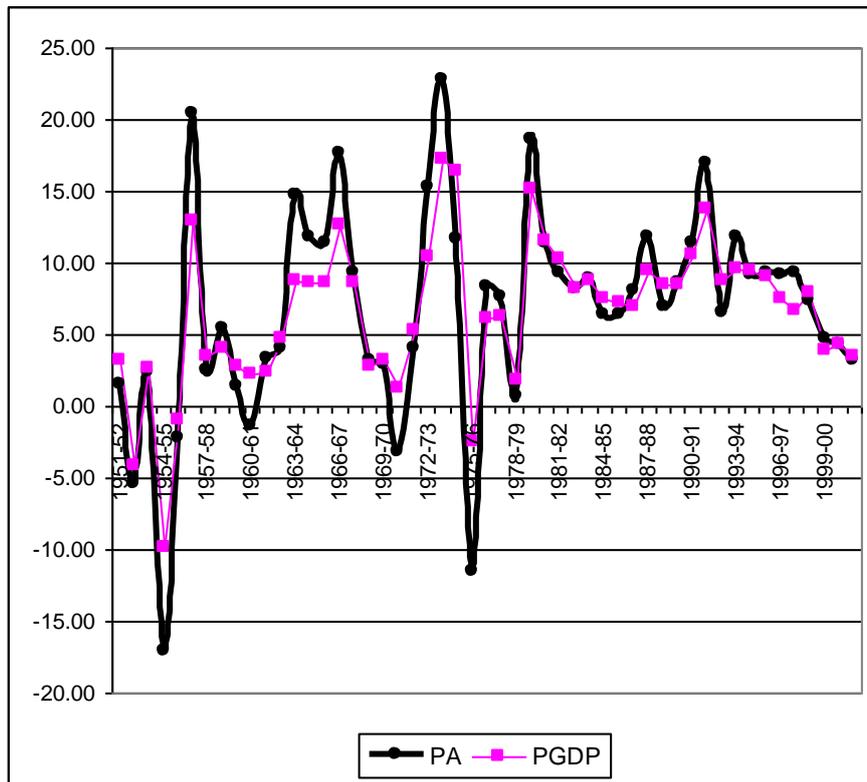
**Table 5.15: Percentage Variation in Prices of GDP in Agriculture and Aggregate GDP**

Years	Agriculture	Total GDP	Years	Agriculture	Total GDP
	PA	PGDP		PA	PGDP
1951-52	1.59	3.17	1976-77	8.40	6.17
1952-53	-5.47	-4.10	1977-78	7.65	6.20
1953-54	2.33	2.64	1978-79	0.64	1.87
1954-55	-17.12	-9.89	1979-80	18.66	15.11
1955-56	-2.15	-0.93	1980-81	11.41	11.51
1956-57	20.40	12.95	1981-82	9.37	10.23
1957-58	2.54	3.48	1982-83	8.22	8.18
1958-59	5.44	3.97	1983-84	8.88	8.81
1959-60	1.42	2.79	1984-85	6.34	7.49
1960-61	-1.35	2.24	1985-86	6.35	7.28
1961-62	3.35	2.35	1986-87	8.07	6.88
1962-63	4.09	4.71	1987-88	11.82	9.38
1963-64	14.72	8.78	1988-89	6.99	8.42
1964-65	11.80	8.59	1989-90	8.55	8.46
1965-66	11.46	8.68	1990-91	11.40	10.50
1966-67	17.61	12.68	1991-92	16.96	13.81
1967-68	9.28	8.67	1992-93	6.48	8.72
1968-69	3.19	2.77	1993-94	11.82	9.59
1969-70	2.87	3.24	1994-95	9.20	9.43
1970-71	-3.16	1.30	1995-96	9.29	9.03
1971-72	3.99	5.33	1996-97	9.22	7.44
1972-73	15.24	10.35	1997-98	9.33	6.67
1973-74	22.84	17.22	1998-99	7.39	7.94
1974-75	11.62	16.36	1999-00	4.66	3.94
1975-76	-11.53	-2.57	2000-01	4.24	4.28
			2001-02	3.18	3.43

Source (Basic Data): National Income Accounts, CSO.

One dimension of vulnerability of the poor is their exposure to risks in almost all walks of life. These relate to illness, disability, accident as well as to reliability in income. These often generate a vicious cycle or a trap for them to remain in the poverty because for any such event they often borrow at high rates of interest and this sets up a vicious circle, which they are unable to get out of. Schemes of micro insurance therefore can be highly effective to protect the poor against risks. These will not only give them temporally relief but the effect would be the reduction of incidence in the poverty itself as they can avoid getting into the high interest-induced poverty trap. However, unlike other life and non-life insurance, neither insurance companies nor any other agency may take insurance for the poor as an attractive market proposition. The non government organizations (NGOs) have shown some initiative on their own to provide insurance to the poor on a small scale. Examples often

quoted are that of Sewagram Hospital, and ACCORD in the Nilgiris. The difficulty in making this a marketable proposition arises from high risks, low premium and lack of organisational structure which can help in distributing the risk among participating agencies.



**Chart 5.2: Annual Percentage Price Variations: Agriculture and Aggregate GDP**

Analysts say that there are four key aspects to making the micro insurance of the poor a viable business proposition. These relate to affordability, insurability, marketability and profitability. The insurance costs and the related premium need to be kept low in order to ensure affordability. This is one aspect where government subsidies have also been recommended, either directly to the poor for insurance or indirectly to the company/organisation offering insurance. The second aspect relates to risks in insurance. Predictability of the risk is an important aspect in determining its insurability as well as the corresponding premium. For any poor, most risks are high and relate to many aspects of his life. To reduce risks and make the proposition more insurable it has often been recommended that a group based approach rather than an individual based approach may reduce the costs of insurance. Profitability should be compared with other insurance activities to attract the insurance companies. Considering that some of the mainstream insurance companies may not be attracted to this sphere, these may have to be directed towards micro insurance for the poor

under some regulation or a separate insurance organisation may be created exclusively for this purpose. This organisation can serve as an intermediary between the poor, the NGOs and the insurance companies. Even at present, there are selected schemes being run by different departments which aim at insuring a limited dimension of the overall insurance requirements of the poor. One specialised insurance organisation can provide a platform where many of these individually runs and fragmented schemes can be brought together and integrated with the overall programme of insurance for the poor. Such an organisation can also be supported through the budget with subsidies as it will be easier to administer these through such an organization. This organization can also undertake other poverty related activities like social security premium for the poor. Income generation, health care, maternity care, women and child welfare and so on. In fact, instead of having multiple schemes to run through various ministries and departments, it may be best to design and operate most of the required schemes through a single organisation that can aim at combating poverty effectively.

A National Agricultural Insurance Scheme (NAIS) was introduced from Rabi season of 1999-00, which replaced the earlier Comprehensive Crop Insurance Scheme which was in operation since 1985. The new scheme extends coverage to all the food crops as well as the oilseeds, commercial and horticultural crops. The premium rates vary from 1.5 to 3.5 percent of the sum insured depending on the crops. There are actuarial rates for the commercial and horticultural crops. Small and marginal farmers are entitled to subsidy of 50 percent of the premium charged from them to be shared on 50:50 basis by the Central and state governments. At present this scheme is being implemented by 21 states and 2 union territories.

A Pilot Seed Crop Insurance Scheme was also introduced from Rabi 1999-00 to protect seed growers in the event of failure of a seed crop. This scheme is currently in operation in Andhra Pradesh, Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan and Uttar Pradesh. The seed crops of paddy, wheat, maize, jowar, bajra, gram, red gram, ground nut, soyabean, sunflower and cotton are covered.

There is also a scheme for livestock insurance. This consists mainly of cattle insurance and is being implemented by the 4 public sector general insurance companies. Under various livestock insurance policies, cover is provided for the sum insured or the market value of the animal whichever is less. The animals are normally insured upto 100

percent of their market value. The premium collected under this scheme in the year 2001-02 was Rs. 135.38 crore and the number of animals insured was 1.65 crore. In fact, this number has come down over the years. In 1998-99, the number of animals insured was 2.35 crore.

### **5.11 Decentralisation and the Role of the Third-Tier in Poverty Alleviation**

State governments, with significant exceptions like Kerala and West Bengal, have shown downward rigidity in devolving functions to the local bodies in rural and urban areas. The central government also continues to administer a variety of its schemes through special agencies like the DRDA rather than using the PR institutions. Thus, following the 73<sup>rd</sup> and 74<sup>th</sup> amendments, even though there has been two rounds of State Finance Commissions, there is considerable reluctance and consequent overlapping of functions being performed by the local governments with other agencies. At the same time, the local bodies have to perform a variety of 'agency functions' for a number of central government departments who float a plethora of centrally sponsored schemes.

The main issues in making the constitutionally recognised and elected bodies at the local level to perform functions that can help in combating poverty, can be listed as follows:

- a. In the context of clarity of assignment and responsibility are:
  - i. Overlapping responsibilities with state departments, and
  - ii. Overlapping responsibilities with special non-constitutional agencies like DRDA, etc.
- b. In the context of finances, two of major problems encountered are:
  - i. inadequate assignment and/or exploitation of own revenue sources, and
  - ii. the requirement for providing matching contributions for most central funds flowing to the local bodies through Finance and Planning Commissions or the Central Ministries.

In most cases, the requirement is for the state government to provide the matching contribution. This has resulted in delayed and often non-utilisation of substantial funds.

Decentralisation can help improve the poverty alleviating content of governmental interventions if

- i. They have the option to select programmes or schemes most suited to their requirements from among the numerous centrally designed schemes.
- ii. The local level institutions (PRI and municipal) can help in better targeting of household or individual oriented benefits. They can also better understand the local infrastructure deficiencies.
- iii. In the context of primary schools, interface with village Panchayats can improve attendance of both teachers and students.
- iv. It is only in programmes or services where specialised and technical inputs are needed like watershed development programmes, should agencies or societies be involved, but they should have a clear interface with the PRI institutions.

### **5.12 Summary**

Fiscal policies can support growth and can favourably affect conditions that augment the poverty reducing impact of growth. Fiscal policies, through well-designed subsidies can address human development dimensions of the poverty problem. A significant component of budgetary policies have to be devoted to well-targeted and direct support programmes that recognise such characteristics of the poverty profile of India as its increasing spatial concentration and urbanisation. The size of the budget, the composition of government expenditure at central, state, and local levels, and coordination between governments at the three tiers, can significantly enhance the pro-poor orientation of budgetary interventions.

In summarising lessons from earlier poverty reduction strategies, Sandstorm (1994) draws some critical lessons, as summarised below:

- i. The strategic framework to reduce poverty must consist of two central, mutually reinforcing elements: (i) economic growth and (ii) investment in people. Labour-intensive growth allows the poor to make use of their major asset—their labour. The Bank is focusing increasingly on measures at the macroeconomic and sectoral level that are both pro-growth and pro-poor. These include: freeing the price of agricultural products to benefit small farmers; removing anti-employment biases—such as restrictions on labour mobility and the subsidisation of capital—to increase job opportunities; and promoting economic stability—inflation, for example, is a regressive tax which hurts the poor. The availability of good quality education, health, nutrition, and family planning are essential to enable the poor to contribute to and participate in growth. The compelling appeal of social development is that, as well as improving human welfare directly, it is a sound

economic investment. Experience indicates, for example, that no country has been able to take off economically with a literacy rate of less than 50 percent.

- ii. Increasing social expenditures is essential for poverty reduction, but it is not enough. The efficiency and effectiveness of those expenditures is equally important. Careful targeting of scarce resources to ensure that they reach those most in need is imperative.
- iii. For poverty reduction to be lasting, it must be environmentally sustainable. The most common environmental problems hit the poor hardest—dirty water, inadequate sanitation, and soil erosion. The very poor, struggling at the edge of subsistence, cannot afford to make natural resource investments that give positive returns only after a number of years. This means that the poor have little choice but to overexploit any available natural resource. These problems can be effectively addressed only by building upon the “win-win’ links between growth, poverty reduction, and environmental protection.
- iv. Reducing the rapid rate of population growth in many developing countries is important for environmental sustainability and for poverty reduction. The population issue cannot be addressed effectively in isolation from the overall issue of social development. Experience shows that as incomes rise and people lead longer, healthier lives, fertility declines. Evidence also suggests that narrowly targeted family planning has minimal effect if the vast majority of people in a country remain unhealthy, uneducated, and unemployed.
- v. The fundamental role of women in reducing poverty is one of the most profound lessons of development experience over the last generation. In most developing countries, women play the major role as producers of food and protectors of the environmental and in educating children and nurturing families.
- vi. The global trend toward increased participation is one of the fundamental changes of our time: more open economies and trading systems; more open political systems and democratising; more highly educated people in the developing countries and increasing human-resource capacity; more rapid and widespread forms of communication and information flow. Participation is an important end in itself, but it is also a means to more effective poverty reduction.
- vii. It is primarily a government’s responsibility to involve its citizens in the development decisions that affect their lives. Governments also have a responsibility to ensure accountability and transparency for their actions if resources are to have maximum impact in benefiting the poor.
- viii. Improved knowledge and measurement of poverty increases the potential for greater effectiveness of poverty reduction strategies. These address three basic questions: Who is poor? Why are they poor? What needs to be done to reduce the number of poor?

## **Chapter 6: TARGETING FISCAL POLICIES**

### **6.1 Introduction**

Effective targeting of programmes can significantly improve the poverty alleviating impact of fiscal policies. Targeting is an attempt to focus the benefit of public expenditure to the poor by identifying them as direct beneficiaries and screening out unintended beneficiaries. Universal subsidisation is costly and inefficient. Economists who favour using targeting of selected expenditure programmes argues that attempts to identify the poor and targeting benefits to them can serve important re-distributive and safety net roles in a market economy [World Bank (1990), Lipton and Ravallion (1995)]. Grosh (1995, p. 465) has observed: “targeted programs have much more incidence than general price subsidies”, and (p. 466): “on an average targeted programs also have more progressive incidence than public primary health and public primary education services, although there is a good deal of overlap in the ranges”. On the other hand, people who hold the anti-targeting view have argued that finely targeted programmes have usually failed as they have failed to cover fully the poor or avoid leakages to the non-poor. Such programmes also create dependency, and may be unsustainable because of lack of political support. In this context, van de Walle (1995) writes that although the literature indicates that targeting imposes costs, “we know very little about the actual costs associated with different forms of targeting ... we cannot operate on the presumption that targeting is an efficient instrument for fighting poverty in all circumstances”.

### **6.2 Targeting and Incentive Effects**

Targeting has important incentive effects. Kanbur, Keen and Toumala (1994) explore the implications of variable labour supply for the design of poverty alleviation programs in the context of minimising poverty index, which is defined in the utility space incorporating non-zero labour supply responses to subsidising/taxing goods. They argue that if labour supply is elastic, the standard rule of subsidising those commodities whose consumption by the poor is a large fraction of total consumption may need to be modified in a ‘non-welfarist’ approach. The rule is modified depending on the weight given to disutility of effort in evaluating poverty. If no weight is given at all, then the case for subsidising good ‘i’ is weaker, the more such a subsidy tends to reduce labour supply, that is, the greater is the

complementarity between good 'i' and leisure. But this result is reversed by attaching a sufficiently high weight to the disutility of effort. It is then no longer acceptable to provide for consumption at the poverty line by inducing individuals to work excessively. As such, complements to leisure should be subsidised rather than taxed.

Chaudhuri and Ravallion (1994) from their study of longitudinal data on 103 households in three villages over 1976-1983 with a view to deriving implications for targeting in the case of the chronically poor, arrive at the following conclusions:

- i. All of the cross-sectional indicators except food share generally perform better than uniform targeting. Cross-sectional information is better than no information in reaching the chronically poor.
- ii. Targeting on the basis of food share generally performs *worse* than an untargeted allocation, and, at low budgets, even performs worse than a distributionally neutral allocation. A closer inspection of the data revealed that the current expenditure elasticity of demand for food is approximately unity in these villages, and this appears to be the main reason for this indicator performing so badly.
- iii. While land is a better indicator than food-share, it is clearly dominated by the consumption and income-based indicators.
- iv. Current income generally dominates all other measures for all budgets in identifying the chronically income poor. At low budget levels it is also better at identifying those who are chronically poor in terms of their mean consumption.
- v. At the lower end of the budgets considered, current food expenditure per person is worse than any of the other consumption or income measures. But at the upper end it performs better than most.
- vi. Even for the relatively good cross-sectional indicators, step-wise targeting based solely on cross-sectional data is significantly more costly than perfect targeting in achieving any given impact on chronic poverty.
- vii. While there is some variation from year to year, there is no obvious pattern, such as between 'good' and 'bad' agricultural years. This does not bear out the finding of Lanjouw and Stern (1991) that current income in a good agricultural year is a better indicator of chronic poverty than in a bad year.
- viii. The poverty gap often is used as a measure of the cost of eliminating poverty. Clearly this assumes perfect targeting. The results indicate that the poverty gap substantially underestimates that cost, when targeting in practice is constrained to the use of cross-sectional data.

Targeting should be an essential part of all poverty alleviation programmes. Targeting can be considered in terms of (i) its costs, (ii) the behavioural responses to potential beneficiaries and losers as a result of targeting, and (iii) means or instruments of targeting. Targeting involves identification of the potential beneficiary and the administration of the

benefit. Both aspects involve costs. Invariably, a number of officials would be involved in the identification exercise as well as the delivery of the benefits.

### **6.3 Methods of Targeting**

A number of alternative methods of targeting can be identified, as discussed below:

#### **a. Individual Assessment Mechanism**

In this mechanism, each potential beneficiary has to be examined separately to assess whether he is a bonafide applicant on the basis of various criteria, to receive the benefit of the programme.

#### **b. Group and Geographic Targeting Mechanisms**

In this case, an eligible group is decided on the basis of special characteristics, e.g., school lunch programs that operate only in poor areas, programs that predominantly benefit chosen states, municipalities or neighbourhoods based on relevant characteristics. Sen (1995, p. 19) observes: “Inequalities in health and education have a direct relevance to policy that is not parasitic on their roles in generating income inequalities as such. This is a consideration of some general pertinence in devising broad strategies of targeting over distinct groups, such as regions, classes, or genders”.

Indicator-based targeting has been analysed by Akerlof (1978), Kanbur (1987), Ravallion (1987), and Besley and Kanbur (1988). Most of these studies assume away the labour supply effects. If target population is divided into two groups A and B, that group should be favoured which is less responsive in its labour supply behaviour. On the whole, labour supply responses introduce some new considerations into the design of poverty-alleviation programmes. It forces one to reconsider the standard objective function. If commodity-based subsidies reduce labour supply, the net effect of policy is weakened. Also, for any indicator that divides the population into mutually exclusive groups, if there is a positive correlation between labour supply elasticity and poverty incidence across the group, the usefulness of that indicator is weakened.

**c. Geographic Targeting**

The main attraction of geographic targeting is its simplicity. Regions can be assigned priority on the basis of existing aggregate data. The complicated administrative mechanisms or means test for selecting beneficiaries individually are not required in the case of geographic targeting. Many Latin American countries have attempted geographic targeting as a device to improve effects of poverty programmes. Examples include the Mexican Tortilla and Milk programs, the Venezuelan Day Care Centers Program, and the Honduran Food Stamp Program. All of these programs use geographic location in conjunction with other mechanisms to target direct transfer programs to the poor.

Ravallion (1992) and Datt and Ravallion (1993) have investigated the potential of geographic targeting for India and Indonesia through a model designed to minimize poverty. Results for both the countries indicate that the qualitative effect of reducing regional disparities in average living standards generally favours the poor. The overall maximum impact for India was equivalent to what could be achieved by a uniform, untargeted transfer of 1.5 percent of mean consumption. For Indonesia, the effect is higher—equivalent to 4 percent of mean income. They also showed that the gains to targeting were about 2 percent of mean consumption for Jamaica and 3-10 percent for Venezuela. In the case of Jamaica, it implied a saving of 43 percent of the programme budget, and for Venezuela 6-12 percent.

Based on simulation exercises, Baker and Grosh (1994) also examine geographic targeting. Their findings indicate that as compared to an actual generalised food subsidy programme, the accuracy of geographic targeting is much better. In the cases of Mexico, Venezuela and Jamaica, over half of the benefits went to those in the higher income groups under a state targeting scheme, and about half of the intended recipients were excluded from the programme. The simulations for Mexico show that geographic targeting accuracy can be improved as the size of unit used in decision making gets smaller. The outcome for the locality level targeting is distinctly better than that for the state level.

Simulations for Jamaica, comparing a general food price subsidy scheme with a food stamp program which uses a means test and a self-selection process, and geographic targeting show clearly that the targeted schemes perform better than the untargeted price subsidies. Between the two targeting mechanisms, the results are less conclusive. A simulation using a

combination of the two targeting mechanisms produces results which are somewhat better than for either mechanism used above.

There are in practice two major problems with geographic targeting relating to **incentive effects** and **political economy**. Giving benefits to one region rather than another might prompt migration between regions. If the poor move from the unserved to the served region, programme coverage and costs would increase. However, this may yet be justified because targeting accuracy would increase and the poor would be better served.

#### **d. Self-Targeting Mechanisms**

This involves relying on the individual decisions of a potential candidate to participate in the programme. The programme is decided in such a way as to discourage the non-poor from using it. Self-selection as a method of targeting has been recognised as one of the best. Sen (1995) has also observed that: "... Capability-oriented reasoning in dealing with targeting problems have some distinct merit with regard to incentive compatibility". These relate to

- i. the frequently lower manipulability of observed functionings (such as illness or illiteracy),
- ii. the fixing of pre-dispositional characteristics (such as disability or genetic proneness to illness),
- iii. the usefulness of self-selection (such as employment offers), and
- iv. the non-transferability of benefits tied to personal functionings such as personal medical care.

Lipton and Ravallion (1995) observe: "Disappointment with the prospects for poverty reduction using administratively and politically feasible forms of indicator targeting has rekindled interest in *self-targeting*". There are two main caveats about self-targeted schemes. First, they screen participants by imposing a cost on them. Good schemes ensure that the cost is higher for the non-poor than the poor. But, the cost may be significant for the poor also including the cost of forgone income. Lipton and Ravallion observe: "However, none of these mechanisms is perfect: the poor may be unable to afford the work loss in queuing; the rich may jump the queue, or send their servants to queue".

For income-based targeting (and for conventional parameter values), the optimal marginal withdrawal of benefits as income increases was estimated to be around 50 to 60 percent. This could serve as a benchmark for the evaluation of income-tested schemes. If the marginal withdrawal rates are far above, this may appear positive from a targeting perspective, but the incentive effects may overpower any targeting gains. Kanbur, *et. al.* (1994) have also considered modifications to rules of thumb in non-income-based targeting showing that for any indicator that divides the population into mutually exclusive groups for targeting purposes, a positive correlation between labour supply elasticity and poverty incidence across the groups reduces the usefulness of the indicator. Thus, relying only on poverty incidence can give a false sense of the value of an indicator for targeting purposes. Rao, Naidu, and Raju (1998) illustrate how using a set of household characteristics rather than an income-based identification (as in identifying the BPL population) can improve the efficacy of the targeted interventions.

#### 6.4 Targeting Errors

It is generally recognised that there are two types of errors in targeting expenditures for poverty alleviation: type I and type II. Type I error is an error of omission of the poor from the scheme, and type II error is the error of inclusion of non-poor in the scheme. Cornia and Stewart (1995) have referred to these errors as the F-mistake and the E-mistake. The F-mistake is the failure in the prime objective of intervention. The E-mistake is that of excess coverage. If the total population is  $N$ , and the target (poor) population is  $P$ , the two types of mistakes can be indicated as in Table 6.1.

**Table 6.1: Classification Matrix: E- and F-Mistakes**

<b>Population Covered</b>	<b>Poor</b>	<b>Non-Poor</b>	<b>Total Population</b>
All covered by programme	$P^c$	$NP^c$	$N^c$
All not covered by programme	$P^{nc}$	$NP^{nc}$	$N^{nc}$
	(F-mistakes)	(E-mistakes)	
	<b>P</b>	<b>NP</b>	<b>N</b>

Source: Cornia and Stewart (1995).

Cornia and Stewart argue that the two types of error should be viewed asymmetrically. In particular, the F-mistake should be viewed as far more serious than the E-mistake. Often, minimising the E-mistake can increase the F-error. On the other hand, there could be programmes, where in order to minimise the F-error, very large E-error might be committed. Such errors would inevitably lead to very high cost of programmes of poverty alleviation.

The F-errors are usually measured as a proportion of total population or as proportion of total poor population. The E-error is similarly measured. Thus:

$$\text{F-error} = P^{nc}/N \text{ or } P^{nc}/P$$

$$\text{E-error} = NP^c/N \text{ or } NP^c/NP$$

Table 6.2 provides some estimates of the extent and cost of targeting errors in selected countries. E' indicates percentage of subsidy going to the non-target population. E'' indicates percentage of the non-target group covered by the subsidy.

**Table 6.2: Summary of Targeting Mistakes in Selected Countries**

Country and Region	General Subsidies			Food Stamps and Rations		
	F	E'	E'' <sup>a</sup>	F	E'	E''
Jamaica	Very low	66 (top 60 percent)	100	50	43	—
Pakistan (Urban)	Very low	78 (top 60 percent)	100	50	52-80	21
Egypt	7	70 (top 75 percent)	100	—	—	—
Sri Lanka	Very low	15 (top 25 percent)	100	30	31 (top 60 percent)	34
Tunisia	Very low	62 (top 60 percent)	100	—	—	—
Mexico (urban)	Very low	75 (top 65 percent)	100	Tortilla: 73 Rural community stores: 6	40 (better off) 46 (non-poor)	—
Philippines (villages)	5	39 (top 30 percent)	100	—	—	—
Tamil Nadu (two villages)	Very low	9 (80 percent of recommended calories)	100	—	—	—
Tamil Nadu ("richer" village)	Preschool feeding: 17	37	77	School meals: 54	33	36

Source: Cornia and Stewart (1995).

Notes: — Not available

E' = percentage of the subsidy going to the non-target population (which broadly corresponds to the percentage program savings that could be realised if there were no such mistakes); and E'' = percentage of the non-target group covered by the subsidy.

a. E''-mistakes are assumed to be 100 percent and F-mistakes to be very low for the universal subsidies. In fact, some people from both rich and poor households are likely to be omitted for various reasons, so E'' may be less than 100 percent, and F may be positive but low. Precise data are not normally available.

However, it is quite useful to measure the E-mistake in terms of its financial costs. If the total cost of the programme is 'S' and if 'v' is the average money cost of the subsidy or benefit received by the non-target population, then  $vNP^c/S$  is the financial cost of the E-mistake. In the context of food subsidies the money cost of E-mistake (E) has been indicated by Cornia and Stewart for several case studies. Some of these estimates are summarised in Table 6.3.

**Table 6.3: Money Cost of E-Mistakes in Food Subsidies Programmes**

Country	Study		
I. India	Harris (1992)	Case: Two Villages in North Arcot	
		Richer Village	Poorer Village
	E'	32.0%	37.5%
II. Jamaica	Grosh (1992)	Households	
		General Subsidies	66 (top 60%)
	E'	Food Stamps	43 (top 60%)
III. Pakistan	Alderman		
	E'	in Ration Scheme	52% (urban)
	F'	in General Subsidy	78% (total)
	E'	Refers to percentage leakage to the top two-thirds of the population, assuming no diversion	
IV. Egypt	Alderman and Braun (1984, 1986)	Top three quarter	
		Urban	Rural
		55.7	75.0
		Total	69.5
V. Sri Lanka	Edirisinghe (1987)	Pre 1979 rice subsidies	
		Top 80%	82
		1981-82	Total stamps
	E'	Top 80%	64
VI. Tunisia	Yusuf (1989)	Top 90%	96%
		E'	Top 65%
		E'	Top half
		E'	65%
VII. Mexico	World Bank (1991)	Targeted Subsidies	
		Tortila	Better off
		Urban Milk Program	Non-poor
	E'		40%
	E'		40%
VIII. Philippines	Garcia and Pinstrip-Andersen (1987)		
		E'	(Persons with more than 80% of recommended calories)
			8.8%

Source: Based on Information in Cornia and Stewart (1995).

Some of the important conclusions derived by Cornia and Stewart from the studies that they reviewed may be listed as follows.

- i. Universal schemes tend to involve significant E-mistakes.

- ii. Universal unrestricted subsidies can sometimes provide much larger absolute benefits to richer than the poorer groups, since the richer groups can afford to consume more.
- iii. In a number of countries, targeted schemes have replaced universal schemes. In almost every case, the result has been a major increase in F-mistakes.
- iv. Administrative costs are estimated to be higher for the targeted food interventions; they range from 2 to 5 percent of the total costs of these schemes.
- v. The political support for general schemes that reach some of the non-poor appears to be higher than for the more narrowly targeted schemes.

**a. Efficacy of Targeting Mechanism**

The relative efficacy of alternative delivery mechanisms need to be worked out in terms of minimising an objective function. Some discussions are available in Besley and Kanbur (1987) and Chaudhari and Ravallion (1994). As discussed in Cornia and Stewart (1995), it is useful to measure the total mistake as the weighted sum of all individuals mistargeted.

One idea is to minimise the weighted sum of the F and E errors:

$$\begin{aligned}
 Z &= a(E) + b(F) \\
 &= a \frac{NP^c}{N} + b \frac{P^{nc}}{N} \\
 &= \frac{1}{N} (aNP^c + bP^{nc})
 \end{aligned}$$

In general  $b > a$ .

For each intervention, the value of the E-mistake ought to be weighted together with the immediate welfare cost and the discounted value of the failure to incorporate the target population in the welfare program. Three types of objectives may be set.

- i. Minimise the weighted sum of mistargeting ratios.
- ii. Minimise the E-mistake, given an acceptably low level of F-mistake.
- iii. Maximise the welfare impact for a given cost of the program by evaluating the gains for the coverage of the targeted population and losses of the mistakes.

Cornia and Stewart (1995) proposed the following objective function for minimisation of targeting error.

$$Z = vNP^c + (\alpha m + \beta c) \pi P^{nc} + W,$$

where

$vNP^c$  = monetary value of leakage (E')

$v$  = average monetary value of the subsidy received

$W$  = immediate welfare cost of F-mistake

The term  $\pi (\alpha m + \beta c)$  evaluates the weight to be attached to the F-mistake. In the context of food subsidies:

$\pi$  = yearly productivity of a low income manual worker.

$m$  = share of adult manual workers in  $P^{nc}$ .

$c$  = share of children below five years of age in  $P^{nc}$ .

$A$  = percentage average loss of productivity of malnourished manual workers not reached by the nutritional program.

$B$  = multiple of present value of future forgone income of malnourished children not reached by the nutritional program expressed in terms of current productivity of low income manual workers.

### **b. Deriving Optimal Targeting Costs**

High universality of the program increases the crowding out of the target population and increases the F-mistake. There is a trade off between administrative cost of targeting and monetary value of E-mistake. As administrative cost is increased, the F-mistake is minimised as well as the E-mistake.

$$F = a - C$$

$C$  = administrative cost

$$E = \frac{\beta}{C}$$

$$\frac{dF}{dC} = -1; \frac{dE}{dC} = -\frac{\beta}{C^2}, \text{ i. e., both fall as } C \text{ increases}$$

Total cost is given by:

$$Z = C + E'$$

$$Z = \alpha F + vE$$

$$Z = a\alpha - b\alpha C + \frac{v\beta}{C}$$

$$\frac{dZ}{dC} = -b\alpha - \frac{v\beta}{C^2} = 0$$

$$b\alpha + \frac{v\beta}{C^2} = 0$$

$$b\alpha C^2 + v\beta = 0$$

$$C^2 = -\frac{v\beta}{b\alpha}$$

$$\frac{d^2Z}{dc^2} = \frac{2v\beta}{C^3} > 0$$

This condition ensures a minimum. The welfare gain can be written as

$$Z = aP^c - vNP^c$$

$$P^c = \alpha + \beta C - C^2$$

$$Z = aP^c - v(N - P^c)$$

$$= aP^c - vN + vP^c$$

$$= (a + v) P^c - vN$$

$$Z = (a + v) (\alpha + \beta C) - vN - C^2$$

$$dz/dc = (a + v) (\beta - 2C) = 0$$

$$\beta - 2C = 0$$

$$C = \beta/2$$

$$P^c : \text{welfare gain } \alpha P^c$$

$$NP^c: \text{welfare loss } (= vNP^c)$$

$$Pn^c : \text{welfare loss } \beta P^{nc}$$

It may be noticed that C (targeting expenditure) is the policy instrument with respect to which the welfare gain is to be maximised. It may be postulated that  $P^c$  increases with C, and  $NP^c$  falls with C. Thus,

$$P^c = a + bC$$

$$NP^c = s/C$$

$$\begin{aligned} Z &= \alpha P^c + \beta(N - P^c) - vNP^c \\ &= \alpha P^c + \beta N - \beta P^c - vNP^c \\ &= \beta N + P^c(\alpha - \beta) - vNP^c \\ &= \beta N + (\alpha - \beta)(a + b.C) - \frac{vs}{C} \end{aligned}$$

$$\frac{dZ}{dC} = (\alpha - \beta)b + \frac{vs}{C^2} = 0, \text{ and, } C^2(\alpha - \beta)b = -vs$$

We may define  $v$  and  $C$  as proportions of total expenditure

$$C = \sqrt{vs/(\beta - \alpha)}$$

$$\text{let } \beta=1 \quad C = \frac{\sqrt{v}}{\sqrt{\beta - \alpha}}$$

$$\text{let } \beta=k^2\alpha, \quad C = \frac{\sqrt{v}}{k\sqrt{1 - \alpha}}$$

## 6.5 Costs of Targeting: Some Empirical Results

The main cost of targeting is the administrative cost component. Administrative costs need to be incurred both in the process of screening or identifying the poor, that is, the potential beneficiary, and the cost of delivering the benefit to them. Subsequently, there may be monitoring and follow-up costs, as for example, in recovering a subsidized loan. In estimating targeting costs, Grosh distinguishes between total administrative costs and targeting costs. Total administrative costs (TAC) are defined as covering all costs necessary to deliver the targeted benefit. Only a part of these are called “targeting” costs (TC) that are incurred during the screening process that determines as to who benefits.

Grosh (1995, p. 467) observes: “The incidence outcomes from a single mechanism as applied in different countries or programs are more diverse than the differences in outcomes among different mechanisms, on average. The range of outcomes for the individual assessment mechanisms is much wider than for the other mechanisms, on average”. In Grosh’s study, the range of outcomes for the individual assessment mechanisms is much

wider than for the other mechanisms, with 59 to 83 percent of benefits going to the poorest two quintiles. The median is 73 percent. For geographic targeting mechanisms, the range is from 62 to 79 percent of benefits going to the poorest two quintiles with the median at 72 percent. For self-targeting mechanisms, the range is from 69 to 77 percent of benefits accruing to the poorest two quintiles with the median being 71 percent.

Estimates indicate that total administrative costs (including the costs of screening potential beneficiaries and of delivering programme benefits to them) ranges from 0.4 to 29 percent of the total programme costs. In the case of individual assessment mechanisms, the range of total administrative cost is the largest, ranging from 0.4 to 29 percent of total programme cost. Estimates of the administrative costs for different mechanisms are summarised in Table 6.4.

**Table 6.4: Cost of Alternative Targeting Mechanisms**

	As % of Total Cost of Programme	
	<b>TAC</b>	<b>Median</b>
Individual Assessment	0.4 to 29	9
Geographic Targeting	4.0 to 16	7
Self Targeting	3 to 10	6

Administrative costs vary greatly by programme type. Screening costs have a small share in TAC. There is no apparent correlation between benefit incidence and shares of TAC. The reason for this somewhat surprising result is that screening costs of (imperfect) targeted programmes constitute only a small share of overall administrative costs. In the lights of these results Grosh (1995) draws three main conclusions:

- i. Targeted programmes have much larger progressive incidence than general food price subsidies. They even have somewhat more progressive incidence than scarce public health and educational services.
- ii. The administrative costs of programmes with moderate good incidence need not be excessively high.
- iii. It is not possible to rank targeting mechanism *a priori*. There are no broad correlations between the targeting mechanism and targeting outcomes, and there appears to be a weak correlation with administrative costs.

## 6.6 Issues in Targeting in India

In a recent study, Sundaram and Tendulkar (2003) have highlighted the social disadvantage for SC/ST population in rural areas in 1999-00. Clearly among all rural households SC and ST have a much higher incidence of poverty; between the two, STs have a much higher incidence of poverty. Classified according to means of livelihood, agricultural labour has the highest incidence of poverty. Some of the results are summarised in Tables 6.5 and 6.6.

In urban areas again SC/ST have a higher incidence of poverty. In this case SC households have a higher poverty incidence than ST. In terms of means of livelihood, casual labour has the highest incidence of poverty.

**Table 6.5: Head Count Ratio by Social Groups and By Means of Livelihood: 1993-94 and 1999-00**

		1993-94	1999-00
<b>I</b>	<b>Social Groups</b>		
	Scheduled Castes	45.7	38.4
	Scheduled Tribes	48.8	48.0
	Others	28.3	23.2
	All Households	34.2	28.9
<b>II.</b>	<b>Means of Livelihood</b>		
	Self-Employed in Agriculture	29.6	21.6
	Self-Employed in Non-Agriculture	32.6	24.1
	Agricultural Labour	57.5	44.6
	Other Labour	39.1	27.8
	Others	24.3	14.9

Source: Sundaram and Tendulkar (2003).

**Table 6.6: Head Count Ratio by Social Groups and By Means of Livelihood: Urban (1993-94 and 1999-00)**

		1993-94	1999-00
<b>I</b>	<b>Social Groups</b>		
	Scheduled Castes	42.9	37.8
	Scheduled Tribes	33.6	35.2
	Others	23.4	20.0
	All Households	26.4	23.1
<b>II.</b>	<b>Means of Livelihood</b>		
	Self-Employed	28.5	26.1
	Regular Wage/Salaried Workers	15.6	11.4
	Casual Labour	57.3	49.9
	Others	21.1	16.9

Source: Sundaram and Tendulkar (2003).

It is suggested here that a strategy of multi-stage targeting can improve the quality of targeting without much cost. Direct transmission of funds to the implementing level of administration.

## **6.7 Multi-Stage Targeting**

The present pattern of allocation and utilisation of Centrally Sponsored Schemes (CSS) is highly distorted because of the absence of any clear principles of distribution and because poorer states fail to utilise the schemes as they are unable to contribute their share.

### **a. First Stage: According to Share in the Number of Poor**

At present inter-state allocation is quite ad-hoc. The first stage targeting can be done without any administration costs.

### **b. Second Stage**

Within the state, allocation of funds should be done district-wise in proportion of total population of scheduled castes, scheduled tribes and agricultural landless labourers, and list of Antyodaya beneficiaries. Information on these is available from the Census and other relevant sources.

### **c. Third Stage**

Within the district, allocation of funds should be done to Gram Panchayats again in proportion of total population of SC/ST and (non-SC/ST) agricultural landless labourers. This information is also available from the Census.

### **d. Fourth Stage**

Gram Panchayats should decide through Gram Sabha:

- i. Given their entitlement, what schemes (central and centrally sponsored) they would like to administer;
- ii. Village level schemes will be administered by them; and
- iii. For schemes that have individual beneficiaries, the beneficiaries may be identified by the Gram Panchayat by looking at SC/ST/Antyodaya/agricultural landless labourers/single parent households. First priority

may be given to families at the inter-section of any two criteria, i.e., households that satisfy at least two criteria.

All schemes implementable at village level should be passed on directly to the Gram Panchayat. Schemes should be classified as implementable at state level, implementable at district/block level, and implementable at village level.

## 6.8 Poverty Maps as a Tool for Targeting

A poverty map is a geographic profile of poverty, indicating those regions of the country where incidence of poverty is high. This becomes a readymade guide to allocation of public spending. Consumption-based poverty maps with other indicators of well being including health and education conditions, could serve as effective tools for targeting.

Sometimes categorical regressions and Receiving Operating Characteristics (ROC) curves can be helpful in devising targeting strategies. Categorical regressions can be used for measuring the performance of alternative targeting indicators for different poverty reducing programmes. This can be complemented by ROC analysis. In Figure 1, P, P(-) and P(+) denote respectively the number of poor, the number of poor classified as non-poor, and the number of non-poor classified as poor by a given model. Correspondingly by NP, NP(-), and NP(+), we may denote the number of non-poor, the number of poor classified as non-poor, and the number of non-poor classified as poor.

Two parameters can now be defined: sensitivity and specificity. Sensitivity (SE) is given by:

$$SE = P(+)/[P(-) + P(+)]$$

Or  $SE = P(+)/P$

This indicates the fraction of poor households classified as poor by the model or strategy. Further, specificity (SP) is defined as:

$$SP = NP(-)/[NP(-) + NP(+)]$$

Or  $SP = NP(-)/NP$

This is the fraction of non-poor classified as non-poor. The probability of type I and type II errors can then be written as:

(1-SP) and (1-SE)

An ROC curve is a graph that plots SE as a function of (1-SP) for alternative values of the cut-off point used in a programme to classify poor and non-poor. The higher the ROC curves the better the predictive power of the model used for making the predictions. A 45 degree line has no predictive power, while a vertical line from the origin to the top of the box, joined by a horizontal line reaching the upper right corner has perfect predictive power.

An area of 0.5 corresponds to the 45 degree line whereas an area of 1 corresponds to perfect prediction. The more tilted the ROC line towards the upper-left corner of the box, the better the targeting based on its predictions. Targeting strategies based on ROC curves are discussed in Wodon (1997) and Estache and Others (2001).

A typical shape of the ROC curve is shown in Figure 6.1

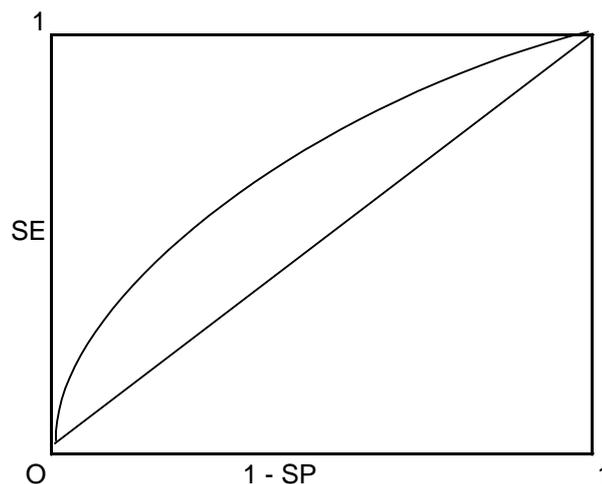


Figure 6.1: ROC Curve: An Example

## 6.9 BPL Surveys and Poverty Alleviation Programmes

Censuses of households below poverty line (BPL) are being launched in States and Union Territories since 1992 and have been used variously by the Government for poverty alleviation programmes. The Expert Group for the purpose of BPL Census 2002 has laid

down the methodology for the identification of households below poverty line supposedly improving upon the one adopted for the 1997 BPL Census. Sundaram (2003) observes that three of the four criticisms of the 1997 BPL Census are equally applicable for the 2002 BPL Census. First, there is the absence of provision for inclusion of persons who became poor after finalisation of the BPL list; second, the absence of poverty lines for all States and UTs, comes back via the upper limit given by Planning Commission's estimate of head count ratio; third, adoption of 'uniform criteria for all the rural areas throughout the country' is very much present through the newly prescribed centrally determined uniform list of thirteen indicators. The fourth criticism of exclusion of visibly non-poor does result in dropping of the exclusion criterion but at a cost of increasing the coverage of the census many fold. Since all the listed variables (adult literacy, educational facilities, sanitation, drinking water) are available down to the village level from 2001 Population Census, seeking to collect the same information within such a short interval is a gross waste of resources.

Many of the thirteen indicators have no clear link with deprivations in either the capability space or in regard to consumption of goods and services serving as proxies for such deprivations. Secondly, the procedure of simple aggregation of scores establishes in effect, cardinal equivalence across what are essentially ordinal rankings of alternative states of households in respect of individual indicators. In fact, in seeking to combine in a single measure several facets of deprivation, the notion of a hierarchy of basic needs is abandoned. There could be absurd situation of a score of zero for non-ownership of any consumer durable seen as an extreme deprivation at par with 'having less than one square meal per day for major part of the year'.

The ranking on the aggregate score of rural households is not called for programmes addressing deprivations that are universal in scope like illiteracy, lack of sanitation, safe drinking water. The ranking is not relevant for key employment programmes (JGSY and EAS) that are focused on locations of need and not at individual households. The ranking does matter for programmes like Antyodaya and Annapoorna but while the ranking should have been done with respect to food security, the aggregate of 13 scores offers virtually no information on this aspect and hence is not relevant. The major anti-poverty programme, SGSY focused on alleviation of income-poverty cannot be monitored or evaluated because of the non-inclusion of per capita expenditure of households as one of the indicators. The procedure recommended could lead to a non-transparent and inequitable process of

beneficiary selection in a situation where households with identical aggregate scores are dissimilarly placed on any given indicator.

The Expert Group permits the use of varying cut-off scores for separating the poor from the non-poor subject to the proviso that the resultant number of poor persons in a State/UT does not exceed the corresponding estimate of the Planning Commission by more than 10 percent. Apart from the difficulty in operationalising this recommendation, explicit linking of the choice of the cut-off score to a pre-set estimate of poverty by reference to the official poverty line in terms of monthly private consumption expenditure nullifies the chance of providing an alternative measure of poverty that goes beyond income-poverty.

### **6.10 Summary**

In India, a large part of fiscal intervention even though often justified on the grounds of helping the poor, are very general and untargeted. Consequently, a significant proportion of these benefits accrue to the non-poor. The impact of well-targeted interventions in reducing poverty could considerably increase the poverty reducing impact of fiscal policies. While considering targeting strategies broad, group-wise and area-wise targeting may be better and would involve less administrative costs than very finely targeted interventions. In developing targeting strategies, incentive effects, and asymmetry of errors should be recognised. A greater weight should be attached to minimising errors of exclusion of the poor rather than errors of inclusion of the non-poor.

## **Chapter 7: REFORMING FISCAL INTERVENTION FOR POVERTY REDUCTION**

While the incidence of poverty has gone down almost by one percentage point on average since 1973-74, we have noted that poverty has become more spatially concentrated and more urbanised. Broad-based fiscal policies and generalised subsidies constitute inefficient fiscal interventions for poverty alleviation in the present context. The poverty reducing impact of fiscal policies can be increased by supporting pro-poor growth, by investment in human development, by supporting expansion of urban infrastructure for absorbing the flow of poor from the rural areas, and by improving targeting of poverty alleviating programmes. Improvement in rural infrastructure and growth in agriculture and non-farm employment at the village level also should be given adequate stress to arrest the growth of migration of rural population to urban areas, which in turn may reduce urban poverty to a significant extent. The main instruments of fiscal policy for enhancing their impact on the poor may be listed as:

**a. Restructuring Government Expenditure**

Restructuring that favours infrastructure investment would augment growth, which will have a pro-poor impact provided initial asset inequalities can be attended to.

**b. Emphasising Human Development**

This can have a long-term and lasting impact on poverty alleviation provided the incidence profile of government expenditure on health and education can be made pro-poor.

**c. Improved Targeting of Subsidy and Income Support Programmes**

These can have immediate beneficial impact in reducing poverty provided leakages and wastages are minimised. Considerable changes are needed to recast general subsidy programmes to broadly targeted programmes.

**d. Constructing Social Safety Net**

This should become part of explicit provision in all state budgets to protect the poor against extreme price volatility and other unforeseen circumstances.

**e. Coordination Among Government Tiers**

There is considerable overlap in interventions by central, state and local governments. Better coordination in design and implementation would increase the impact of pro-poor policies.

Overall, the failure of fiscal intervention to reach the poor could be considered under the following broad headings: (i) design failures, (ii) focus failures, (iii) coordination failures, (iv) implementation failures, and (v) access failures. In this respect, all three-tiers of government will have to coordinate their pro-poor budgetary interventions. But specific

attention has to be paid by states that have a high incidence of rural/urban poverty. This is all the more important, in the context of spatial concentration of poverty in India in recent years.

Some of the important issues that call for attention in the context of poverty reduction and policy in India are indicated below.

- i. Has the rate of decline in the incidence of poverty accelerated in India during the reform era in the nineties?
- ii. What accounts for the considerable inter-state variation in performance regarding poverty reduction? To what extent, state-specific policies account for it?
- iii. What role can fiscal instruments play in poverty reduction as indicated by the inter-state differentials in the poverty reduction performance? Does the role of fiscal policy widen when poverty is measured more broadly, considering health, and education apart from nutritional disadvantage, and when we distinguish between chronic and transient poverty, especially temporary increases in the extent and depth of poverty when natural calamities like drought, floods, etc., occur.
- iv. In particular, how (i) growth, (ii) share of agriculture, (iii) expenditures on health, education and other social services, and (iv) poverty alleviation programmes have affected differentially the poverty reduction performance of states?
- v. How does one increase the efficacy of budgetary intervention by improved targeting, design of programmes, and cost effectiveness?
- vi. What are the options for better targeting of subsidies for poverty reduction on a case by case basis?

## **7.1 Poverty Monitoring System**

An effective system of monitoring poverty can serve as a powerful tool for combating poverty. It can help in monitoring the efficacy of policies, and point to lacunae either in their design or implementation.

A Poverty Monitoring System (PMS) would consist of the following parts:

1. Goals
2. Indicator: Intermediate and Fiscal
3. Targets: Overall and Sector-Wise
4. Evaluation of Effectiveness
5. Feedback and Modification in Poverty Schemes and Strategy

Examples of goals are: eradicating extreme poverty and hunger, achieving universal primary education, promoting gender equality and empowerment of women, reducing child mortality, improving maternal health, etc.

Usually, actual expenditure on relevant heads, or number of schools per thousand populations, number of doctors per thousand inhabitants, pupil teacher ratio, etc. may be considered as intermediate indicators. Final indicators may be listed as literacy rate, poverty gap ratio, IMR and MMR, etc.

## **7.2 Growth Augmenting Fiscal Policy Reform**

Economic growth can be supported by the size as well as structure of expenditure. There has been in recent years an erosion in the volume of primary expenditure (non-interest, non-pension expenditure) relative to GDP/GSDP. The increase in the size of government expenditure increases its *capacity* to intervene. Secondly, government expenditure needs to be restructured away from supporting a variety of inefficient public sector enterprises or untargeted subsidy regimes. Instead, the emphasis has to be on infrastructure that could support growth. In order to improve the capacity (size) of government for pro-poor intervention, the quality and structure of budget should improve. First, governments would be required to reduce their fiscal deficits to sustainable levels; secondly, the quality of fiscal deficit will need to improve so that little of it is used for current consumption (revenue expenditure) except health and education, which can be considered as contributions to human capital formation and adequate provision needs to be made for capital investment in infrastructure with special emphasis on road connectivity.

Among the growth augmenting fiscal policy reforms, the following may be listed.

- i. more investment in infrastructure, especially power, roads, and transport,
- ii. stepping up of investment in low growth, high poverty states, especially attending to infrastructure in poorer states,
- iii. development of an integrated all India market ensuring unfettered movement of goods across the states,
- iv. increased mobility of rural poor to non-farm sector and urban sectors, and
- v. restoring revenue account balance and making fiscal deficit and debt sustainable.

The central government should directly invest in infrastructure in states with high incidence of poverty. State governments will need to focus on education and health, and target the poor. Chelliah and Sudarshan (1999) divide states into three groups in respect of fiscal reforms aimed at poverty reduction by classifying their growth performance and position on the HDI.

### **7.3 Human Development: Restructuring Government Expenditures**

Analysts have also called for restructuring of expenditure towards health and education and within the health and education budgets – more attention towards preventive health care and primary education. Both will have a pro-poor impact. Greater attention needs to be paid to the quality of primary education provided by government-run or government supported schools, so those children from these schools can continue up the education ladder.

### **7.4 Reforming Subsidy Regimes**

The positive ripples created by fiscal intervention become considerably weak by the time they reach the poor. First, the core of fiscal intervention consisting of a large subsidy regime is by design non-pro-poor. Most subsidies enter the system as price subsidies, the benefit of which goes to those who consume the subsidised product. The benefit is in accordance with the purchasing power, and the rich are able to exploit these for more than the poor. Examples are subsidies of higher education, power subsidies appropriated by richer households, and fertiliser subsidies appropriated by richer farmers. Government expenditure that subsidises inefficiencies of the public sector is appropriated by the middle-to-high income employees of the government and public sector. These are the consequences of running a large, untargeted and a non-transparent subsidy regime. A small portion of government expenditures is targeted towards intended beneficiaries. A second round of leakage occurs because of mistargeting and misadministration of the subsidies. A third round of exclusion occurs where even though a relevant scheme exists (for example, widow's pension), the potential beneficiary cannot access the benefit, because she needs to incur private costs to access the benefit, which may be considerably high in relation to her income. The private costs relate to filling up the forms and paying convenience money to the chain of intermediaries and administrators before the benefit can be accessed. Access failures occur

because of (i) non-access to relevant information, (ii) legitimate but prohibitive private costs, and (iii) corruption – induced private costs.

Subsidy reforms are essential to improve their impact on poverty reduction while reducing their budgetary costs. Generalised subsidies have to be reduced to a minimum, and targeted subsidies have to be emphasised. Particular attention has to be given to targeting health and education subsidies. In particular, while universal elementary education would ensure coverage of all poor children, one has to facilitate their movement into higher classes by improving access to higher education subsidies targeted towards the children from poor families. Emphasis on quality of education in villages and small towns is also important to ensure upward movement of poor children in the education scale.

Among subsidy related reforms Chelliah and Sudarshan (1999) list:

- i. Reduction in subsidies in respect of consumption of power by the agriculture and domestic sectors along with restructuring of the state electricity boards to make them autonomous and more efficient;
- ii. Closing down or sale of loss making public enterprises; and lastly
- iii. Higher outlays on primary and secondary education, health and family planning and significant improvement in the standards of the services.

## **7.5 Central Fiscal Intervention: Central and Centrally Sponsored Schemes**

The central government plays a significant role in poverty alleviation in a number of ways. In particular, a number of central sector and centrally sponsored schemes play a significant role in combating poverty directly or indirectly. The central schemes are funded fully by the Central Government whereas the Centrally Sponsored Schemes (CSS) are funded partially by the Central Government and partially by the States. The pattern of sharing the costs varies from scheme to scheme and the share of the states ranges from 20 – 50 percent depending upon the scheme. The Central Schemes are financed by the Central Government but implemented by the State Governments on the basis of technical guidance and administrative clearance of the central government. The initial objective of CSS was that they should relate to administering pilot projects and research. It was stipulated that (i) that these should be regional or inter-state in character (ii) that these should contain some provision of finance and (iv) that there should have an overall significance from the point of view of the country.

Since these schemes draw significant budgetary resources, it is useful to consider whether their poverty reducing impact can be enhanced through suitable reforms. The states have often expressed dis-satisfaction with the way the centrally sponsored schemes have been designed and are being implemented. Their objections basically are on the following grounds:

- i. there is no consultation with the states before formulating a scheme to be implemented by them.
- ii. the amount allocated for a specific state is often arbitrary and there are no transparent methods by which allocation of finances among states for the different schemes is being done.
- iii. Central Ministries tend to examine even the minute details thereby affecting the autonomy of the states.
- iv. due to the requirement for the matching contribution , states often are unable to contribute their share and therefore loose the whole amount.
- v. the CSS has provided an avenue where by the Central Ministries intervene in the affairs of the states.
- vi. the design of the scheme is often faulty because the same design is meant to apply to all states regardless of the differences in their local situation or the local requirements.

## **7.6 Designing Targeted Interventions**

So far, very few targeted interventions have been designed by the central and the state governments in India. The limited list includes the targeted PDS that has been tried out in recent years. This programme had involved identifying population which is ‘extremely poor’ for ‘Antyodaya’ programmes and people below poverty line (BPL). In different states, they have been issued ration cards of different colours. Targeting strategies should aim to minimise administrative costs as well as targeting costs. Targeting should be attempted in several stages. In the first tier, states are identified where large numbers of rural and urban poor are located. Policies especially designed for high poverty incidence states can have a much larger impact on reducing poverty for the same cost than a general all state scheme. In the second stage, district within the states are to be identified where there is high incidence of poverty and appropriate schemes should be formulated and administered on those high poverty incidence districts with active involvement of local bodies.

## 7.7 Reform of CS/Centrally Sponsored Schemes and State Schemes

- i. The requirement of contribution by the states should be abolished. Centre should fully finance schemes that it wants to sponsor. Instead of providing shares in individual CS/CS schemes, states can fully finance their own schemes.
- ii. Central Ministries/Departments can lay down all other relevant conditions including provision for monitoring.
- iii. The total amount of expenditures centre wants to allocate on all such schemes should be determined. From this, the share of states should be appropriately determined. States should be provided this as an entitlement with the option that they select any combination of CS schemes according to their requirements.
- iv. States, in turn, should determine using appropriate criteria, allocation of its share as entitlements to districts which, in turn, should determine the entitlements of the Gram Panchayats. At each stage, there should be a choice for selecting any combination of CS schemes, subject to the limit of the entitlements.
- v. Actual money should be transferred directly from the centre to the implementing Panchayats by passing all intermediate steps to minimise transmission losses.
- vi. Gram Panchayats should be free to choose any scheme they want to administer with full conditionalities subject to the ceiling of their entitlement.

This would ensure that schemes would compete with each other. Those that fail to generate sufficient demand will be eliminated in subsequent rounds. Ministries would also compete to design better and more relevant schemes.

The problem of excessive number of schemes would therefore be automatically solved.

Rationalisation of centrally sponsored schemes should be given priority in supporting pro-poor fiscal policy reforms. There are numerous welfare schemes being run under central sector or centrally sponsored schemes. The entire fabric of intervention can be changed by reducing the multifarious schemes into just a few groups.

- i. asset – creating schemes: like facilitating construction of a developing unit;
- ii. livelihood support schemes: this group includes schemes that support livelihoods to supplement incomes being earned from the primary occupation.
- iii. direct income support schemes: like pensions and social security payments for specified population groups; and
- iv. human development schemes: these schemes should be geared towards education and health needs, particularly of the children from the poor households.

## **7.8 Role of the Three-Tiers**

This section considers the role of the three-tiers of government in implementing poverty combating schemes.

### **a. Central Government**

The basic task of the central government is to identify nationwide priorities in areas like health, education, infrastructure. The central ministries can formulate schemes that they wish to sponsor in the areas of priority along with the necessary conditionalities and provision for monitoring. A catalogue of all current schemes should be prepared and published to all implementing levels of government.

The centre also needs to determine the total amount to be spent on these schemes. The centre should also determine the entitlement of each state using appropriate criteria using existing poverty estimates. Different central ministries can float their schemes. Ministry-wise allocation of funds can be done depending on the demand for their schemes.

### **b. State Government**

The role of the state governments may be delineated as consisting of the following:

- i. State governments should ensure matching contributions for all selected CSS, if required.
- ii. State governments should design their own schemes for poverty alleviation in addition to the CSS. Keeping in mind the state-specific needs and profile of poverty.
- iii. State governments should develop a district-wise targeting strategy. Assistance should be directed to districts with high incidence of poverty using district-wise data from the census, the BPL survey as well as states' own district-wise data bases.
- iv. State governments should determine a minimum percentage of their budgets for the poverty alleviation programmes.
- v. State governments should provide a platform for coordinating activities of various CS schemes, work of NGOs, externally aided programmes.
- vi. State governments should restructure their budgets so as emphasise expenditure in health, education, water supply and sanitation, and other infrastructure, social and economic.

## **7.9 Role of the Local Governments**

The district and village level bodies, urban as well as rural, provide the third step in the targeting strategy. It is their task to identify household that are below poverty line and make sure that the benefits of various schemes are distributed properly. Specific suggestions are listed below:

- i. The concept of 'Mini-Secretariat' should be encouraged for the PRIs to coordinate activities of various departments. All agencies like DRDA etc. that are tasked with the various development programmes and the PRIs, should have household-wise information indicating occupation, size of family, education and health status and income and expenditure profiles of the households, village-wise and target assistance to households according to the incidence of poverty.
- ii. For schemes where employment on daily basis is provided, a 'card' for each adult member of the household should be prepared indicating the record in terms of number of days for which employment on approved rates has been provided. Some distinction should be made between households with single adult worker and those with more than one adult worker.
- iii. PRIs should keep records of educational and health status of households. Families, where children are not maintaining regular attendance should be discouraged in terms of their eligibility for other benefits. PRIs should also ensure regular attendance of teachers.
- iv. PRIs should keep record of all working 'self-help' groups and take responsibility for encouraging these activities and help facilitate interaction with banks as well as nodal officers at block and district levels.

## **7.10 Sustaining Poverty Reduction Policies**

Sustainability has two aspects: financial sustainability and absorptive sustainability. It is difficult to sustain poverty reduction policies when governments are in fiscal stress. A well-managed fiscal system is a key to financial sustainability of Poverty Reduction Policies. While in many countries external debt has caused fiscal stress, fortunately this has not been much of a problem in India. In India, fiscal stress has mostly been caused by interest payments due on internal debt. Absorptive sustainability refers to the implementability of a planned expenditure when finances are available. This encompasses aspects like the system of labour contracts, staff strength of implementing departments, the organisational structure of implementing departments, etc.

Increasing the effectiveness of public spending is key to improving the sustainability of poverty reducing policies and improving their impact. Improvement in public expenditure efficiency is a slow process. Activity rationalisation, staff rationalisation, information flow rationalisation, are important components of this exercise. Modern information technologies have come as a boon for this endeavour. Participation of potential beneficiaries and the local level governments in designing poverty reducing policies and selecting beneficiaries leads to improvement in poverty reducing policies effectiveness.

## **7.11 Summary**

This paper has looked into the conceptual basis of the need for attending to poverty reduction as a specific policy objective. It has reviewed the available literature outlining the impact of fiscal policies on poverty reduction, indirectly by supporting growth, and directly by reforming the structure of public expenditure, and designing and implementing subsidy and income, support programmes. The considerations and issues that have been highlighted provide the background for the state specific studies as well as in the formulation of the questionnaires for the primary survey.

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**Table A1: Number and Percentage of Population Below Poverty Line by States: 1973-74 (Modified Expert Group)**

States/UTs	Rural		Urban		Combined	
	Number of Persons (Lakhs)	Percentage of Persons	Number of Persons (Lakhs)	Percentage of Persons	Number of Persons (Lakhs)	Percentage of Persons
1. Andhra Pradesh	178.21	48.41	47.48	50.61	225.69	48.86
2. Arunachal Pradesh	2.57	52.67	0.09	36.92	2.66	51.33
3. Assam	76.37	52.67	5.46	36.92	81.83	51.21
4. Bihar	336.52	62.99	34.05	52.96	370.57	81.91
5. Goa	3.16	46.85	1	37.69	4.16	44.26
6. Gujarat	94.61	46.35	43.81	52.57	138.42	48.15
7. Haryana	30.08	34.23	8.24	40.18	38.32	35.36
8. Himachal Pradesh	9.38	27.42	0.35	13.17	9.73	26.39
9. Jammu & Kashmir	18.41	45.51	2.07	21.32	20.48	40.83
10. Karnataka	128.4	55.14	42.27	52.53	170.67	54.47
11. Kerala	111.36	59.19	24.16	52.74	135.52	59.79
12. Madhya Pradesh	231.21	52.66	45.02	57.65	276.23	61.79
13. Maharashtra	210.54	57.71	76.58	43.37	287.12	53.24
14. Manipur	5.11	52.67	0.75	36.92	5.86	49.96
15. Meghalaya	4.88	52.67	0.64	36.92	5.52	50.2
16. Mizoram	1.62	52.67	0.2	36.92	1.82	50.32
17. Nagaland	2.65	52.67	0.25	36.92	2.9	50.31
18. Orissa	142.24	67.28	12.23	55.62	154.47	66.18
19. Punjab	30.47	28.21	10.02	27.96	40.49	28.15
20. Rajasthan	101.41	44.76	27.1	52.13	128.51	46.14
21. Sikkim	1.02	52.67	0.1	36.92	1.12	50.66
22. Tamil Nadu	172.6	57.43	66.92	49.4	239.52	54.94
23. Tripura	7.88	52.67	0.66	36.92	8.54	51
24. Uttar Pradesh	449.99	56.53	85.74	60.02	535.73	57.07
25. West Bengal	257.96	73.16	41.34	34.67	299.3	63.43
26. Andaman & Nicobar Islands	0.59	57.43	0.15	49.4	0.74	55.56
27. Chandigarh	0.07	27.96	0.77	27.96	0.84	27.96
28. Dadra & Nagar Haveli	0.37	46.85	0.01	37.59	0.38	46.55
29. Delhi	1.06	24.44	21.78	52.23	22.84	49.61
30. Lakshadweep	0.18	59.19	0.03	62.74	0.21	59.88
31. Pondicherry	1.61	57.43	1.13	49.4	2.74	53.82
<b>All India</b>	<b>2612.9</b>	<b>56.44</b>	<b>600.46</b>	<b>49.01</b>	<b>3213.36</b>	<b>54.88</b>

Source (Basic Data): Government of India, Press Information Bureau, Poverty Estimates, Press Releases, Dated March 11, 1997 and February 22, 2001.

Notes: 1. Poverty Ratio of Assam is used for Sikkim, Arunachal Pradesh, Meghalaya, Mizoram, Manipur, Nagaland and Tripura.

2. Poverty Ratio of Tamil Nadu is used for Pondicherry and Andaman & Nicobar Islands.

3. Poverty Ratio of Kerala is used for Lakshadweep.

4. Poverty Ratio of Goa is used for Dadra & Nagar Haveli.

5. Urban Poverty Ratio of Punjab is used for both rural and urban poverty of Chandigarh.

6. Poverty Line of Maharashtra and expenditure distribution of Goa is used to estimate poverty ratio of Goa.

**Table A2: Number and Percentage of Population Below Poverty Line by States: 1977-78 (Modified Expert Group)**

States/UTs	Rural		Urban		Combined	
	Number of Persons (Lakhs)	Percentage of Persons	Number of Persons (Lakhs)	Percentage of Persons	Number of Persons (Lakhs)	Percentage of Persons
1. Andhra Pradesh	149.13	38.11	48.41	43.55	197.54	33.31
2. Arunachal Pradesh	3.26	33.82	0.1	32.71	3.36	32.32
3. Assam	97.55	53.82	5.83	32.71	103.38	57.15
4. Bihar	364.48	63.25	37.34	48.78	401.82	51.55
5. Goa	2.72	37.64	1.16	36.31	3.88	37.23
6. Gujarat	92.53	41.76	38.35	40.02	130.88	41.23
7. Haryana	26.43	27.73	9.05	36.57	35.48	29.55
8. Himachal Pradesh	12.48	33.49	0.56	19.44	13.04	32.45
9. Jammu & Kashmir	19.04	42.36	2.68	23.71	21.72	33.27
10. Karnataka	120.32	48.18	47.75	50.36	168.07	48.78
11. Kerala	102.85	51.46	24.37	55.62	127.22	52.22
12. Madhya Pradesh	247.98	62.52	54.39	58.56	302.37	61.78
13. Maharashtra	249.75	63.97	80.16	40.03	329.91	55.82
14. Manipur	6.09	59.82	0.97	32.71	7.06	53.72
15. Meghalaya	6.1	59.82	0.69	32.71	6.79	55.19
16. Mizoram	2.03	59.82	0.28	32.71	2.31	54.38
17. Nagaland	3.44	59.82	0.3	32.71	3.74	56.04
18. Orissa	162.5	72.38	13.82	50.32	176.32	70.07
19. Punjab	18.87	16.37	11.36	27.32	30.23	19.27
20. Rajasthan	88.66	35.32	27.22	42.53	115.88	37.42
21. Sikkim	1.41	53.82	0.13	32.71	1.54	55.89
22. Tamil Nadu	182.5	57.88	72.97	46.69	255.47	54.79
23. Tripura	9.95	59.82	0.56	32.71	10.51	56.66
24. Uttar Pradesh	407.41	47.6	96.96	56.23	504.37	49.05
25. West Bengal	259.69	68.34	50.88	38.2	310.57	60.52
26. Andaman & Nicobar Islands	0.71	57.68	0.2	43.62	0.91	35.42
27. Chandigarh	0.08	27.32	0.95	27.32	1.03	27.32
28. Dadra & Nagar Haveli	0.33	37.54	0.16	36.31	0.49	37.2
29. Delhi	1.35	30.12	16.81	33.51	18.16	33.23
30. Lakshadweep	0.13	51.43	0.07	55.62	0.2	52.79
31. Pondicherry	1.65	57.88	1.35	48.89	3	53.25
<b>All India</b>	<b>2642.47</b>	<b>53.07</b>	<b>646.48</b>	<b>45.24</b>	<b>3288.95</b>	<b>51.32</b>

Source: As in Table A1.

Notes: As in Table A1.

**Table A3: Number and Percentage of Population Below Poverty Line by States: 1983 (Modified Expert Group)**

States/UTs	Rural		Urban		Combined	
	Number of Persons (Lakhs)	Percentage of Persons	Number of Persons (Lakhs)	Percentage of Persons	Number of Persons (Lakhs)	Percentage of Persons
1. Andhra Pradesh	114.34	26.53	50.24	36.3	164.58	26.91
2. Arunachal Pradesh	2.7	42.6	0.12	21.73	2.82	40.88
3. Assam	73.43	42.6	4.26	21.73	77.69	40.47
4. Bihar	417.7	64.37	44.35	47.33	462.05	62.22
5. Goa	1.16	14.81	1.07	27	2.23	18.9
6. Gujarat	72.88	29.8	45.04	33.14	117.92	32.79
7. Haryana	22.03	20.56	7.57	24.15	29.6	21.37
8. Himachal Pradesh	7.07	17	0.34	9.43	7.41	16.4
9. Jammu & Kashmir	13.11	26.04	2.49	17.76	15.6	24.24
10. Karnataka	100.5	36.33	49.31	42.82	149.81	36.24
11. Kerala	81.62	39.03	25.15	45.65	106.77	40.42
12. Madhya Pradesh	215.48	46.9	62.49	53.06	277.97	49.73
13. Maharashtra	193.75	45.23	97.14	40.26	290.89	43.44
14. Manipur	4.76	42.6	0.89	21.73	5.65	37.02
15. Meghalaya	5.04	42.8	0.57	21.73	5.61	36.81
16. Mizoram	1.58	42.6	0.37	21.73	1.95	36
17. Nagaland	3.19	42.6	0.31	21.73	3.5	33.25
18. Orissa	164.65	67.53	16.66	49.15	181.31	65.29
19. Punjab	16.79	13.2	11.85	23.79	28.64	16.16
20. Rajasthan	96.77	33.5	30.06	37.94	126.83	34.46
21. Sikkim	1.24	42.6	0.1	21.73	1.34	39.71
22. Tamil Nadu	181.61	53.99	78.46	46.96	260.07	51.66
23. Tripura	8.35	42.6	0.6	21.73	8.95	40.03
24. Uttar Pradesh	448.03	46.45	108.71	49.82	556.74	47.07
25. West Bengal	268.6	63.05	50.09	32.32	318.69	54.85
26. Andaman & Nicobar Islands	0.84	53.99	0.26	46.26	1.1	52.13
27. Chandigarh	0.09	23.79	1.1	23.79	1.19	23.79
28. Dadra & Nagar Haveli	0.16	14.81	0.02	27	0.18	15.67
29. Delhi	0.44	7.66	17.95	27.89	18.39	26.22
30. Lakshadweep	0.09	39.03	0.1	45.66	0.19	42.36
31. Pondicherry	1.56	53.99	1.72	43.96	3.28	50.06
<b>All India</b>	<b>2519.56</b>	<b>45.65</b>	<b>709.4</b>	<b>40.79</b>	<b>3228.97</b>	<b>44.48</b>

Source: As in Table A1.

Notes: As in Table A1.

**Table A4: Number and Percentage of Population Below Poverty Line by States: 1987-88 (Modified Expert Group)**

States/UTs	Rural		Urban		Combined	
	Number of Persons (Lakhs)	Percentage of Persons	Number of Persons (Lakhs)	Percentage of Persons	Number of Persons (Lakhs)	Percentage of Persons
1. Andhra Pradesh	96.38	20.92	64.05	40.11	160.43	25.86
2. Arunachal Pradesh	2.75	39.35	0.08	9.94	2.83	36.22
3. Assam	73.53	32.36	2.22	9.94	75.75	36.21
4. Bihar	370.23	52.63	50.7	48.73	420.93	52.13
5. Goa	1.31	17.64	1.65	35.49	2.96	24.52
6. Gujarat	74.13	28.67	48.22	37.26	122.35	31.54
7. Haryana	18.86	16.22	6.51	17.93	25.37	16.64
8. Himachal Pradesh	7.27	18.28	0.25	6.23	7.52	15.45
9. Jammu & Kashmir	14.11	25.7	2.25	17.47	16.36	23.32
10. Karnataka	96.81	32.82	61.8	48.42	158.61	37.53
11. Kerala	61.64	29.1	26.84	40.33	88.48	31.79
12. Madhya Pradesh	200.02	41.92	64.29	47.09	264.31	42.07
13. Maharashtra	186.83	40.73	109.38	39.78	296.21	40.41
14. Manipur	4.83	32.35	0.46	9.94	5.29	31.35
15. Meghalaya	5.18	39.35	0.3	9.94	5.48	33.92
16. Mizoram	1.46	39.35	0.25	9.94	1.71	27.52
17. Nagaland	3.49	39.35	0.18	9.94	3.67	34.43
18. Orissa	149.96	57.64	15.95	41.63	165.91	35.38
19. Punjab	17.09	12.8	8.08	14.57	25.17	13.2
20. Rajasthan	104.97	33.21	37.93	41.92	142.9	35.15
21. Sikkim	1.31	33.35	0.04	9.94	1.35	36.06
22. Tamil Nadu	161.8	45.8	69.27	38.64	231.07	43.39
23. Tripura	8.49	32.35	0.35	9.34	8.84	35.23
24. Uttar Pradesh	429.74	41.1	106.79	42.96	536.53	41.46
25. West Bengal	223.37	48.3	60.24	35.08	283.61	44.72
26. Delhi	0.1	1.29	10.15	13.56	10.25	12.41
27. Andaman & Nicobar Islands	0.83	45.8	0.26	38.64	1.09	43.89
28. Chandigarh	0.08	14.67	0.76	14.67	0.84	14.67
29. Dadra & Nagar Haveli	0.79	67.11	--	--	0.79	67.11
30. Lakshadweep	0.07	29.1	0.1	43.33	0.17	34.95
31. Pondicherry	1.33	45.5	1.72	38.64	3.05	41.46
<b>All India</b>	<b>2318.79</b>	<b>39.02</b>	<b>751.89</b>	<b>38.2</b>	<b>3070.49</b>	<b>35.35</b>

Source: As in Table A1.

Notes: 1. Poverty Ratio of Assam is used for Sikkim, Arunachal Pradesh, Meghalaya, Mizoram, Manipur, Nagaland and Tripura.

2. Poverty Ratio of Tamil Nadu is used for Pondicherry and Andaman & Nicobar Islands.

3. Poverty Ratio of Kerala is used for Lakshadweep.

4. Urban Poverty Ratio of Punjab is used for both rural and urban poverty of Chandigarh.

5. Poverty Line of Maharashtra and expenditure distribution of Goa is used to estimate poverty ratio of Goa.

6. Poverty Line of Maharashtra and expenditure distribution of Dadra & Nagar Haveli is used to estimate poverty ratio of Dadra & Nagar Haveli.

**Table A5: Number and Percentage of Population Below Poverty Line by States: 1993-94 (Modified Expert Group)**

States/UTs	Rural		Urban		Combined	
	Number of Persons (Lakhs)	Percentage of Persons	Number of Persons (Lakhs)	Percentage of Persons	Number of Persons (Lakhs)	Percentage of Persons
1. Andhra Pradesh	79.49	15.92	74.47	32.33	153.96	22.19
2. Arunachal Pradesh	3.62	45.01	0.11	7.73	3.73	39.35
3. Assam	94.33	45.01	2.03	7.73	96.36	40.86
4. Bihar	450.86	56.21	42.49	34.5	493.35	54.96
5. Goa	0.38	5.34	1.53	27.03	1.91	14.92
6. Gujarat	62.16	22.18	43.02	27.69	105.18	24.21
7. Haryana	36.56	26.02	7.31	16.38	43.87	25.05
8. Himachal Pradesh	15.4	30.34	0.46	9.18	15.86	28.44
9. Jammu & Kashmir	19.05	30.34	1.86	9.16	20.91	25.17
10. Karnataka	95.99	29.58	60.48	40.14	156.47	33.16
11. Kerala	55.95	25.76	20.46	24.55	76.41	25.43
12. Madhya Pradesh	216.19	40.84	82.33	48.38	298.52	42.52
13. Maharashtra	193.33	37.93	111.9	35.15	305.23	36.86
14. Manipur	6.33	45.01	0.47	7.73	6.8	33.78
15. Meghalaya	7.09	45.01	0.29	7.73	7.38	37.92
16. Mizoram	1.64	45.01	0.3	7.73	1.94	25.66
17. Nagaland	4.85	45.01	0.2	7.73	5.05	37.92
18. Orissa	140.9	49.72	19.7	41.64	160.6	48.56
19. Punjab	17.76	11.95	7.35	11.35	25.11	11.77
20. Rajasthan	94.68	26.46	33.82	30.49	128.5	27.41
21. Sikkim	1.81	45.01	0.03	7.73	1.84	41.43
22. Tamil Nadu	121.7	32.48	80.4	33.77	202.1	35.03
23. Tripura	11.41	45.01	0.38	7.73	11.79	39.01
24. Uttar Pradesh	496.17	42.28	108.28	35.39	604.45	40.85
25. West Bengal	209.9	40.8	44.66	22.41	254.56	35.66
26. Andaman & Nicobar Islands	0.73	32.48	0.33	39.77	1.06	34.47
27. Chandigarh	0.07	11.35	0.73	11.35	0.8	11.35
28. Dadra & Nagar Haveli	0.72	51.95	0.06	39.93	0.78	50.84
29. Daman & Diu	0.03	5.34	0.15	27.03	0.18	15.8
30. Delhi	0.19	1.9	15.32	16.03	15.51	14.62
31. Lakshadweep	0.06	25.76	0.08	24.55	0.14	25.04
32. Pondicherry	0.93	32.48	2.38	39.77	3.31	37.4
<b>All India</b>	<b>2440.31</b>	<b>37.27</b>	<b>763.37</b>	<b>32.36</b>	<b>3203.68</b>	<b>35.97</b>

Source: As in Table A1.

- Notes: 1. Poverty Ratio of Assam is used for Sikkim, Arunachal Pradesh, Meghalaya, Mizoram, Manipur, Nagaland and Tripura.  
2. Poverty Ratio of Tamil Nadu is used for Pondicherry and Andaman & Nicobar Islands.  
3. Poverty Ratio of Kerala is used for Lakshadweep.  
4. Poverty Ratio of Goa is used for Daman & Diu.  
5. Urban Poverty Ratio of Punjab is used for both rural and urban poverty of Chandigarh.  
6. Poverty Line of Maharashtra and expenditure distribution of Goa is used to estimate poverty ratio of Goa.  
7. Poverty Line of Maharashtra and expenditure distribution of Dadra & Nagar Haveli is used to estimate poverty ratio of Dadra & Nagar Haveli.  
8. Poverty Ratio of Himachal Pradesh is used for Jammu & Kashmir for 1993-94.

**Table A6: Number and Percentage of Population Below Poverty Line by States: 1999-00 (7-Day Recall Period)**

States/UTs	Rural		Urban		Combined	
	Number of Persons (Lakhs)	Percentage of Persons	Number of Persons (Lakhs)	Percentage of Persons	Number of Persons (Lakhs)	Percentage of Persons
1. Andhra Pradesh	48.14	9.15	55.96	24.48	104.10	13.79
2. Arunachal Pradesh	3.23	34.00	0.15	6.29	3.38	28.41
3. Assam	78.27	34.00	2.00	6.29	80.27	30.64
4. Bihar	322.96	38.00	43.64	29.23	366.60	36.69
5. Goa	0.23	2.80	0.40	5.03	0.63	3.90
6. Gujarat	36.87	12.20	24.80	13.76	61.67	12.78
7. Haryana	11.13	7.71	4.33	8.02	15.46	7.79
8. Himachal Pradesh	4.63	7.61	0.24	3.95	4.87	7.27
9. Jammu & Kashmir	3.10	4.14	0.42	1.70	3.52	3.53
10. Karnataka	47.02	13.64	39.35	22.33	86.37	16.58
11. Kerala	18.2	8.14	17.73	17.91	35.93	11.14
12. Madhya Pradesh	202.78	34.58	74.93	35.46	277.71	34.81
13. Maharashtra	109.25	20.71	96.81	25.23	206.06	22.61
14. Manipur	5.54	34.00	0.56	6.29	6.10	24.21
15. Meghalaya	6.70	34.00	0.29	6.29	6.99	28.75
16. Mizoram	1.19	34.00	0.38	6.29	1.57	16.50
17. Nagaland	4.42	34.00	0.24	6.29	4.66	27.73
18. Orissa	131.63	43.98	23.92	40.33	155.55	43.38
19. Punjab	8.53	5.31	4.03	5.40	12.56	5.34
20. Rajasthan	48.97	12.22	25.36	18.80	74.33	13.88
21. Sikkim	1.7	34.00	0.04	6.29	1.74	31.03
22. Tamil Nadu	73.19	18.68	45.81	20.27	119.00	19.26
23. Tripura	10.64	34.00	0.41	6.29	11.05	29.24
24. Uttar Pradesh	379.41	28.75	110.82	29.04	490.23	28.82
25. West Bengal	154.04	27.24	31.06	13.83	185.10	23.43
26. Andaman & Nicobar Islands	0.52	18.68	0.22	20.27	0.74	19.13
27. Chandigarh	0.06	5.40	0.42	5.40	0.48	5.40
28. Dadra & Nagar Haveli	0.26	15.31	0.02	10.89	0.28	14.84
29. Daman & Diu	0.02	2.80	0.04	5.03	0.06	3.92
30. Delhi	0.12	0.63	6.52	5.38	6.64	4.75
31. Lakshadweep	0.02	8.14	0.07	17.91	0.09	13.72
32. Pondicherry	0.58	18.68	1.62	20.27	2.20	19.83
<b>All India</b>	<b>1713.35</b>	<b>24.02</b>	<b>612.57</b>	<b>21.59</b>	<b>2325.92</b>	<b>23.33</b>

Source: As in Table A1.

- Notes: 1. Poverty Ratio of Assam is used for Sikkim, Arunachal Pradesh, Meghalaya, Mizoram, Manipur, Nagaland and Tripura.  
2. Poverty Line of Maharashtra and expenditure distribution of Goa is used to estimate poverty ratio of Goa.  
3. Poverty Line of Himachal Pradesh and expenditure distribution of Jammu & Kashmir is used to estimate poverty ratio of Jammu & Kashmir.  
4. Poverty Ratio of Tamil Nadu is used for Pondicherry and Andaman & Nicobar Islands.  
5. Urban Poverty Ratio of Punjab is used for both rural and urban poverty of Chandigarh.  
6. Poverty Line of Maharashtra and expenditure distribution of Dadra & Nagar Haveli is used to estimate poverty ratio of Dadra & Nagar Haveli.  
7. Poverty Ratio of Goa is used for Daman & Diu.  
8. Poverty Ratio of Kerala is used for Lakshadweep.  
9. Urban Poverty Ratio of Rajasthan may be treated as tentative.

**Table A7: Change in Number and Percentage of Population Below Poverty Line by States: 1987-88 Minus 1973-74 (Modified Export Group)**

States	Rural		Urban		Combined	
	Number of Persons (Lakhs)	Percentage of Persons	Number of Persons (Lakhs)	Percentage of Persons	Number of Persons (Lakhs)	Percentage of Persons
1. Andhra Pradesh	-81.83	-27.49	16.57	-10.5	-65.26	-23
2. Arunachal Pradesh	0.18	-13.32	-0.01	-26.98	0.17	-15.11
3. Assam	-2.84	-20.31	-3.24	-26.98	-6.08	-15
4. Bihar	33.71	-10.36	16.65	-4.23	50.36	-29.78
5. Goa	-1.85	-29.21	0.65	-2.2	-1.2	-19.74
6. Gujarat	-20.48	-17.68	4.41	-15.31	-16.07	-16.61
7. Haryana	-11.22	-18.01	-1.73	-22.25	-12.95	-18.72
8. Himachal Pradesh	-2.11	-9.14	-0.1	-6.94	-2.21	-10.94
9. Jammu & Kashmir	-4.3	-19.81	0.18	-3.85	-4.12	-17.51
10. Karnataka	-31.59	-22.32	19.53	-4.11	-12.06	-16.94
11. Kerala	-49.72	-30.09	2.68	-12.41	-47.04	-28
12. Madhya Pradesh	-31.19	-10.74	19.27	-10.56	-11.92	-19.72
13. Maharashtra	-23.71	-16.98	32.8	-3.59	9.09	-12.83
14. Manipur	-0.28	-20.32	-0.29	-26.98	-0.57	-18.61
15. Meghalaya	0.3	-13.32	-0.34	-26.98	-0.04	-16.28
16. Mizoram	-0.16	-13.32	0.05	-26.98	-0.11	-22.8
17. Nagaland	0.84	-13.32	-0.07	-26.98	0.77	-15.88
18. Orissa	7.72	-9.64	3.72	-13.99	11.44	-30.8
19. Punjab	-13.38	-15.41	-1.94	-13.39	-15.32	-14.95
20. Rajasthan	3.56	-11.55	10.83	-10.21	14.39	-10.99
21. Sikkim	0.29	-19.32	-0.06	-26.98	0.23	-14.6
22. Tamil Nadu	-10.8	-11.63	2.35	-10.76	-8.45	-11.55
23. Tripura	0.61	-20.32	-0.31	-27.58	0.3	-15.77
24. Uttar Pradesh	-20.25	-15.43	21.05	-17.06	0.8	-15.61
25. West Bengal	-34.59	-24.86	18.9	0.41	-15.69	-18.71
<b>All India</b>	<b>-294.11</b>	<b>-17.42</b>	<b>151.43</b>	<b>-10.81</b>	<b>-142.87</b>	<b>-19.53</b>

Source and Notes: As in Table A1.

**Table A8: Change in Number and Percentage of Population Below Poverty Line by States: 1993-94 Minus 1987-88 (Modified Export Group)**

States	Rural		Urban		Combined	
	Number of Persons (Lakhs)	Percentage of Persons	Number of Persons (Lakhs)	Percentage of Persons	Number of Persons (Lakhs)	Percentage of Persons
1. Andhra Pradesh	-16.89	-5	10.42	-7.78	-6.47	-3.67
2. Arunachal Pradesh	0.87	5.66	0.03	-2.21	0.9	3.13
3. Assam	20.8	12.65	-0.19	-2.21	20.61	4.65
4. Bihar	80.63	3.58	-8.21	-14.23	72.42	2.83
5. Goa	-0.93	-12.3	-0.12	-8.46	-1.05	-9.6
6. Gujarat	-11.97	-6.49	-5.2	-9.57	-17.17	-7.33
7. Haryana	17.7	9.8	0.8	-1.55	18.5	8.41
8. Himachal Pradesh	8.13	12.06	0.21	2.95	8.34	12.99
9. Jammu & Kashmir	4.94	4.64	-0.39	-8.31	4.55	1.85
10. Karnataka	-0.82	-3.24	-1.32	-8.28	-2.14	-4.37
11. Kerala	-5.69	-3.34	-6.38	-15.78	-12.07	-6.36
12. Madhya Pradesh	16.17	-1.08	18.04	1.29	34.21	0.45
13. Maharashtra	6.5	-2.8	2.52	-4.63	9.02	-3.55
14. Manipur	1.5	12.66	0.01	-2.21	1.51	2.43
15. Meghalaya	1.91	5.66	-0.01	-2.21	1.9	4.0
16. Mizoram	0.18	5.66	0.05	-2.21	0.23	-1.86
17. Nagaland	1.36	5.66	0.02	-2.21	1.38	3.49
18. Orissa	-9.06	-7.92	3.75	0.01	-5.31	13.18
19. Punjab	0.67	-0.85	-0.73	-3.22	-0.06	-1.43
20. Rajasthan	-10.29	-6.75	-4.11	-11.43	-14.4	-7.74
21. Sikkim	0.5	11.66	-0.01	-2.21	0.49	5.37
22. Tamil Nadu	-40.1	-13.32	11.13	-4.87	-28.97	-8.36
23. Tripura	2.92	12.66	0.03	-1.61	2.95	3.78
24. Uttar Pradesh	66.43	1.18	1.49	-7.57	67.92	-0.61
25. West Bengal	-13.47	-7.5	-15.58	-12.67	-29.05	-9.06
<b>All India</b>	<b>121.52</b>	<b>-1.75</b>	<b>11.48</b>	<b>-5.84</b>	<b>133.19</b>	<b>0.62</b>

Source and Notes: As in Table A1.

**Table A9: Change in Number and Percentage of Population Below Poverty Line by States: 1999-00 Minus 1993-94 (Modified Expert Group)**

States	Rural		Urban		Combined	
	Number of Persons (Lakhs)	Percentage of Persons	Number of Persons (Lakhs)	Percentage of Persons	Number of Persons (Lakhs)	Percentage of Persons
1. Andhra Pradesh	-21.36	-4.87	-13.59	-5.7	-34.95	-6.42
2. Arunachal Pradesh	0.18	-4.97	0.07	-0.26	0.25	-5.88
3. Assam	-2.16	-4.97	0.35	-0.26	-1.81	-4.77
4. Bihar	-74.35	-11.91	6.64	-1.59	-67.71	-12.36
5. Goa	-0.27	-3.99	-0.94	-19.51	-1.21	-10.52
6. Gujarat	-22.36	-9.01	-14.93	-12.1	-37.29	-10.14
7. Haryana	-24.62	-17.75	-1.92	-6.39	-26.54	-16.31
8. Himachal Pradesh	-10.56	-22.4	-0.17	-4.55	-10.73	-20.81
9. Jammu & Kashmir	-16.08	-26.37	-1.37	-7.18	-17.45	-21.69
10. Karnataka	-36.08	-12.2	-15.99	-14.89	-52.07	-13.12
11. Kerala	-34.98	-16.38	-0.39	-4.28	-35.37	-12.71
12. Madhya Pradesh	1.13	-3.78	-1.11	-9.94	0.02	-5.09
13. Maharashtra	-68.21	-14.21	-9.03	-8.34	-77.24	-11.84
14. Manipur	0.2	-4.97	0.19	-0.26	0.39	-5.24
15. Meghalaya	0.8	-4.97	0.05	-0.26	0.85	-4.05
16. Mizoram	-0.24	-4.97	0.15	-0.26	-0.09	-6.19
17. Nagaland	0.36	-4.97	0.08	-0.26	0.44	-5.25
18. Orissa	2.79	-1.71	5.7	1.19	8.49	-1.41
19. Punjab	-7.56	-5.6	-3.06	-5.6	-10.62	-5.61
20. Rajasthan	-39.62	-12.72	-7.04	-10.64	-46.66	-12.13
21. Sikkim	0.19	-4.97	0.01	-0.26	0.2	-4.88
22. Tamil Nadu	-41.19	-11.93	-30.43	-11.66	-71.62	-13.91
23. Tripura	1.12	-4.97	0.11	-0.26	1.23	-4.57
24. Uttar Pradesh	-84.16	-11.06	9.6	-4.5	-74.56	-9.7
25. West Bengal	-29.79	-8.95	-11.28	-7.55	-41.07	-8.64
<b>All India</b>	<b>-507.88</b>	<b>-10.18</b>	<b>-93.3</b>	<b>-8.74</b>	<b>-601.18</b>	<b>-9.87</b>

Source and Notes: As in Table A1.

**Table A10: State Specific Rural Poverty Lines: 1987-88**

	<b>State/UTs.</b>	<b>OPL</b>	<b>EOPL</b>	<b>APL</b>
1.	Andhra Pradesh	107.99	91.95	93.88
2.	Arunachal Pradesh	134.75	127.44	117.15
3.	Assam	137.35	127.44	119.41
4.	Bihar	136.98	120.36	119.09
5.	Goa	131.73	115.61	114.52
6.	Gujarat	132.53	115.00	115.22
7.	Haryana	132.20	122.90	114.93
8.	Himachal Pradesh	137.14	122.90	119.22
9.	Jammu & Kashmir	132.97	124.33	115.60
10.	Karnataka	116.01	104.46	100.85
11.	Kerala	152.63	130.61	132.69
12.	Madhya Pradesh	118.50	107.00	103.02
13.	Maharashtra	131.73	115.61	114.52
14.	Manipur	134.75	127.44	117.15
15.	Meghalaya	134.75	127.44	117.15
16.	Mizoram	134.75	127.44	117.15
17.	Nagaland	134.75	127.44	117.15
18.	Orissa	129.24	121.42	112.36
19.	Punjab	138.67	129.90	120.56
20.	Rajasthan	134.75	117.52	117.15
21.	Sikkim	134.75	127.44	117.15
22.	Tamil Nadu	129.95	118.23	112.97
23.	Tripura	135.55	127.44	117.84
24.	Uttar Pradesh	122.65	114.57	106.63
25.	West Bengal	142.12	129.21	123.55
26.	Andaman & Nicobar Islands	125.68	118.23	109.26
27.	Chandigarh	139.07	143.11	122.44
28.	Dadra & Nagar Haveli	125.68	115.61	109.26
29.	Daman & Diu	131.73	114.52	115.61
30.	Delhi	136.67	122.90	118.82
31.	Lakshadweep	152.63	130.61	132.69
32.	Pondicherry	129.95	118.23	112.97
	<b>All India</b>	<b>125.68</b>	<b>115.43</b>	<b>109.26</b>

Source: Dubey and Gangopadhyay (1995).

**Table A11: State Specific Urban Poverty Lines: 1987-88**

	<b>State/UTs.</b>	<b>OPL</b>	<b>EOPL</b>	<b>APL</b>
1.	Andhra Pradesh	152.66	159.50	134.41
2.	Arunachal Pradesh	139.57	140.45	122.88
3.	Assam	129.11	140.45	113.67
4.	Bihar	158.53	161.19	139.58
5.	Goa	179.18	184.45	157.76
6.	Gujarat	176.21	175.57	155.14
7.	Haryana	146.16	142.15	128.69
8.	Himachal Pradesh	135.15	142.63	118.99
9.	Jammu & Kashmir	137.66	145.22	121.20
10.	Karnataka	165.92	171.23	146.08
11.	Kerala	178.58	175.11	157.23
12.	Madhya Pradesh	178.09	178.44	156.80
13.	Maharashtra	179.18	184.45	157.76
14.	Manipur	139.57	140.45	122.88
15.	Meghalaya	139.57	140.45	122.88
16.	Mizoram	139.57	140.45	122.88
17.	Nagaland	139.57	140.45	122.88
18.	Orissa	171.36	170.63	150.87
19.	Punjab	139.07	143.11	122.44
20.	Rajasthan	167.07	166.72	147.10
21.	Sikkim	139.57	140.45	122.88
22.	Tamil Nadu	171.69	174.82	151.16
23.	Tripura	129.11	140.45	113.67
24.	Uttar Pradesh	153.95	154.78	135.55
25.	West Bengal	141.02	148.95	124.16
26.	Andaman & Nicobar Islands	161.31	174.82	142.03
27.	Chandigarh	152.14	143.11	133.95
28.	Dadra & Nagar Haveli	161.31	184.45	142.03
29.	Daman & Diu	179.18	184.45	157.76
30.	Delhi	201.10	178.48	177.06
31.	Lakshadweep	178.58	175.11	157.23
32.	Pondicherry	171.69	174.82	151.16
	<b>All India</b>	<b>161.31</b>	<b>165.58</b>	<b>142.03</b>

Source: As in Table A10.

**Table A12: State Specific Rural Poverty Lines: 1993-94**

	<b>State/UTs.</b>	<b>OPL</b>	<b>EOPL</b>	<b>APL</b>
1.	Andhra Pradesh	193.98	165.15	168.64
2.	Arunachal Pradesh	253.08	239.35	220.02
3.	Assam	256.73	238.21	223.19
4.	Bihar	229.18	201.37	199.24
5.	Goa	228.40	200.46	198.57
6.	Gujarat	224.40	194.72	195.09
7.	Haryana	233.53	217.10	203.02
8.	Himachal Pradesh	244.57	219.17	212.62
9.	Jammu & Kashmir	224.97	210.35	195.58
10.	Karnataka	201.50	181.44	175.18
11.	Kerala	270.05	231.09	234.77
12.	Madhya Pradesh	183.99	166.13	159.95
13.	Maharashtra	228.41	200.46	198.57
14.	Manipur	253.08	239.35	220.02
15.	Meghalaya	253.08	239.35	220.02
16.	Mizoram	253.08	239.35	220.02
17.	Nagaland	253.08	239.35	220.02
18.	Orissa	205.55	193.11	178.70
19.	Punjab	246.21	218.21	214.05
20.	Rajasthan	215.49	187.94	187.34
21.	Sikkim	253.08	239.35	220.02
22.	Tamil Nadu	218.87	199.13	190.28
23.	Tripura	254.58	239.35	221.32
24.	Uttar Pradesh	210.36	196.50	182.88
25.	West Bengal	245.89	223.55	213.77
26.	Andaman & Nicobar Islands	214.31	192.12	186.31
27.	Chandigarh	232.86	239.63	205.02
28.	Dadra & Nagar Haveli	214.31	192.12	186.31
29.	Daman & Diu	228.41	200.46	198.57
30.	Delhi	239.28	215.17	208.02
31.	Lakshadweep	270.05	231.09	234.77
32.	Pondicherry	218.87	199.13	190.28
	<b>All India</b>	<b>214.31</b>	<b>196.83</b>	<b>186.31</b>

Source: As in Table A10.

**Table A13: State Specific Urban Poverty Lines: 1993-94**

	<b>State/UTs.</b>	<b>OPL</b>	<b>EOPL</b>	<b>APL</b>
1.	Andhra Pradesh	269.04	281.47	237.19
2.	Arunachal Pradesh	252.65	254.24	222.45
3.	Assam	221.94	241.43	195.41
4.	Bihar	264.54	268.98	232.91
5.	Goa	320.80	330.24	282.45
6.	Gujarat	302.57	301.47	266.40
7.	Haryana	240.18	233.59	211.47
8.	Himachal Pradesh	231.12	243.91	203.49
9.	Jammu & Kashmir	209.17	220.66	184.16
10.	Karnataka	274.75	283.54	241.90
11.	Kerala	309.26	303.25	272.29
12.	Madhya Pradesh	310.50	311.11	273.38
13.	Maharashtra	320.80	330.24	282.45
14.	Manipur	252.65	254.24	222.45
15.	Meghalaya	252.65	254.24	222.45
16.	Mizoram	252.65	254.24	222.45
17.	Nagaland	252.65	254.24	222.45
18.	Orissa	291.13	289.89	256.33
19.	Punjab	232.86	239.62	205.02
20.	Rajasthan	288.27	287.67	253.81
21.	Sikkim	252.65	254.24	222.45
22.	Tamil Nadu	296.73	302.14	261.26
23.	Tripura	221.94	241.43	195.41
24.	Uttar Pradesh	263.08	264.50	231.63
25.	West Bengal	240.93	254.48	212.13
26.	Andaman & Nicobar Islands	278.68	279.65	245.36
27.	Chandigarh	266.78	246.28	234.89
28.	Dadra & Nagar Haveli	278.68	279.65	245.36
29.	Daman & Diu	320.80	330.24	282.45
30.	Delhi	357.90	317.64	315.11
31.	Lakshadweep	309.26	303.25	272.29
32.	Pondicherry	296.73	302.14	261.26
	<b>All India</b>	<b>278.68</b>	<b>286.06</b>	<b>245.36</b>

Source: As in Table A10.

**Table A14: State-Wise Head Count Ratios**

States/UTs.	(Percent)					
	43 <sup>rd</sup> Round (1987-88)			50 <sup>th</sup> Round (1993-94)		
	OPL	EOPL	APL	OPL	EOPL	APL
02 Andhra Pradesh	35.96	26.21	24.40	31.50	22.70	19.93
03 Arunachal Pradesh	29.76	26.23	18.97	47.70	43.76	33.35
04 Assam	45.50	37.95	29.93	52.26	44.53	36.70
05 Bihar	65.24	54.30	51.53	63.01	52.06	49.35
06 Goa*	32.90	21.79	15.70	17.53	14.81	8.95
07 Gujarat	42.10	31.64	28.33	30.27	22.79	20.09
08 Haryana	21.55	15.87	13.58	23.94	18.56	14.43
09 Himachal Pradesh	23.81	16.03	13.41	31.58	21.81	18.53
10 Jammu & Kashmir*	28.68	23.63	16.94	10.71	8.97	5.54
11 Karnataka	44.96	38.95	33.26	36.16	29.65	24.46
12 Kerala	46.34	33.69	33.76	33.05	24.22	22.82
13 Madhya Pradesh	51.06	43.03	38.38	38.65	31.30	26.54
14 Maharashtra	47.94	40.32	36.39	44.48	38.48	34.28
15 Manipur	18.33	14.75	8.36	31.33	25.05	12.39
16 Meghalaya	35.27	31.66	25.70	30.12	24.96	16.00
17 Mizoram	3.85	2.81	2.04	7.01	4.92	2.81
18 Nagaland*	0.00	0.00	0.00	3.86	3.08	1.65
19 Orissa	61.11	56.94	48.97	54.46	48.10	40.30
20 Punjab	19.07	12.97	10.31	13.01	8.55	6.67
21 Rajasthan	43.29	34.43	32.39	27.80	20.08	17.88
22 Sikkim	42.99	36.21	26.09	37.31	31.17	25.26
23 Tamil Nadu	49.58	45.58	39.51	41.77	36.49	29.86
24 Tripura	27.01	22.78	17.27	28.75	24.03	19.02
25 Uttar Pradesh	48.41	43.13	36.29	40.29	35.92	29.32
26 West Bengal	50.75	45.00	37.99	45.19	38.26	32.23
27 Andaman & Nicobar Islands	6.82	5.79	1.71	2.52	1.58	1.37
28 Chandigarh	7.07	4.34	2.26	5.35	3.26	2.10
29 Dadra & Nagar Haveli*	75.80	69.40	61.25	57.34	50.07	47.18
30 Daman & Diu*	NA	NA	NA	13.94	12.31	8.27
31 Delhi	23.20	16.22	16.00	22.19	16.03	15.58
32 Lakshadweep	42.23	35.05	28.70	13.85	11.76	7.90
33 Pondicherry	55.83	51.54	45.88	32.49	30.74	21.89
<b>All India</b>	<b>47.09</b>	<b>39.72</b>	<b>35.12</b>	<b>40.26</b>	<b>33.47</b>	<b>28.75</b>
<b>All India**</b>	<b>47.17</b>	<b>39.77</b>	<b>35.22</b>	<b>40.38</b>	<b>33.51</b>	<b>28.88</b>

Source: Dubey and Gangopadhyay (1998), Counting the Poor, Sarvekshana Analytical Report No. 1, Department of Statistics, Government of India.

Notes: \* indicates that these states are not strictly comparable.

\*\* refers to the all India HCRs calculated by using census population as weights.

OPL = Official Poverty Line

EOPL = Expert Group Official Poverty Line

APL = Alternative Poverty Line

**Table A15: Rural State-Wise Head Count Ratios**

States/UTs.	(Percent)					
	43 <sup>rd</sup> Round (1987-88)			50 <sup>th</sup> Round (1993-94)		
	OPL	EOPL	APL	OPL	EOPL	APL
02 Andhra Pradesh	34.40	21.07	22.52	29.90	16.64	17.95
03 Arunachal Pradesh	30.14	26.43	19.08	48.75	44.66	34.08
04 Assam	48.42	39.75	32.05	57.05	48.00	40.47
05 Bihar	66.48	53.81	52.53	65.58	52.86	51.63
06 Goa*	33.42	15.53	14.03	12.18	4.98	4.98
07 Gujarat	42.78	28.48	28.61	30.68	19.64	19.68
08 Haryana	21.88	15.34	13.93	27.99	21.41	16.95
09 Himachal Pradesh	25.23	16.68	14.28	33.70	23.18	19.98
10 Jammu & Kashmir*	32.61	25.85	19.34	15.44	12.54	7.79
11 Karnataka	44.35	34.77	32.04	37.05	27.07	24.01
12 Kerala	46.51	31.64	33.32	33.37	22.26	23.06
13 Madhya Pradesh	52.02	42.01	38.45	36.21	26.59	23.45
14 Maharashtra	53.28	40.91	40.06	51.15	40.37	39.41
15 Manipur	21.11	15.82	9.52	33.08	23.91	13.74
16 Meghalaya	40.39	36.18	29.74	34.36	28.36	18.26
17 Mizoram	5.50	3.93	2.76	10.10	7.05	4.11
18 Nagaland*	NA	NA	NA	4.24	3.18	1.91
19 Orissa	63.19	58.62	50.83	56.61	49.38	41.56
20 Punjab	22.00	12.97	11.80	15.36	8.63	7.95
21 Rajasthan	44.44	33.30	33.14	26.21	16.21	16.05
22 Sikkim	49.30	41.00	30.68	40.24	33.58	27.36
23 Tamil Nadu	53.37	46.38	42.81	42.76	33.75	29.91
24 Tripura	28.91	23.73	18.37	32.04	26.13	21.21
25 Uttar Pradesh	49.18	42.65	36.46	41.31	35.80	29.88
26 West Bengal	57.88	48.80	44.12	52.40	42.50	38.18
27 Andaman & Nicobar Islands	7.28	5.20	1.37	2.11	0.80	0.80
28 Chandigarh	15.83	15.83	2.99	3.74	11.13	2.22
29 Dadra & Nagar Haveli*	75.80	69.40	61.25	59.14	51.30	48.69
30 Daman & Diu*	NA	NA	NA	8.88	5.97	4.71
31 Delhi	15.24	10.39	10.39	2.00	0.00	0.00
32 Lakshadweep	37.52	26.93	26.93	2.38	0.00	0.00
33 Pondicherry	53.82	44.07	40.41	25.90	19.99	15.89
<b>All India</b>	49.38	39.54	36.64	42.70	33.35	30.29
<b>All India**</b>	49.61	39.76	36.91	42.85	33.41	30.46

Source and Notes: As in Table A10.

**Table A16: Urban State-Wise Head Count Ratios**

States/UTs.	(Percent)					
	43 <sup>rd</sup> Round (1987-88)			50 <sup>th</sup> Round (1993-94)		
	OPL	EOPL	APL	OPL	EOPL	APL
02 Andhra Pradesh	41.54	44.60	31.11	36.05	39.85	25.56
03 Arunachal Pradesh	20.10	21.36	16.21	12.12	13.07	8.55
04 Assam	12.60	17.56	6.14	10.03	13.95	3.40
05 Bihar	56.64	57.65	44.67	44.45	46.31	32.86
06 Goa*	31.89	33.89	18.95	24.85	28.26	14.38
07 Gujarat	40.32	39.97	27.61	29.42	29.31	20.95
08 Haryana	20.31	17.83	12.28	12.30	10.37	7.17
09 Himachal Pradesh	4.18	6.98	1.31	5.61	6.93	2.79
10 Jammu & Kashmir*	10.63	13.44	5.95	2.78	3.00	1.78
11 Karnataka	46.43	49.19	36.26	33.95	36.11	25.59
12 Kerala	45.51	43.95	35.97	32.07	30.24	22.08
13 Madhya Pradesh	47.02	47.27	38.09	46.55	46.58	36.57
14 Maharashtra	37.09	39.11	28.95	33.23	35.29	25.62
15 Manipur	11.52	12.17	5.53	26.67	28.06	8.78
16 Meghalaya	4.02	4.02	0.97	3.48	3.30	1.81
17 Mizoram	0.62	0.62	0.62	0.33	0.33	0.00
18 Nagaland*	0.00	0.00	0.00	2.82	2.82	0.91
19 Orissa	45.27	44.21	34.84	39.74	39.33	31.70
20 Punjab	11.25	12.98	6.34	7.22	8.34	3.54
21 Rajasthan	38.84	38.76	29.53	33.14	33.10	24.02
22 Sikkim	14.69	14.69	5.49	3.39	3.39	0.96
23 Tamil Nadu	42.73	44.15	33.53	39.96	41.54	29.77
24 Tripura	12.23	15.44	8.62	7.31	10.34	4.77
25 Uttar Pradesh	44.92	45.32	35.52	36.12	36.44	27.01
26 West Bengal	28.53	33.17	18.88	21.41	24.25	12.59
27 Andaman & Nicobar Islands	5.55	7.42	2.65	3.55	3.55	2.82
28 Chandigarh	6.25	3.27	2.19	5.59	2.08	2.08
29 Dadra & Nagar Haveli*	NA	NA	NA	34.46	34.46	28.06
30 Daman & Diu*	NA	NA	NA	21.66	21.98	13.71
31 Delhi	24.25	17.00	16.74	24.65	17.98	17.47
32 Lakshadweep	48.81	46.39	31.18	25.05	23.26	15.62
33 Pondicherry	57.42	57.42	50.18	36.47	37.24	25.53
<b>All India</b>	39.20	40.32	29.86	32.87	33.84	24.08
<b>All India**</b>	39.24	40.29	29.86	32.76	33.71	23.95

Source and Notes: As in Table A10.

**Table A17: State-Wise Head Count Ratios: Alternative Estimates**

States/UTs.	(Percent)					
	43 <sup>rd</sup> Round (1987-88)			50 <sup>th</sup> Round (1993-94)		
	AIOPL	AIEOPL	AIAPL	AIOPL	AIEOPL	AIAPL
02 Andhra Pradesh	47.31	41.57	35.38	39.71	33.59	26.97
03 Arunachal Pradesh	24.95	19.02	13.64	29.98	22.54	18.84
04 Assam	37.34	28.41	22.99	34.17	24.88	17.98
05 Bihar	58.15	50.09	43.15	57.61	50.45	43.86
06 Goa*	24.48	17.20	12.52	12.12	2.87	5.83
07 Gujarat	35.93	30.18	23.04	26.24	22.30	16.29
08 Haryana	19.87	17.15	13.04	20.59	16.99	12.97
09 Himachal Pradesh	17.42	12.05	9.29	20.03	14.48	10.99
10 Jammu & Kashmir*	26.44	20.05	14.43	12.36	9.84	5.71
11 Karnataka	50.02	44.46	37.28	40.72	35.51	28.81
12 Kerala	29.58	24.47	19.45	18.70	15.92	11.58
13 Madhya Pradesh	53.88	48.33	41.43	47.53	42.15	35.39
14 Maharashtra	42.66	37.84	31.71	38.00	34.11	28.43
15 Manipur	19.44	15.51	7.36	19.79	16.17	7.47
16 Meghalaya	31.55	26.49	21.82	15.30	9.15	5.37
17 Mizoram	2.59	1.94	1.36	2.86	2.47	1.50
18 Nagaland*	0.00	0.00	0.00	3.36	2.25	0.75
19 Orissa	58.67	52.17	48.15	58.18	49.36	43.51
20 Punjab	16.26	13.22	11.64	10.25	8.69	5.43
21 Rajasthan	37.99	33.15	25.84	26.69	21.90	17.17
22 Sikkim	36.45	27.36	26.70	23.58	15.33	10.68
23 Tamil Nadu	46.38	42.90	40.05	38.51	34.42	27.12
24 Tripura	22.93	18.82	28.25	18.90	15.61	12.24
25 Uttar Pradesh	50.87	44.65	38.59	42.51	37.47	31.17
26 West Bengal	44.55	37.89	34.09	36.55	29.08	23.17
27 Andaman & Nicobar Islands	6.82	5.14	28.84	2.52	2.03	1.37
28 Chandigarh	9.16	9.34	11.01	7.62	7.62	1.81
29 Dadra & Nagar Haveli*	75.80	69.07	14.29	57.34	52.25	47.18
30 Daman & Diu*	NA	NA	NA	8.68	8.27	3.66
31 Delhi	11.42	12.55	6.39	10.91	11.04	8.42
32 Lakshadweep	30.16	29.24	17.94	8.06	8.48	5.67
33 Pondicherry	52.11	49.85	41.98	29.07	29.06	18.79
<b>All India</b>	<b>45.30</b>	<b>39.60</b>	<b>33.38</b>	<b>38.72</b>	<b>33.38</b>	<b>26.78</b>

Source: As in Table A10.

Notes: \* indicates that these states are not strictly comparable.

AIOPL = All India Official Poverty Line.

AIEOPL = All India Expert Group Official Poverty Line.

AIAPL = All India Alternative Poverty Line.

**Table A18: Rural State-Wise Head Count Ratios: Alternative Estimates**

States/UTs.	(Percent)					
	43 <sup>rd</sup> Round (1987-88)			50 <sup>th</sup> Round (1993-94)		
	AIOPL	AIEOPL	AIAPL	AIOPL	AIEOPL	AIAPL
02 Andhra Pradesh	47.89	40.34	35.40	39.90	31.08	26.48
03 Arunachal Pradesh	24.94	18.72	14.33	30.24	22.57	18.85
04 Assam	38.13	28.20	23.38	35.34	24.49	18.37
05 Bihar	58.22	48.74	42.69	58.77	50.34	44.76
06 Goa*	26.66	15.16	12.56	11.11	0.00	4.50
07 Gujarat	37.47	28.81	24.00	27.39	20.53	16.44
08 Haryana	17.97	13.93	11.76	20.43	14.71	12.32
09 Himachal Pradesh	17.86	11.99	9.45	20.74	14.59	11.36
10 Jammu & Kashmir*	27.29	19.24	14.86	13.66	8.13	6.22
11 Karnataka	52.13	43.73	38.65	43.08	35.04	29.85
12 Kerala	27.99	21.43	17.78	17.00	12.82	9.98
13 Madhya Pradesh	57.09	49.82	44.00	50.37	42.58	37.48
14 Maharashtra	48.76	40.78	36.05	45.78	38.76	34.51
15 Manipur	15.00	7.83	5.11	11.95	5.56	3.45
16 Meghalaya	34.95	28.90	24.55	16.71	9.50	5.69
17 Mizoram	3.59	2.61	1.74	3.69	3.02	2.08
18 Nagaland*	NA	NA	NA	1.75	0.00	0.00
19 Orissa	61.27	53.43	48.31	61.44	50.95	45.70
20 Punjab	14.62	9.78	7.07	7.95	5.30	4.04
21 Rajasthan	38.36	31.88	28.15	25.57	18.71	15.95
22 Sikkim	39.67	28.18	20.67	24.45	15.49	11.47
23 Tamil Nadu	50.83	44.45	40.09	40.53	33.11	28.15
24 Tripura	22.49	17.80	14.85	19.34	15.35	12.41
25 Uttar Pradesh	51.46	43.45	38.65	42.86	35.91	31.10
26 West Bengal	46.20	36.84	31.68	38.48	28.17	23.38
27 Andaman & Nicobar Islands	7.28	4.52	1.37	2.11	1.06	0.80
28 Chandigarh	4.62	0.00	0.00	2.22	2.22	0.00
29 Dadra & Nagar Haveli*	75.80	69.07	61.25	59.14	53.65	48.69
30 Daman & Diu*	NA	NA	NA	7.00	4.71	4.71
31 Delhi	10.39	10.39	9.11	0.00	0.00	0.00
32 Lakshadweep	25.74	21.60	17.32	0.00	0.00	0.00
33 Pondicherry	49.64	41.94	38.31	22.53	19.99	12.90
<b>All India</b>	<b>47.33</b>	<b>39.47</b>	<b>34.66</b>	<b>40.99</b>	<b>33.26</b>	<b>27.82</b>

Source: As in Table A10.

Notes: As in Table A17.

**Table A19: Urban State-Wise Head Count Ratios: Alternative Estimates**

States/UTs.	(Percent)					
	43 <sup>rd</sup> Round (1987-88)			50 <sup>th</sup> Round (1993-94)		
	AIOPL	AIEOPL	AIAPL	AIOPL	AIEOPL	AIAPL
02 Andhra Pradesh	45.21	46.66	35.34	39.18	40.72	28.33
03 Arunachal Pradesh	25.23	26.50	2.65	21.08	21.32	10.08
04 Assam	28.42	30.76	18.61	23.83	28.25	14.55
05 Bihar	57.65	59.41	46.31	49.20	51.27	37.32
06 Goa*	20.27	21.16	12.44	13.50	0.00	7.66
07 Gujarat	31.84	33.81	20.51	23.87	25.96	15.97
08 Haryana	27.01	29.23	17.83	21.08	23.55	14.85
09 Himachal Pradesh	11.26	12.83	6.98	12.31	13.22	6.95
10 Jammu & Kashmir*	22.55	23.79	12.42	10.20	12.70	4.85
11 Karnataka	44.86	46.26	33.90	34.83	36.67	26.19
12 Kerala	37.51	39.71	27.81	23.93	25.51	16.53
13 Madhya Pradesh	40.45	42.08	30.68	38.33	40.75	28.60
14 Maharashtra	30.25	31.87	22.90	24.90	26.28	18.18
15 Manipur	30.28	34.25	12.84	40.64	44.37	18.19
16 Meghalaya	10.75	11.76	5.17	6.47	6.92	3.38
17 Mizoram	0.62	0.62	0.62	1.05	1.29	0.24
18 Nagaland*	0.00	0.00	0.00	7.77	8.44	2.82
19 Orissa	38.93	42.58	0.00	35.86	38.49	28.54
20 Punjab	20.61	22.39	29.78	15.92	17.03	8.85
21 Rajasthan	36.57	38.07	12.48	30.44	32.61	21.27
22 Sikkim	21.97	23.67	26.89	13.53	13.53	1.63
23 Tamil Nadu	38.32	40.09	15.24	34.80	36.84	25.21
24 Tripura	26.41	26.79	29.66	16.01	17.28	11.16
25 Uttar Pradesh	48.22	50.12	15.44	41.10	43.85	31.47
26 West Bengal	39.39	41.16	38.90	30.18	32.09	22.48
27 Andaman & Nicobar Islands	5.55	6.86	29.70	3.55	4.48	2.82
28 Chandigarh	9.58	10.21	21.90	8.43	8.43	2.08
29 Dadra & Nagar Haveli*	NA	NA	3.27	34.46	34.46	28.06
30 Daman & Diu*	NA	NA	NA	11.23	13.71	2.06
31 Delhi	11.56	12.84	6.03	12.24	12.39	9.45
32 Lakshadweep	36.34	39.90	18.81	15.93	16.76	11.21
33 Pondicherry	54.05	56.07	44.87	33.03	34.56	22.36
<b>All India</b>	<b>38.33</b>	<b>40.07</b>	<b>29.00</b>	<b>31.84</b>	<b>33.75</b>	<b>23.31</b>

Source: As in Table A10.

Notes: As in Table A17.

**Table A20: State-Wise Other Poverty Measures for 1987-88 and 1993-94**

States/UTs.	43 <sup>rd</sup> Round (1987-88)				50 <sup>th</sup> Round (1993-94)			
	HCR	PGI	FGT	APCTEP	HCR	PGI	FGT	APCTEP
02 Andhra Pradesh	35.96	0.0847	0.0299	90.89	31.50	0.0668	0.0218	170.14
03 Arunachal Pradesh	29.76	0.0653	0.0233	105.26	47.70	0.1145	0.0406	192.34
04 Assam	45.50	0.0947	0.0280	108.62	52.26	0.1127	0.0336	200.77
05 Bihar	65.24	0.1824	0.0689	100.41	63.01	0.1725	0.0634	168.70
06 Goa*	32.90	0.0550	0.0148	122.38	17.53	0.0304	0.0086	234.26
07 Gujarat	42.10	0.0937	0.0306	112.05	30.27	0.0647	0.0204	195.59
08 Haryana	21.55	0.0458	0.0160	106.30	23.94	0.0466	0.0143	188.80
09 Himachal Pradesh	23.81	0.0424	0.0119	112.67	31.58	0.0622	0.0185	196.23
10 Jammu & Kashmir*	28.68	0.0533	0.0148	108.52	10.71	0.0182	0.0047	185.36
11 Karnataka	44.96	0.1193	0.0454	95.95	36.16	0.0839	0.0287	169.39
12 Kerala	46.34	0.1171	0.0425	117.10	33.05	0.0785	0.0275	212.99
13 Madhya Pradesh	51.06	0.1402	0.0535	93.51	38.65	0.0914	0.0318	166.61
14 Maharashtra	47.94	0.1308	0.0495	104.34	44.48	0.1268	0.0503	181.63
15 Manipur	18.33	0.0243	0.0050	117.67	31.33	0.0384	0.0081	222.00
16 Meghalaya	35.27	0.0935	0.0350	99.12	30.12	0.0484	0.0115	212.42
17 Mizoram	3.85	0.0067	0.0025	111.39	7.01	0.0099	0.0023	217.17
18 Nagaland*	0.00	0.0000	0.0000	000.00	3.86	0.0041	0.0006	226.45
19 Orissa	61.11	0.1824	0.0727	93.91	54.46	0.1381	0.0492	159.26
20 Punjab	19.07	0.0329	0.0096	114.77	13.01	0.0206	0.0053	205.48
21 Rajasthan	43.29	0.1198	0.0480	101.92	27.80	0.0572	0.0176	186.42
22 Sikkim	42.99	0.0795	0.0222	110.08	37.31	0.0734	0.0205	203.26
23 Tamil Nadu	49.58	0.1480	0.0599	100.19	41.77	0.1036	0.0382	184.06
24 Tripura	27.01	0.0592	0.0197	105.61	28.75	0.0652	0.0221	195.90
25 Uttar Pradesh	48.41	0.1246	0.0443	94.92	40.29	0.0979	0.0333	166.20
26 West Bengal	50.75	0.1309	0.0473	105.35	45.19	0.1033	0.0334	189.23
27 Andaman & Nicobar Islands	6.82	0.0069	0.0011	119.76	2.52	0.0033	0.0007	207.41
28 Chandigarh	7.07	0.0106	0.0032	126.97	5.35	0.0058	0.0017	235.04
29 Dadra & Nagar Haveli*	75.80	0.2090	0.0719	91.02	57.34	0.1449	0.0466	162.15
30 Daman & Diu*	NA	NA	NA	NA	13.94	0.0221	0.0052	241.30
31 Delhi	23.20	0.0524	0.0190	152.89	22.19	0.0553	0.0208	267.61
32 Lakshadweep	42.23	0.0890	0.0257	130.80	13.85	0.0248	0.0071	250.76
33 Pondicherry	55.83	0.1663	0.0661	107.92	32.49	0.0755	0.0266	208.89
<b>All India</b>	<b>47.09</b>	<b>0.1241</b>	<b>0.0461</b>	<b>100.28</b>	<b>40.26</b>	<b>0.0978</b>	<b>0.0341</b>	<b>177.34</b>

Source: As in Table A10.

Notes: HCR is in percent, PGI and FGT are ratios and APCTEP is in Rupees/month.

The starred states are not comparable over the two rounds.

HCR = Head Count Ratios

PGI = Poverty Gap Index

FGT = Foster, Greer and Thorbecke Index

APCTEP = Average Per Capita Total Expenditure

**Table A21: Rural State-Wise Other Poverty Measures for 1987-88 and 1993-94**

States/UTs.	43 <sup>rd</sup> Round (1987-88)				50 <sup>th</sup> Round (1993-94)			
	APCTEP	HCR	PGI	FGT	APCTEP at 1987-88 Prices	HCR	PGI	FGT
02 Andhra Pradesh	83.47	34.40	0.0781	0.0271	85.97	29.90	0.0610	0.0195
03 Arunachal Pradesh	105.12	30.14	0.0663	0.0238	102.38	48.75	0.1171	0.0415
04 Assam	108.58	48.42	0.1014	0.0300	107.48	57.05	0.1241	0.0371
05 Bihar	98.48	66.48	0.1869	0.0709	99.14	65.58	0.1812	0.0667
06 Goa*	111.41	33.42	0.0516	0.0127	109.68	12.18	0.0204	0.0057
07 Gujarat	102.80	42.78	0.0960	0.0316	104.90	30.68	0.0639	0.0200
08 Haryana	103.54	21.88	0.0474	0.0169	106.03	27.99	0.0554	0.0173
09 Himachal Pradesh	112.56	25.23	0.0452	0.0127	109.97	33.97	0.0673	0.0201
10 Jammu & Kashmir*	107.96	32.61	0.0613	0.0172	109.93	15.44	0.0267	0.0071
11 Karnataka	85.96	44.35	0.1149	0.0429	90.06	37.05	0.0829	0.0277
12 Kerala	114.87	46.51	0.1150	0.0409	116.34	33.37	0.0793	0.0276
13 Madhya Pradesh	86.28	52.02	0.1415	0.0539	92.13	36.21	0.0806	0.0272
14 Maharashtra	96.71	53.28	0.1416	0.0520	94.31	51.15	0.1453	0.0571
15 Manipur	116.31	21.11	0.0289	0.0062	117.30	33.08	0.0428	0.0091
16 Meghalaya	98.72	40.39	0.1080	0.0406	113.10	34.36	0.0552	0.0132
17 Mizoram	114.34	5.50	0.0083	0.0022	115.41	10.10	0.0145	0.0034
18 Nagaland*	NA	NA	NA	NA	119.55	4.24	0.0048	0.0007
19 Orissa	90.33	63.19	0.1902	0.0761	96.69	56.61	0.1426	0.0506
20 Punjab	114.51	22.00	0.0383	0.0113	116.42	15.36	0.0246	0.0065
21 Rajasthan	96.84	44.44	0.1251	0.0512	108.28	26.21	0.0515	0.0154
22 Sikkim	109.45	49.30	0.0926	0.0260	108.12	40.24	0.0795	0.0222
23 Tamil Nadu	90.92	53.37	0.1603	0.0645	98.34	42.76	0.1040	0.0373
24 Tripura	105.86	28.91	0.0633	0.0212	104.62	32.04	0.0731	0.0249
25 Uttar Pradesh	91.46	49.18	0.1251	0.0442	93.03	41.31	0.0997	0.0336
26 West Bengal	104.34	57.88	0.1538	0.0566	108.94	52.40	0.1223	0.0397
27 Andaman & Nicobar Islands	113.65	7.28	0.0070	0.0010	113.28	2.11	0.0021	0.0003
28 Chandigarh	133.29	15.83	0.0066	0.0007	121.76	3.74	0.0047	0.0007
29 Dadra & Nagar Haveli	91.02	75.80	0.2090	0.0719	94.14	59.14	0.1484	0.0474
30 Daman & Diu*	NA	NA	NA	NA	105.68	8.88	0.0176	0.0053
31 Delhi	77.50	15.24	0.0660	0.0431	123.03	2.00	0.0020	0.0002
32 Lakshadweep	115.42	37.52	0.0915	0.0290	140.24	2.38	0.0019	0.0002
33 Pondicherry	92.70	53.82	0.1543	0.0615	104.46	25.90	0.0508	0.0166
<b>All India</b>	<b>95.46</b>	<b>49.38</b>	<b>0.1298</b>	<b>0.0480</b>	<b>98.39</b>	<b>42.70</b>	<b>0.1030</b>	<b>0.0356</b>

Source: As in Table A10.

Notes: As in Table A20.

**Table A22: Urban State-Wise Other Poverty Measures for 1987-88 and 1993-94**

States/UTs.	43 <sup>rd</sup> Round (1987-88)				50 <sup>th</sup> Round (1993-94)			
	APCTEP	HCR	PGI	FGT	APCTEP at 1987-88 Prices	HCR	PGI	FGT
02 Andhra Pradesh	112.87	41.54	0.1083	0.0403	117.33	36.05	0.0834	0.0283
03 Arunachal Pradesh	110.55	20.10	0.0418	0.0105	109.85	12.12	0.0258	0.0089
04 Assam	110.36	12.60	0.0183	0.0048	112.81	10.03	0.0127	0.0030
05 Bihar	116.07	56.64	0.1517	0.0553	119.26	44.45	0.1101	0.0393
06 Goa*	144.60	31.89	0.0615	0.0189	147.36	24.85	0.0441	0.0127
07 Gujarat	137.91	40.33	0.0876	0.0278	136.56	29.42	0.0662	0.0212
08 Haryana	117.41	20.31	0.0399	0.0130	120.88	12.30	0.0213	0.0058
09 Himachal Pradesh	122.37	4.18	0.004	0.0006	119.55	5.61	0.0065	0.0013
10 Jammu & Kashmir*	116.48	10.63	0.0164	0.0040	118.10	2.78	0.0040	0.0007
11 Karnataka	119.38	46.43	0.1302	0.0514	123.70	33.95	0.0864	0.0312
12 Kerala	128.52	45.51	0.1276	0.0509	136.23	32.07	0.0760	0.0271
13 Madhya Pradesh	126.99	47.02	0.1349	0.0518	129.66	46.55	0.1266	0.0468
14 Maharashtra	126.59	37.09	0.1089	0.0455	127.66	33.23	0.0956	0.0388
15 Manipur	123.73	11.52	0.0131	0.0022	125.73	26.67	0.0264	0.0052
16 Meghalaya	123.75	4.02	0.0046	0.0009	117.23	3.48	0.0056	0.0012
17 Mizoram	60.43	0.62	0.0035	0.0031	135.32	0.33	0.0001	0.0000
18 Nagaland	0.00	0.00	0.0000	0.0000	129.51	2.82	0.0020	0.0002
19 Orissa	124.97	45.27	0.1226	0.0467	125.16	39.74	0.1072	0.0396
20 Punjab	116.15	11.26	0.0185	0.0049	118.84	7.22	0.0105	0.0023
21 Rajasthan	124.35	38.84	0.0993	0.0357	128.46	33.14	0.0766	0.0252
22 Sikkim	119.59	14.69	0.021	0.0053	127.48	3.39	0.0029	0.0005
23 Tamil Nadu	121.18	42.73	0.1257	0.0516	127.49	39.96	0.1029	0.0398
24 Tripura	100.99	12.23	0.0266	0.0081	104.11	7.31	0.0142	0.0043
25 Uttar Pradesh	112.05	44.92	0.1223	0.0450	115.42	36.12	0.0904	0.0320
26 West Bengal	111.68	28.53	0.0594	0.0183	114.25	21.41	0.0406	0.0125
27 Andaman & Nicobar Islands	141.74	5.55	0.0067	0.0015	132.54	3.55	0.0063	0.0018
28 Chandigarh	125.49	6.25	0.011	0.0035	135.85	5.59	0.0060	0.0018
29 Dadra & Nagar Haveli*	NA	NA	NA	NA	114.20	34.46	0.1006	0.0365
30 Daman & Diu*	NA	NA	NA	NA	155.07	21.66	0.0291	0.0052
31 Delhi	159.17	24.25	0.0506	0.0158	150.66	24.65	0.0618	0.0234
32 Lakshadweep	147.32	48.81	0.0854	0.0211	144.95	25.05	0.0472	0.0138
33 Pondicherry	119.15	57.42	0.1757	0.0698	129.07	36.47	0.0905	0.0327
<b>All India</b>	<b>121.22</b>	<b>39.20</b>	<b>0.1044</b>	<b>0.0393</b>	<b>125.11</b>	<b>32.87</b>	<b>0.0820</b>	<b>0.0298</b>

Source: As in Table A10.

Notes: As in Table A21.

**Table A23: Human Poverty Index: 1981**

States/UTs.	Rural		Urban		Combined	
	Value	Rank	Value	Rank	Value	Rank
Andhra Pradesh	56.16	23	29.97	24	50.09	20
Arunachal Pradesh	62.03	31	30.04	25	59.86	32
Assam	60.19	28	33.37	28	56.00	29
Bihar	61.07	30	33.25	27	57.57	30
Goa	33.19	5	19.56	5	29.25	5
Gujarat	42.46	9	24.71	14	37.31	10
Haryana	43.36	10	22.82	10	38.37	13
Himachal Pradesh	36.84	7	14.10	1	34.05	8
Jammu & Kashmir	52.37	16	28.42	22	36.94	16
Karnataka	50.11	15	27.40	21	33.96	15
Kerala	34.20	6	22.80	9	32.10	6
Madhya Pradesh	57.74	25	30.30	26	52.15	23
Maharashtra	47.29	13	20.53	7	38.63	12
Manipur	56.81	24	33.97	30	58.82	21
Meghalaya	60.64	29	23.43	11	54.02	26
Mizoram	54.39	19	29.62	23	57.97	18
Nagaland	53.80	18	25.72	19	49.37	19
Orissa	62.50	32	37.90	32	59.34	31
Punjab	37.33	8	21.73	8	33.00	7
Rajasthan	59.54	27	33.47	29	54.16	27
Sikkim	53.16	17	25.51	17	52.76	25
Tamil Nadu	49.23	14	25.28	15	42.05	14
Tripura	55.19	21	25.64	18	51.86	22
Uttar Pradesh	59.29	26	36.01	31	54.84	28
West Bengal	56.06	22	23.61	13	47.64	17
Andaman & Nicobar Islands	45.57	12	19.80	6	38.58	11
Chandigarh	30.60	3	16.36	2	17.28	1
Dadra & Nagar Haveli	54.65	20	25.34	16	52.53	24
Daman & Diu	32.77	4	18.38	3	28.16	4
Delhi	27.36	1	18.66	4	19.27	2
Lakshadweep	30.38	2	23.44	12	26.82	3
Pondicherry	44.82	11	27.24	20	35.79	9
<b>All India</b>	<b>53.28</b>		<b>27.21</b>		<b>47.33</b>	

Source: Estimated for the Report

- Notes: 1. The HPI is a composite of variables capturing deprivation in three dimensions of human development *viz.*, economic, educational and health. These have been captured by proportion of population below poverty line, proportion of population without access to safe drinking water/sanitation/electricity, medical attention at birth/vaccination and proportion living in Kutch houses; proportion of illiterate population and children not enrolled in schools; and proportion of population not expected to survive beyond age 40. See the Technical Note for the estimation methodology and other details.
2. For sake of completeness, for some variables used in estimating the indices, the data for small States/UTs. have been Estimated/assumed following, in general, principles of physical contiguity or similarity in socio-economic or demographic profile. The details are available in the Technical Note.

**Table A24: Human Poverty Index: 1991  
(Comparable with 1981)**

States/UTs.	Rural		Urban		Combined	
	Value	Rank	Value	Rank	Value	Rank
Andhra Pradesh	45.04	19	24.78	26	39.78	19
Arunachal Pradesh	53.71	30	24.56	25	49.62	30
Assam	52.57	25	21.79	23	48.95	27
Bihar	55.85	32	28.04	30	52.34	32
Goa	24.04	4	14.48	5	37.71	18
Gujarat	33.59	12	20.29	18	29.46	13
Haryana	32.29	10	17.49	12	28.55	10
Himachal Pradesh	28.09	8	10.14	1	26.21	8
Jammu & Kashmir	39.34	16	17.81	13	34.19	16
Karnataka	37.54	15	20.69	20	32.70	15
Kerala	21.75	2	14.43	4	19.93	4
Madhya Pradesh	48.43	24	25.04	27	43.47	23
Maharashtra	36.53	14	16.20	8	29.25	11
Manipur	47.49	20	26.22	28	41.63	21
Meghalaya	56.45	31	18.05	14	49.19	28
Mizoram	45.96	18	17.39	11	32.20	14
Nagaland	46.83	21	21.70	22	42.07	22
Orissa	53.07	29	29.23	31	49.85	31
Punjab	27.95	6	18.26	15	25.06	7
Rajasthan	53.28	28	27.79	29	46.67	25
Sikkim	40.97	17	16.49	9	34.84	17
Tamil Nadu	33.98	13	18.71	16	29.29	12
Tripura	49.54	22	20.37	19	44.89	24
Uttar Pradesh	52.43	27	31.20	32	48.27	26
West Bengal	47.00	23	21.52	21	40.48	30
Andaman & Nicobar Islands	31.53	9	15.41	6	27.09	9
Chandigarh	25.37	5	13.32	2	14.49	1
Dadra & Nagar Haveli	52.25	26	21.80	24	49.59	29
Daman & Diu	28.17	7	16.06	7	22.30	5
Delhi	20.90	3	16.60	10	17.01	3
Lakshadweep	19.04	1	13.88	3	15.88	2
Pondicherry	30.87	11	20.01	17	24.16	6
<b>All India</b>	<b>44.81</b>		<b>22.00</b>		<b>39.36</b>	

Source: Human Development Report, Planning Commission.

Notes: 1. The HPI is a composite of variables capturing deprivation in three dimensions of human development *viz.*, economic, educational and health. These have been captured by proportion of population below poverty line, proportion of population without access to safe drinking water/sanitation/electricity, medical attention at birth/vaccination and proportion living in Kutch houses; proportion of illiterate population and children not enrolled in schools; and proportion of population not expected to survive beyond age 40. See the Technical Note for the estimation methodology and other details.

2. For sake of completeness, for some variables used in estimating the indices, the data for small States/UTs. have been estimated/assumed following, in general, principles of physical contiguity or similarity in socio-economic or demographic profile. The details are available in the Technical Note.
3. These indices are comparable with HPIs estimated for 1981, as identical sets of variables have been used.

## Annexure 1: Poverty Measures: Axiomatic Framework: Definitions

### Focus Axiom

Focus Axiom:  $P(x; z) - P(y; z)$  whenever  $x \in D$  is obtained from  $y \in D$  by an increment to a non-poor person.

### Replication Invariance Axiom

Replication Invariance Axiom:  $P(x; z) = P(y; z)$  whenever  $x$  is obtained from  $y$  by a  $(k-)$  replication.

### Continuity and Restricted Continuity Axioms

Continuity Axiom:  $P(x; z)$  is continuous as a function of  $x$  on  $D$  for any given  $z$ .

Restricted Continuity Axiom:  $P(x; z)$  is left continuous as a function of  $x_i$  on  $D(z)$ . This can also be phrased as requiring  $P(x; z)$  to be continuous in  $x_i$ ; in the neighborhood of  $x$ .

### Symmetry Axiom

Symmetry Axiom:  $P(x; z) = P(y; z)$  whenever  $x \in D$  is obtained from  $y \in D$  by a permutation.

### Weak and Strong Monotonicity Axiom

Weak Monotonicity Axiom:  $P(x; z) > P(y; z)$  whenever  $x \in D$  is obtained from  $y \in D$  by a simple decrement to a poor person.

Strong Monotonicity Axiom:  $P(x; z) < P(y; z)$  whenever  $x \in D$  is obtained from  $y \in D$  by a simple increment to a poor person.

### Minimal and Weak Transfer Axioms

Minimal Transfer Axiom:  $P(x; z) < P(y; z)$  [ $P(x; z) > P(y; z)$ ] whenever  $x \in D$  is obtained from  $y \in D$  by a *progressive (regressive) transfer* between two poor persons with no one crossing the poverty line as a consequence of the transfer.

Weak Transfer Axiom:  $P(x; z) < P(y; z)$  [ $P(x; z) > P(y; z)$ ] whenever  $x \in D$  is obtained from  $y \in D$  by a *progressive (regressive) transfer* with at least the recipient (donor) being poor with no one crossing the poverty line as a consequence of the transfer.

### Regressive and Progressive Transfer Axioms

Regressive Transfer Axiom:  $P(x; z) > P(y; z)$  whenever  $x \in D$  is obtained from  $y \in D$  by a *regressive transfer* with at least the donor being poor.

Progressive Transfer Axiom:  $P(x; z) < P(y; z)$  whenever  $x \in D$  is obtained from  $y \in D$  by a *progressive transfer* with at least the recipient being poor.

### Monotonicity Sensitivity Axiom

Monotonicity Sensitivity Axiom:  $P(x'; z) - P(x; z) > P(x''; z) - P(x; z)$  whenever  $x'$  and  $x''$  are obtained from  $y \in D$  by the same amount of decrement to poor incomes  $y_i$  and  $y_j$ , respectively, where  $y_i < y_j$ .

### Transfer Sensitivity Axiom

Transfer Sensitivity Axiom:  $P(x; z) < P(y; z)$  whenever  $y \in D$  is obtained from  $y \in D$  by a *favourable composite transfer* (FACT): a progressive transfer of income  $\delta (> 0)$  from  $y_1$ , i.e.,  $x = y + \delta(e_i - e_j) + \rho(e_i - e_k)$  with  $\sigma^2(y; z) = \sigma^2(y; z)$   $y_i < y_j \leq y_k \leq y_1$ ,  $z$ , and  $x_i \leq x_j \leq x_k < k_1 < z$ .

## Annexure 2

Some key schemes are summarised below:

### **a. Jawahar Gram Samridhi Yojana (JGSY)**

JGSY was introduced in April 1999 by restructuring the Jawahar Rozgar Yojana and is being implemented as a Centrally Sponsored Scheme on a cost sharing ratio of 75:25 between the Centre and States. The programme is implemented by Gram Panchayats and works which result in creation of durable productive community assets are taken up. The secondary objective, however, is generation of wage employment for the rural unemployed poor.

### **b. Swarnajayanti Gram Swarozgar Yojana (SGSY)**

SGSY was launched with effect from April 1, 1999 as a result of amalgamating certain erstwhile programmes, viz., Integrated Rural Development Programme, Development of Women and Children in Rural Areas, Training of Rural Youth for Self-Employment, Million Wells Scheme, etc., into a single self-employment programme. It aims at promoting micro-enterprises and helping the rural poor into Self-Help Groups (SHG). This scheme covers all aspects of self-employment like organisation of rural poor into SHG and their capacity building, training, planning of activity clusters, infrastructure development, financial assistance through bank credit and subsidy and marketing support, etc. The scheme is being implemented as a Centrally Sponsored Scheme on a cost sharing ratio of 75:25 between the Centre and the States.

### **c. Employment Assurance Scheme (EAS)**

EAS was started on October 2, 1993 for implementation in 1778 identified backward Panchayat Samitis of 257 districts situated in drought prone areas, desert areas, tribal areas and hill areas in which the revamped public distribution system was in operation. It was subsequently expanded by 1997-98 to all the 5448 rural Panchayat Samitis of the country. It was restructured in 1999-2000 to make it a single wage employment programme and implemented as a Centrally Sponsored Scheme on a cost sharing ratio of 75:25.

### **d. Sampoorna Grameen Rozgar Yojana (SGRY)**

Launched w.e.f. September 2001, the scheme aims at providing wage employment in rural areas as also food security, along with the creation of durable community, social and economic assets. The scheme is being implemented on a cost sharing ratio of 75:25 between the Centre and the States. The on-going Employment Assurance Scheme and Jawahar Gram Samridhi Yojana would subsequently be fully integrated within the scheme with effect from April 1, 2002.

### **e. National Social Assistance Programme (NSAP)**

NSAP was introduced on 15 August, 1995 as a 100 percent Centrally Sponsored Scheme for social assistance benefit to poor households affected by old age, death of primary bread earner and maternity care. The programme has three components, i.e., National Old Age Pension Scheme, National Family Benefit Scheme and National Maternity Benefit Scheme.

### **f. Pradhan Mantri Gramodaya Yojana (PMGY)**

PMGY was introduced in 2000-01 with the objective of focussing on village level development in five critical areas, i.e., health, primary education, drinking water, housing

and rural roads, with the overall objective of improving the quality of life of people in the rural areas.

**i. Pradhan Mantri Gram Sadak Yojana (PMGSY)**

PMGSY was launched on 25<sup>th</sup> December, 2000 with the objective of providing road connectivity through good all-weather roads to all rural habitations with a population of more than 1000 persons by the year 2003 and those with a population of more than 500 persons by the year 2007. An allocation of Rs. 2500 crore has been provided for the scheme in 2001-02.

**ii. Pradhan Mantri Gramodaya Yojana (Grameen Awaas)**

This scheme is to be implemented on the pattern of Indira Awaas Yojana with the objective of sustainable habitat development at the village level and to meet the growing housing needs of the rural poor.

**iii. Pradhan Mantri Gramodaya Yojana–Rural Drinking Water Project**

Under this programme, a minimum 25 percent of the total allocation is to be utilised by the respective States/UTs on projects/schemes for water conservation, water harvesting, water recharge and sustainability of the drinking water sources in respect of areas under Desert Development Programme/Drought Prone Areas Programme.

**g. Swarnajayanti Shahri Rozgar Yojana (SSRY)**

The Urban Self-Employment Programme and the Urban Wage Employment Programme are two special schemes of the SJSRY, initiated in December 1997, which replaced various programmes operated earlier for urban poverty alleviation. This is funded on a 75:25 basis between the Centre and the States. During 2001-02 and allocation of Rs. 168 crore has been provided for various components of this programme.

**h. Indira Awaas Yojana (IAY)**

This is a major scheme for construction of houses to be given to the poor, free of cost. An additional component for conversion of unserviceable kutchha houses to semi-pucca houses has also been added. From 1999-2000, the criteria for allocation of funds to States/UTs has been changed from poverty ratio to equally reflect the poverty ratio and the housing shortage in the State. Similarly, the criteria for allocation of funds to a district has been changed to equally reflect the SC/ST population and the housing shortage.

**i. Samagra Awaas Yojana (SAY)**

This has been launched as a comprehensive housing scheme in 1999-2000 on pilot project basis in one block in each of 25 districts of 24 States and in one Union Territory with a view to ensuring integrated provision of shelter, sanitation and drinking water. The underlying philosophy is to provide for convergence of the existing housing, sanitation and water supply schemes with a special emphasis on technology transfer, human resource development and habitat improvement with people's participation.

**j. Food for Work Programme**

This programme was initially launched w.e.f. February 2001 for five months and was further extended. The programme aims at augmenting food security through wage employment in the drought affected rural areas in eight States, i.e., Gujarat, Chhattisgarh, Himachal Pradesh, Madhya Pradesh, Maharashtra, Orissa, Rajasthan and Uttaranchal. The Centre makes available appropriate quantity of foodgrains free of cost to each of the drought affected States as an additionality under the programme. Wages by the State government can

be paid partly in kind (upto 5 Kgs. of foodgrains per manday) and partly in cash. The workers are paid the balance of wages in cash, such that they are assured of the notified Minimum Wages. This Programme stands extended upto March 31, 2002 in respect of notified “natural calamity affected Districts”.

**k. Annapurna**

This scheme came into effect from April 1, 2000 as a 100 percent Centrally Sponsored Scheme. It aims at providing food security to meet the requirement of those senior citizens who though eligible for pensions under the National Old Age Pension Scheme, are not getting the same. Foodgrains are provided to the beneficiaries at subsidised rates of Rs. 2 per Kg. of rice. The scheme is operational in 25 States and 5 Union Territories. More than 6.08 lakh families have been identified and the benefits of the scheme are passing on to them.

**l. Krishi Shramik Samajik Suraksha Yojana**

The scheme was launched in July, 2001 for giving social security benefit to agricultural labourers on hire in the age group of 18 to 60 years.

**m. Shiksha Sahayog Yojana**

The scheme has been finalised for providing educational allowance of Rs. 100 per month to the children of parents living below the poverty line for their education from the 9<sup>th</sup> to 12<sup>th</sup> standard.

# **INDIA: FISCAL REFORMS FOR POVERTY REDUCTION**

## **PAPER II: SAMPLING DESIGN AND SURVEY INSTRUMENTS**

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March 2004

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## **Preface**

This study has been undertaken by the National Institute of Public Finance and Policy at the instance of the Canadian International Development Agency (CIDA), Canada.

The study team consists of D. K. Srivastava, S. K. Sanyal, C. Bhujanga Rao, and Pinaki Chakraborty. Opinions and analyses here are those of the authors. The members of the Governing Body of the National Institute of Public Finance and Policy are in no way responsible for these.

March 2004  
New Delhi

M. Govinda Rao  
Director

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In Madhya Pradesh, we benefited considerably from discussions with Shri Ram Singh, Joint Director, Census Office, Government of India, Bhopal. We thank him and Shri Suresh Dubey, Investigator, Data Dissemination Cell, Census Office, Government of India, Bhopal for providing Census data for both Madhya Pradesh and Chhattisgarh to draw samples from both the states. We would also like to thank Shri Anand Nigam, Assistant Director, Data Dissemination Cell, Registrar General of India Office, New Delhi to help us in sorting some of the Census Data.

The primary survey was conducted by the New Concepts Information Systems, New Delhi in the States of Uttar Pradesh, Madhya Pradesh, Uttaranchal, and Chhattisgarh. They worked with constant interaction with the NIPFP Team. We are thankful to them for canvassing the survey with professionalism and expertise.

The processing of primary data was entrusted to M. R. Associates, New Delhi, who helped in the compilation and processing of data according to the requirements as conveyed to them from time to time. They responded quickly to requests for modifications as required. We thank them for their promptness and commend their capability to work under considerable pressure of time.

At the NIPFP, we received valuable support from Dr. M. Govinda Rao, Director and Dr. Amaresh Bagchi, Emeritus Professor.

In the earlier stages of the work, in the formulation of the questionnaires and the conduct of the pilot survey, Ms. S. Kappagantula and Shri T. S. Rangamannar were associated with the project. We thank them for their help. We would like to acknowledge the efficient and diligent work done by our project associates Ms. Darshy Sinha, Ms. Kirti Singh, Mr. Arindam Banerjee, Ms. Vijaya Gulati, Ms. Sushmita Sahu, and Ms. Urvashi Singh.

We thank Shri R.S. Tyagi for his adept secretarial assistance.

Maps used in this report are from Office of the Registrar General, India, New Delhi.

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March 2004  
New Delhi

# PAPER II: SAMPLING DESIGN AND SURVEY INSTRUMENTS

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## Executive Summary

1. This paper is the second part of a seven-part study that examines the role of fiscal policy in reducing poverty in India with particular reference to four high poverty incidence states, *viz.*, Uttar Pradesh, Madhya Pradesh, Uttaranchal, and Chhattisgarh. This paper deals with the sampling design, survey instruments and the rationale for nature and content of the questionnaires.

### Background

2. In all, there are 144 districts in the four focus states. These districts are further divided into blocks, which are further divided into villages. In Uttar Pradesh there are 70 districts, Madhya Pradesh has 45, Chhattisgarh has 16, and Uttaranchal has 13.
3. Uttaranchal was carved out of eight districts of undivided Uttar Pradesh, *viz.*, Almora, Chamoli, Dehradun, Haridwar, Nainital, Pithoragarh, Tehri Garhwal, and Uttarkashi. These were reorganised into 13 districts in Uttaranchal, which can be divided into three regions: Garhwal, Kumayun, and Plains.
4. Chhattisgarh was carved out of seven districts of undivided Madhya Pradesh, *viz.*, Basti, Bilaspur, Durg, Raigarh, Raipur, Rajnandgaon, and Surguja. These were reorganised into 16 districts in Chhattisgarh, which can be divided into three regions: Northern, Central, and Southern.
5. As per the 1991 Census, Uttar Pradesh has more than 2 crore households, Madhya Pradesh 0.89 crore, Chhattisgarh 0.31 crore, and Uttaranchal has 0.12 crore households.

### Sampling Design

6. The choice of an optimum sampling design requires balancing various considerations relating to operational convenience, cost and precision aimed at. Given a cost threshold, surveys are planned with a view to minimising the sampling error. In view of these considerations, it was decided to have a total sample size of 9,000 households split into two components: rural sector- 7,000 households and urban sector- 2,000 households. The sampling designs of the survey are different for the two sectors.
7. A stratified two-stage sampling of villages as the first stage units and households as the second stage units would be the most efficient design for rural household survey but would entail substantial organisational problems. In this study, a three-stage design has been adopted for the rural sector with district as the first stage unit, village as the second stage and household as the ultimate stage unit. The sampling fraction of one in four districts is kept on the higher side because the number of first stage units should be large to reduce the variance.
8. The design envisages surveying 10 households within each sample village. The total sample size of 7,000 households is allocated to the four states in proportion to the number of sample districts. The allocated number is then divided by ten to arrive at the number of second stage units for the four states. The state allocations are then distributed over the districts in proportion to their rural population.

9. Within the framework of the three-stage design, in order to reach the poor, the selections of districts (first stage units) and villages (second stage units) within selected districts were done with probability proportional to size, size being female illiteracy rates, as poverty defined broadly as a multidimensional deprivation is expected to be associated with high illiteracy rate among females.
10. In the selected village, the households will be stratified into two strata. The poor would be judged on the basis of twin criteria of belonging to a vulnerable group and being a below poverty line cardholder. These will form stratum 1. The remaining households will comprise the second stratum. As the emphasis is on the poor, eight households will be selected with simple random sampling without replacement from stratum 1, and two from stratum 2.
11. In the urban sector the scope of the survey is limited to slum households in Class I towns of the four states. The allocation of a total of 2,000 households to the four states was done on the basis of proportion of slum population.
12. The procedure of selection of towns differs from state to state because of non-availability of slum population in some. For Uttar Pradesh and Madhya Pradesh, towns were first stratified and then selected with probability proportional to size, size being the proportion of slum population. For Chhattisgarh, two towns were selected with probability proportional to size without stratification. In Uttaranchal, there being considerably smaller number of slums, two towns having more than a lakh of population were selected for the survey.
13. The selection of slums will be done at the field level after mapping out the location of all the slums in the town. The required slums will be selected based on simple random sampling without replacement.

### **Survey Instruments**

14. Two separate questionnaires are designed for the rural sector, *viz.*, village level and the household level. At the penultimate level in the three-stage design, *i.e.*, selected village, a separate schedule for listing of all households is designed wherein all households are stratified into two strata before the required number of households are selected.
15. The village level questionnaire asks details on several aspects of the village population, economic activities and available infrastructures. The main aspects covered deal with (i) availability of infrastructure, (ii) village primary schools, (iii) participation in elections, (iv) functions of village panchayat, (v) major occupations in the village, (vi) community and cooperative services, and (vii) information regarding types of households.
16. The household level questionnaire is designed to assess various access-oriented problems being faced by the households. A wide range of issues are addressed namely, expenditure on different items of consumption and income from different sources, education, health, water and sanitation, occupation, transportation, access to law and government services, access to information and so on.

17. For the urban sector, the household questionnaire is almost the same as that of the rural sector, but the approach to get at the sample of slums is slightly different in the sense that the frame of the slums is not available. For this purpose, first all the slums of the selected town are listed and a few are selected at random. In the selected slum the households are listed for the sampling of households along with particulars of the slum.
18. As the sampling design ensures reliable estimates of village statistics, the village level questionnaire is designed to seek as much detail as possible with the overall purpose of ascertaining whether the fiscal development processes have reached the remote corners of villages or not. The village level questionnaire asks details on several aspects of the village population, economic activities and available infrastructures. Relevant general questions precede the main enquiry wherein information is sought on whether the backward class is still isolated, whether any new livelihood activity has stabilized in the village and historically, whether the village could be labeled as disturbance-prone or subject to natural calamities or disaster.
19. For the urban sector, the universe to be studied is the slum population and in a few towns the squatter settlements also. A slum is a compact area having a collection of poorly built tenements, mostly of temporary nature usually with poor sanitation and inadequate drinking water facilities. A squatter settlement is an unauthorised settlement with unauthorized structures put up by the squatters.
20. A pilot survey was conducted both in rural and semi-urban areas in Uttar Pradesh and Madhya Pradesh with a view to further developing and refining the preliminary questionnaires. This process helped in developing sampling instruments that are capable of covering relevant issues for examining the role of fiscal policy in poverty reduction.

### **Pilot Survey and Related Considerations**

21. Some of the lessons learned from piloting the preliminary questionnaires are summarised below:
  - i. It was noted that the households have often understated incomes and there exists a large difference between income and expenditure with expenditure exceeding the reported income. In the villages, the PDS system has become almost non-functional, due to the poor quality of PDS supply and at times higher PDS prices relative to the market. Apart from issues related to the basic food consumption, consumption of alcohol is a major social problem in these villages, especially affecting the low income and SC households. The survey also noted the prevalence of private moneylenders because of the absence of public sector banking facilities to a significant extent.
  - ii. With regard to the various public services available at the village level, it was noted that though there are running primary schools in the villages, the attendance is thin as many children are still made to work to support family income. In case of health services, it was noticed that quacks are very popular, because of their availability in the village and also distance of public health centres from villages act as a hindrance in accessing the government run health services. The survey noted that family planning is still not successful with large families still being the norm in low income and minority households. There is a

need to increase literacy in the villages supported by effective family planning education to move poor households towards reduced fertility.

- iii. With regard to water supply and other infrastructure facilities, according to the Village Pradhans, water supply is quite adequate. The main economic constraints according to the Village Pradhans have been the lack of adequate power supply and irrigation facilities. If only power supply could be ensured at reasonable prices, productivity and output will go up considerably through irrigation. In the context of housing, the Indira Awaas Yojana appears to be a useful intervention. The choice regarding beneficiary is being done by Gram Sabha which is acceptable to ten villagers. However, much money is being misused and houses are left unfinished. In Madhya Pradesh, village road connectivity and the quality of public road infrastructure appeared to have been a major accessibility problem.
- iv. No significant out-migration from these villages to urban areas was reported.

## Abbreviations

APL	Above Poverty Line
BPL	Below Poverty Line
FSU	First Stage Unit
MLA	Member of Legislative Assembly
MP	Member of Parliament
NSS	National Sample Survey
NSSO	National Sample Survey Organisation
OBC	Other Backward Classes
PDS	Public Distribution System
PPS	Probability Proportional to Size
PPSWR	Probability Proportional to Size With Replacement
RSE	Relative Standard Error
SC	Scheduled Caste
SL	Slums
SQ	Squatter Settlements
SRS	Simple Random Sampling
SRSWOR	Simple Random Sampling Without Replacement
SSU	Second Stage Unit
ST	Scheduled Tribe
USU	Ultimate Stage Unit

# **INDIA: FISCAL REFORMS FOR POVERTY REDUCTION**

## **PAPER II: SAMPLING DESIGN AND SURVEY INSTRUMENTS**

### **1. Introduction**

As discussed in Paper I, the official poverty data focuses on a narrow interpretation of poverty, concerning mainly the nutritional dimension. Even with respect to nutritional aspect of poverty, data is in highly aggregated form, enabling only inter-state comparisons, or comparisons across National Sample Survey regions. Published data also is not capable of capturing both direct and indirect impact of fiscal policy in the movement of poverty ratio. Thus, a study of poverty aimed at drawing out the role of fiscal policy instruments exercised by the three tiers of governments, requires a primary survey which would not only bring out nutritional but also other critical aspects of poverty where the role of fiscal policy is of critical importance. The primary survey envisaged here would provide the necessary data framework.

Further, researchers have emphasised the need for an (e.g., Strauss and Thomas, 1995) “integrated” data sets that contain apart from poverty, income, and occupation related data, as also data on health, education, water, sanitation, law and personal security, and community participation. We propose to obtain subjective/qualitative data to understand and analyse poor people’s own perception of their conditions, constraints, and expectations from government policy. Ravallion (1996), in the context of the need for such “integrated” surveys noted: “For estimating behavioural models we clearly need a wide range of data for the same households, including community characteristics. Integrated data sets are becoming more common. Conventional cross-sectional data sets are less than ideal for analysing the aforementioned issues concerning the dynamics of poverty, including its state dependence, and for dealing with certain problems of endogeneity. Even one extra waive of data on the key welfare indicators for the same sample can add enormously to the explanatory power of a household survey for understanding why some people do much better than others in escaping poverty. We also need a broader approach to the types of questions to be asked in surveys. Economists have often shied away from subjective/qualitative questions. Yet subjective welfare assessments can be one way of identifying the properties of money metric utility

functions (Kapteyn, 1994). Some other social scientists have turned their backs on the ‘objective’ data. There can be large gains to having both types of data for the same households”.

For analysis based on primary data, this study focuses on four states in India that have a high incidence of poverty, viz., Uttar Pradesh, Madhya Pradesh, Chhattisgarh and Uttaranchal. The study will utilise both primary household information drawn from a survey, as well as in-depth case studies selected during field visits. The selection strategy differs for rural and urban areas. There are separate questionnaires for the two areas which are enclosed to this chapter.

This paper is divided into eight sections. Section 2 considers district-wise organisation of the focus states. Section 3 discusses the sampling methodology. Section 4 provides details of the methodology of determining the sample size. Section 5 discusses the survey instruments. Issues highlighted in the pilot survey are discussed in Section 6. The estimation procedure from sample to population is detailed in Section 7. Section 8 contains the concluding observations.

## **2. District-Wise Organisation of Focus States**

A total of 144 districts are represented in the four states of Uttar Pradesh, Madhya Pradesh, Uttaranchal, and Chhattisgarh. These districts are divided into blocks, which are further divided into villages.

As per the 2001 census, Uttar Pradesh is the largest state, in terms of population (16.605 crore), followed by Madhya Pradesh (6.039 crore), Chhattisgarh (2.08 crore), and Uttaranchal (0.848 crore). Uttar Pradesh has 70 districts, Madhya Pradesh has 45, and Chhattisgarh and Uttaranchal have 16 and 13 districts, respectively. Tables 1 and 2 give state-wise and region-wise names of districts under study.

The undivided Uttar Pradesh had 68 districts divided into five main regions: Hill, Western, Central, Eastern, and Bundelkhand. Eight districts of Almora, Chamoli, Dehradun, Hardwar, Nainital, Pithoragarh, Tehri Garhwal, and Uttarkashi were carved out to form Uttaranchal. These were reorganised into 13 districts. Uttaranchal can be divided into three

regions: Garhwal, Kumayun, and Plains. The number of districts in reorganised Uttar Pradesh and Uttaranchal is shown in Table 1.

**Table 1: Districts in Reorganised Uttar Pradesh and Uttaranchal**

<b>Bundelkhand</b>	<b>Eastern</b>	<b>Central</b>	<b>Western</b>
Banda	Allahabad	Hardoi	<b>Auraiya</b>
Chitrakut	<b>Ambedkar Nagar</b>	Barabanki	Agra
Hamirpur	Azamgarh	Fatehpur	Aligarh
Jalaun	Bahraich	Kanpur Dehat	Badaun
Jhansi	Ballia	Kanpur Nagar	<b>Bagpat</b>
Lalitpur	<b>Balrampur</b>	<b>Lakhimpur Kheri</b>	Bareilly
<b>Mahoba</b>	Basti	Lucknow	Bijnor
	<b>Chandauli</b>	Rae Bareilly	Bulandshahar
	Deoria	Sitapur	Etah
	Faizabad	Unnao	Etawah
	Ghazipur		Farrukhabad
	Gonda		Firozabad
	Gorakhpur		Gautam Budh Nagar
	Jaunpur		Ghaziabad
	<b>Kaushambi</b>		<b>Hathras</b>
	<b>Kushinagar</b>		<b>Jyotiba Phule Nagar</b>
	Maharajganj		<b>Kanauj</b>
	Maunath Bhanjan		Mainpuri
	Mirzapur		Mathura
	Pratapgarh		Meerut
	<b>Sant Kabir Nagar</b>		Moradabad
	<b>Sant Ravidas Nagar</b>		Muzaffarnagar
	<b>Shravasti</b>		Pilibhit
	Sidhartha Nagar		Rampur
	Sonbhadra		Saharanpur
	Sultanpur		Shahjahanpur
	Varanasi		

<b>Uttaranchal</b>		
<b>Kumayun</b>	<b>Garhwal</b>	<b>Plains</b>
Almora	Chamoli	Haridwar
<b>Bageshwar</b>	Dehradun	<b>Udhamsingh Nagar</b>
<b>Champawat</b>	<b>Pauri</b>	
Nainital	<b>Rudraprayag</b>	
Pithoragarh	Tehri Garhwal	
Uttarkashi		

The undivided Madhya Pradesh had 45 districts. Seven of these districts, *viz.*, Basti, Bilaspur, Durg, Raigarh, Raipur, Rajnandgaon, and Surguja were carved out to constitute Chhattisgarh. These districts were reorganised into 16 districts. Seven new districts were related from the remaining districts of Madhya Pradesh. Thus, the new Madhya Pradesh also has 45 districts. Two of the earlier districts were renamed: Khandwa as East Nimar, and Khargone as West Nimar. Madhya Pradesh can be divided into six regions, *viz.*, Central, Malwa Plateau, Northern, South Central, South Western, and Vidisha. Chhattisgarh can be

divided into three regions: Northern, Central, and Southern. The number of districts in reorganised Madhya Pradesh and Chhattisgarh are shown in Table 2.

**Table 2: Districts in Reorganised Madhya Pradesh and Chhattisgarh**

<b>Central</b>	<b>Malwa Plateau</b>	<b>North</b>	<b>South Central</b>	<b>South West</b>	<b>Vindhya</b>
Bhopal	<b>Badwani</b>	Bhind	Balaghat	Betul	Chattarpur
Damoh	Dewas	Datia	Chhindwara	East Nimar	<b>Dindori</b>
Raisen	Dhar	Guna	Jabalpur	<b>Harda</b>	<b>Katni</b>
Sagar	Indore	Gwalior	Mandla	Hoshangabad	Panna
Sehore	Jhabua	Morena	Narsimhpur	West Nimar	Rewa
Vidisha	Mandsaur	<b>Sheopur</b>	Seoni		Satna
	<b>Neemach</b>	Shivpuri			Shahdol
	Rajgarh				Sidhi
	Ratlam				Tikamgarh
	Shajapur				<b>Umaria</b>
	Ujjain				
<b>Chhattisgarh</b>					
<b>South</b>	<b>Central</b>	<b>North</b>			
Bastar	Bilaspur	<b>Jashpur</b>			
<b>Dantewada</b>	<b>Dhamtari</b>	<b>Korba</b>			
<b>Kanker</b>	Durg	<b>Koriya</b>			
	<b>Janjgir</b>	Surguja			
	<b>Kawardha</b>				
	<b>Mahasumund</b>				
	Raigarh				
	Raipur				
	Rajnandgaon				

As per the 1991 census, Uttar Pradesh has more than 2 crore households, nearly 75 percent of which are rural, Madhya Pradesh has 0.89 crore, Chhattisgarh has 0.31 crore and Uttaranchal has 0.115 crore households (Table 3).

**Table 3: Number of Households: Rural and Urban**

<b>State</b>	<b>Rural</b>	<b>Urban</b>	<b>Total</b>
Uttar Pradesh	16322.73	3929.81	20252.57
Madhya Pradesh	5970.54	2139.71	8910.24
Chhattisgarh	2475.26	603.52	3078.78
Uttaranchal	885.74	301.09	1145.83

Source: Centre for Monitoring Indian Economy.

The objective of getting primary data through sample surveys in rural and urban sectors about some critical aspects of poverty hinges on a design that ensures adequate representation of the poor. Any approach to sampling in the present context therefore has to

take into account the techniques of sampling that would yield large pockets of poor people. The choice of sample design is discussed in the following section.

### **3. Sampling Methodology**

The choice of an optimum sampling design requires balancing of various considerations relating to operational convenience, cost and precision aimed at. Given the cost thresholds, we need to have a sampling design that would reduce the error to the minimum. A stratified multistage design is generally considered useful with the number of first stage units (FSUs) fairly large and heterogeneous between themselves. While the multistage sampling is achieved through a hierarchy of different stage units by successive sampling at each stage, in order to reduce error, available techniques of stratification, varying probability sampling schemes etc. are useful.

#### **a. Problems in Designing**

A stratified two-stage sampling of villages as the FSUs and households as the second stage units (SSUs) would by far be the most efficient design for rural household surveys but would also entail considerable organisational problems. First, stratification of the entire area of a State considering geographical contiguity, population density, altitude, cropping pattern etc. would require inordinately large resources both in terms of money and manpower and would be time consuming, although these are relevant for continuing surveys like the National Sample Survey Organisation (NSSO) surveys. In the present context, where a one-time survey is planned with specific objectives, a stratified two-stage sampling scheme would be too resource intensive. A possible solution could be to use the strata and the sampling frame arrived at by the NSSO but the resulting sample could be quite dispersed.

Since districts are formed for administrative convenience, districts could be taken as the FSUs for operational convenience of readily available frames for the second stage selection. As mentioned earlier, the number of FSUs should be fairly large. The sampling fraction therefore, of the districts in State should be large. Ordinarily, in the hierarchy, a block should come as the next stage before the village and the household thus posing a four-stage sampling design as an alternative to the ideal stratified two-stage. The variance function in this design would be of the form

$$V = \frac{A}{n} + \frac{B}{nm} + \frac{C}{nml} + \frac{D}{nmpl} + E$$

where n, m, l, p are the number of first stage, second, third and fourth stage units selected respectively for the survey and A to E are all functions of population parameters. It will be seen that the number of FSUs determine mostly the increase or the decrease in the variance; a larger number would help bring down the sampling variance. The larger is the number of stages, the larger is the variance, rendering the sampling design more inefficient.

Generally a stage is introduced when the sampling frame of the next stage units is not available. Considering this fact, the introduction of block as an intermediate stage is not required as the frame of the villages is available.

#### **b. Rationale for Using the PPS Technique**

Within the framework of a multistage design the varying probability scheme can be used at each stage till the penultimate stage of selection of a sample is reached that serves the purpose of the survey. In the present context of reaching the poor, the selection of units could be selected with probability proportional to size (PPS) where size would be an indicator of poverty. For example, poverty ratio or proportion of landless and agricultural labour households, or proportion of illiterates among females could serve as an indicator variable in the selection of samples.

The units in some populations vary greatly in size in relation to the study variable (y). Large units obviously contribute more to the population total. The simple random sampling (SRS) does not take into account this fact as every unit has equal probability of selection. And if the distribution of units in the population is such that very small units are many in number as against a few large units, equal probability selection will result in the selection of many of the smaller units. In such a situation, a varying probability scheme which assigns higher probability of selection to bigger units than to smaller ones would provide more efficient estimators than SRS. If information on y's is not readily and reliably available for the population, information about an auxiliary variable 'x', which is highly correlated with 'y' may be used for selection of the sample. As 'x' is taken as the indicator of the size of the units, this scheme is known as PPS.

### c. Search for the Auxiliary Variable

One obvious choice would be the officially identified households that fall below the poverty line for the public distribution system which leads ultimately to the poverty ratio at the village, block and district levels. Although, some data are available on poverty head count ratio (HCR) according to districts based on BPL survey for the PDS, there are many shortcomings. Also, identification based on for BPL cards would lead to a narrow set because of the income-based definition of BPL beneficiaries. Secondly, because many non-poor may also be holding BPL cards due to the inclusion error.

The proportion of the landless and agricultural labour households could be used as a proxy variable but is not preferred because this set perhaps was not inclusive of the entirety of the poor and secondly because of the difficulty of compiling the required data at the different levels. We have selected the proportion of female illiterates as the auxiliary variable for the purpose of drawing samples for statistical as well as analytical reasons. As the data on the number of female literates are available from the Census, the illiteracy rates among females could be readily calculated at different levels. The illiteracy rate among females being highly correlated with poverty, it is useful for the PPS selection. It may however, be noted that the use of a particular proxy variable for sampling from a specially prepared frame does not *per se* exclude the use of other variables in the next or the ultimate stage of sampling. For example, in a selected village, the households may be stratified into poor and non-poor based on multiple criteria where the landless, the agriculture labourers, the marginal farmers and others may be considered. In the hierarchy of stages, in all except the last stage (where the sample households are to be selected), the object is only the identification of a unit where the poor would figure in large numbers.

In the 'Approach and Issues' paper (Paper I) relating to this study, it was noted that the conventional approach to measuring poverty does not fully capture aspects of intra-household poverty. The conventional approach assumes that resources within households are accessed equally by all members of the family. However, often the female members get less than their fair share, as noted in several studies including Haddad and Kanbur (1990), Charles and Kerr (1987), and Findly and Wright (1996). Quibria (1995) emphasises that there should be specific gender focus in measuring poverty. Thus, in selecting the proportion of female illiterates as the auxiliary variable in the selection of sample based on the PPS methodology, we are ensuring an *inter se* representation of households where *a priori* there is an unfair

access to household resources by the female members of the family. Besides, in a multi-dimensional conceptualisation of poverty, lack of access to education is itself a dimension of poverty.

In the inter-state context, considering the general category states excluding Goa and including Assam, relating to the census year figures of female illiteracy proportion (FIP) (as percentage of total female population) with index, it may be observed that (i) the correlation between Human Poverty Index (HPI) and FIP in 1991 is about 0.7, (ii) the correlation between 2001 FIP and 1999-00 HCR is about 0.5, and (iii) correlation coefficient of female illiteracy and poverty incidence (HCR and HPI) have increased over time.

The increasing magnitude of the correlation between female illiteracy and HPI and HCR may imply that poverty reduction is the slowest in areas with high incidence of female illiteracy.

#### **d. Methods of PPS Selection**

Let there be  $N$  units in the population to be studied with sizes as  $X_1, X_2, \dots, X_N$ .

The method envisages selection of any unit say, the  $i$ th unit with probability  $X_i/X$  where  $X = \sum X_i$ .

#### **Cumulative Total Method:**

Cumulating the sizes, we get the series  $X_1, X_1+X_2, X_1+X_2+X_3, \dots, X_1+ \dots +X_N$  providing the respective ranges of the units for selection of sample.

A number is selected at random between 1 and  $X$ . The unit in whose range the random number falls is selected in the sample. This procedure ensures that the  $i$ th unit is selected with the probability  $P_i = X_i/X$ .

Repeating this procedure  $n$  times we get a PPS sample with replacement (PPSWR) if the selected unit is returned to the population at every selection, and PPS without replacement, if not returned.

### **Lahiri's Method:**

This method consists of selecting a number between 1 and N and noting down the size of the unit provisionally selected. Another random number is selected between 1 and  $X_M$  where  $X_M$  is the maximum of the N measures of size. If the second random number is smaller than the size of the unit provisionally selected, the unit is finally included in the sample. If not the procedure is repeated till we get the sample of n units.

In short, if  $M = \max X_i$ , select a number between 1 and N; select another number R between 1 and M. If  $R \leq X_i$ , unit 'i' is selected, otherwise reject the unit and repeat the process.

#### **4. Determining the Sample Size**

Given cost considerations as well as the time constraint, a sample of about 9000 households to be spread over the four States was planned. The Pilot Survey that preceded the main survey helped us to provide an estimate of the population coefficient of variation (C = 65 percent) of 'per capita expenditure on food' which could be used for determining the sample size if the relative standard error (RSE) of the estimator or the permissible error is given. Let this pre-fixed precision be 'e'. The sample size is given by  $n = \frac{C^2}{e^2}$  if the

population is large. If we require RSE of 5 percent,  $n = \frac{(65)^2}{(5)^2} = 169$ . At the district level

therefore, any sample size in terms of households above 170 would have less than 5% permissible error. The Pilot Survey gives the proportion of households who borrowed money during last year as around 30 percent. This could also be used for finding out the sample size. If P is the given proportion,  $Q = 1 - P$  gives the proportion of households who did not borrow. The sample size is given by

$$n = \frac{Q}{P} \times \frac{1}{e^2}$$

The sample size 'n' in this case (that is,  $P = 0.30$ ,  $Q = 0.70$ ,  $e = 0.05$ ) comes out to be 933. If we are ready to allow a permissible error of say, 10 percent, the sample size will be reduced to 233.

It would be apparent that for a major characteristic, the sample size could be much smaller relative to a minor characteristic. In the backdrop of this, if we examine the allocated sample size to districts (shown in Table 4), we can expect that the estimates would have the desired precision even for quite a few districts. At the State level in particular for Uttar Pradesh and Madhya Pradesh, the sample size promises a much higher precision even for minor characteristics.

The total sample of 9,000 households has been split into two components:

Rural sector: 7000 households

Urban sector: 2000 households

**a. Sampling Design: Rural Sector**

Within each State a three stage design has been adopted for the rural sector with district as the first stage unit (FSU), village as the second stage unit (SSU) and household as the ultimate stage unit (USU). A fixed proportion of districts is taken roughly one in four for sampling within each State.

*i. Selection of Districts*

The assigned number of districts is selected from the sampling frame of districts carrying information on number of female illiterates. The proportion of illiterates among females is computed before selecting the sample with probability proportional to size (PPS), size being the proportion of illiterates among females following Lahiri's method. The use of female illiteracy rate as the auxiliary variable is expected to yield a sample of districts having large pockets of poor people. Table A1 in the Appendix gives the list of sample districts for the four States along with the percentage of female illiterates and some other related variables.

*ii. Allocation of Number of Sample Villages*

The design envisages canvassing ten questionnaires within each sample village. The allocation of 7000 households to the four States is first done in proportion to the number of sample districts. The allocated number of sample households is then divided by ten to arrive at the number of SSUs for the four States. The State allocations are then distributed over the districts in proportion to their rural population resulting in a few districts having small sample

size. This necessitated marginal increases or decreases in State allocations. The final allocations of sample villages (SSUs) to all the selected districts are shown in Table 4.

**Table 4: Allocation of Rural Sample to States and Districts**

S. No.	States/Districts	Number of Allocated Sample Villages
<b>Uttar Pradesh: 70</b>		
1.	Saharanpur	20
2.	Muzaffarnagar	22
3.	Rampur	14
4.	Ghaziabad	14
5.	Aligarh	22
6.	Pilibhit	14
7.	Shahjahanpur	20
8.	Kheri	24
9.	Sitapur	26
10.	Rae Bareilly	24
11.	Jhansi	10
12.	Mahoba	10
13.	Pratapgarh	24
14.	Kaushambi	10
15.	Allahabad	32
16.	Balrampur	14
17.	Siddhartnagar	18
18.	Kushinagar	22
<b>Total</b>		<b>340</b>
<b>Madhya Pradesh: 45</b>		
1.	Shivpuri	22
2.	Guna	22
3.	Tikamgarh	18
4.	Chattarpur	20
5.	Sagar	24
6.	Ujjain	18
7.	Dhar	22
8.	Katni	16
9.	Jabalpur	18
10.	Dindori	10
11.	Balaghat	20
<b>Total</b>		<b>210</b>
<b>Uttaranchal: 13</b>		
1.	Chamoli	20
2.	Rudraprayag	10
3.	Bageshwar	10
4.	Hardwar	30
<b>Total</b>		<b>70</b>
<b>Chhattisgarh: 16</b>		
1.	Surguja	26
2.	Durg	24
3.	Mahasamund	12
4.	Bastar	18
<b>Total</b>		<b>80</b>

*iii. Selection of Villages*

The sampling frame of villages as per the latest Census 2001 carries only the names of the villages and therefore is suitable only for equal probability selection. As the design envisages getting at SSUs with marked incidence of poverty, the 1991 Census list of villages is used to select the SSUs conforming to the PPS procedure using the Cumulative Total Method, here again taking the female illiteracy as the auxiliary variable.

*iv. Problems of Sampling Frame*

The two States of Uttaranchal and Chhattisgarh were carved out of Uttar Pradesh and Madhya Pradesh respectively not very long ago and as such these States were not in existence when the 1991 Census was held. The latest Census 2001 has come out with relevant data on districts within the two newly created States and therefore, the selection of districts could be done based on PPS but the problem of sampling frames for selection of villages remained. Although the 2001 Census has brought out the names of villages within districts but there is no information about any variable. An equal probability sample could be drawn but for reasons mentioned earlier, the design envisages a varying probability scheme.

During the time the 1991 Census was undertaken in Uttar Pradesh, there were only 63 districts out of which 8 districts were given to Uttaranchal when the State came into existence. These 8 districts were split up into 13 districts. The remaining 55 districts were reorganized to form 70 districts in Uttar Pradesh. The data pertaining to Primary Census Abstract, 1991 as supplied to users by the Office of the Registrar General, Census Operations presented problems due to the following reasons:

- i. Separate files containing the names and codes of villages in districts and those containing characters ( for using as auxiliary variables)
- ii. Non-existence of Uttaranchal and relating to situation prior to reorganization that data related to 63 districts and not 70.
- iii. The codes of villages as used for Census 2001 were different from those in Census 1991 rendering any matching exercise impossible.

In order to sort out the problems, the help of the Office of the Director of Census Operations, Lucknow was sought to distribute and reallocate the villages as appearing in 1991 Census to the newly formed districts of Uttar Pradesh and carve out the frames of only the selected districts of Uttaranchal and Uttar Pradesh.

A similar exercise was done for Chhattisgarh and Madhya Pradesh seeking the help of the Office of the Director of Census Operations, Bhopal. In Madhya Pradesh, there were additional problems due to recent reorganization of the two districts of Katni and Dindori. Finally, after scanning the respective frames of selected districts of four States, all the uninhabited villages and those falling in the forest ranges were excluded from the frame for selection of the villages.

The lists of Sample Villages in selected districts of Uttaranchal, Madhya Pradesh, Uttar Pradesh, and Chhattisgarh are given in Tables A5 to A8.

**v. Consideration of Big Villages**

After identifying the boundaries of the SSU, a decision will have to be taken at the investigator level, whether the listing of the whole village is possible or not. In order to avoid arbitrariness, the following procedure is to be adopted to divide large villages into a number of hamlet groups and then selecting one of them at random for survey purposes. These are shown in Table 5.

**Table 5: Number of Hamlet Groups to be Formed**

Plains		Hilly Areas	
Present Population of the Sample Village	Number of Hamlet Groups	Present Population of the Sample Village	Number of Hamlet Groups
Less than 1200	Nil	Less than 600	Nil
1200-1799	3	600-999	3
1800-2399	4	1000-1199	4
2400 and more	5	1200 and more	5

The hamlets will be formed in such a way that all the hamlets have more or less of equal population content. For those villages for which 3 hamlets have been formed, one will be selected at random. But for larger villages, two hamlets will be selected at random and two questionnaires will have to be filled up. This means that the listing operations also will have to be done twice, one for each of the selected hamlets. The number of hamlets must be noted in the relevant item of the questionnaire also.

**vi. Selection of Households**

The field investigator will select 10 households from the list of households in the selected SSU after stratifying the households into two strata: stratum 1- poor households;

stratum 2- rest, 8 households from stratum 1 and 2 households from stratum 2. The selection procedure will be simple random sampling without replacement (SRSWOR).

The poor households will be identified on the basis of a twin-criteria. The Landless, Agricultural labour, Scheduled Caste, Scheduled Tribe, Women headed and Marginal farmer households will be treated as the 'Vulnerable Group'. Any household falling in any of these categories will get a tick mark in the column specified for this group. Those having BPL cards will be ticked in the column specified for BPL. Those households having tick marks in both these columns will be treated as 'poor'. Such a procedure would address the problem that a rich household having illiterate women may figure among the poor or that the landless and the marginal farmers may escape the net. However, if any of the households categorized in the vulnerable group is having an income to classify it as APL but possesses a fake BPL card, it may still figure among the poor.

**b. Sampling Design: Urban Sector**

With the limitations of sample size and restricted scope of the survey, the poor have been identified with the slum population in the urban sector. For the purposes of the survey only Class I towns and cities have been considered.

*i. Allocation of Sample Between States*

According to Census 2001, there are 53 Class I towns and cities (that is those with population 1 lakh and above) in Uttar Pradesh, 23 in Madhya Pradesh, 3 in Uttaranchal and 7 in Chhattisgarh. Considering the slum population in the four States, U.P claims the lion's share of 73 percent, Madhya Pradesh 20 percent, Uttaranchal 3 percent and Chhattisgarh 4 percent. Based on these proportions, the assigned sample of 2000 households is allocated to the four States as shown in Table 6.

**Table 6: Sample Size for the Urban Sector**

States	Proportion of Total Slum Population of 4 States*	Allocated Number of Sample Households	Number of Sample Slums	Number of Sample Cities/Towns
Uttar Pradesh	0.73	1400	140	10
Madhya Pradesh	0.20	400	40	5
Uttaranchal	0.03	100	10	2
Chhattisgarh	0.04	100	10	2

Source: \* *A compendium of Indian Slums, 1996*. Town and Country Planning Organisation, Government of India.

*ii. Selection of Cities/Towns*

The selection procedure differs from State to State because of non-availability of slum population in some. For Uttar Pradesh, the percentage of slum population to the urban population is used (from “A Compendium of Indian Slums”, 1996) to select ten towns based on PPS using Lahiri’s method after stratifying the class I towns into two strata – Stratum 1: with population more than 5 Lakhs and Stratum 2: rest. Six towns were selected from stratum 1 and four from stratum 2. Table A2 in the Appendix gives the relevant details.

For Madhya Pradesh, slum population being available from Census 2001, 3 towns were selected from the stratum having towns with slum population exceeding 1 lakh and 2 towns from stratum 2 containing the rest of Class I towns. The selection in both cases was done with PPS, using Lahiri’s method where size denoted proportion of slum population. Table A3 in the Appendix gives the relevant details.

In Uttaranchal, there being considerably smaller number of slums, 2 biggest towns of Dehradun and Hardwar in terms of population were selected for the survey. Similar to Madhya Pradesh, in Chhattisgarh, the two towns were selected with pps using Lahiri’s method. Table A4 in the Appendix gives the relevant details.

The selected towns for all the four States are shown in Table 7 along with the allocated sample size.

**Table 7: List of Selected Towns and Allocated Sample Size**

<b>Uttar Pradesh</b>							
<b>Towns</b>		<b>Stratum 1</b>		<b>Towns</b>		<b>Stratum 2</b>	
		<b>SL</b>	<b>SQ</b>			<b>SL</b>	<b>SQ</b>
1.	Kanpur Nagar	16	4	7.	Rae Bareilly	10	-
2.	Meerut	14	-	8.	Hapur	10	-
3.	Gorakhpur	14	-	9.	Bulandshahar	10	-
4.	Lucknow	16	4	10.	Farrukhabad	10	-
5.	Aligarh	14	-		Total	40	
6.	Allahabad	16	2		<b>Total for State</b>	<b>130</b>	<b>10</b>
	<b>Total</b>	<b>90</b>	<b>10</b>				
<b>Madhya Pradesh</b>							
1.	Ujjain	10	2	4.	Chhindwara	4	-
2.	Gwalior	10	2	5.	Satna	4	-
3.	Morena	6	2		Total	8	-
	<b>Total</b>	<b>26</b>	<b>6</b>		<b>Total for State</b>	<b>34</b>	<b>6</b>
<b>Uttaranchal</b>				<b>Chhattisgarh</b>			
1.	Dehradun	6		1.	Bilaspur	6	
2.	Hardwar	4		2.	Rajnandgaon	4	
	<b>Total for State</b>	<b>10</b>			<b>Total for State</b>	<b>10</b>	

### *iii. Selection of Slums*

The selection of slums (SL) will be done at the field level after mapping out the location of all the slums in the selected town and giving running serial numbers. The required number of slums will be selected with simple random sampling without replacement.

An attempt will be made to capture unauthorized settlements with unauthorized structures put up by squatters, that is, squatter settlements (SQ) in stratum 1 towns of Uttar Pradesh and Madhya Pradesh only. In view of the smallness of the sample size, only a few of the allotted slums will be devoted to SQs. There is no scope for surveying the SQs in Uttaranchal and Chhattisgarh because of restrictive small sample size.

## **5. Survey Instruments: Questionnaires**

### **a. Rural Sector: Questionnaires**

For the rural sector two separate questionnaires have been designed, the first at the village level and the second at the household level. At the penultimate level in the three stage design, that is, for the selected village, a separate schedule envisages listing of all households and places these into two strata before the required number of households are selected.

The village level questionnaire asks details on several aspects of the village population, economic activities and available infrastructures. The main aspects covered deal with (i) availability of infrastructure, (ii) village primary schools, (iii) participation in elections, (iv) functions of village panchayat, (v) major occupations in the village, (vi) community and cooperative services, and (vii) information regarding types of households.

The household level questionnaire is designed to assess various access-oriented problems being faced by the households. A wide range of topics are addressed namely, expenditure on different items of consumption and income from different sources, education, health, water and sanitation, occupation, transportation, access to law and government services, access to information and so on. These questionnaires are appended.

For the urban sector, the household questionnaire is almost the same as that of the rural sector, the approach to get at the sample of slums is slightly different in the sense that the frame of the slums is not available. For this purpose, first all the slums of the selected

town are listed and a few are selected at random. In the selected slum the households are listed for the sampling of households along with particulars of the slum. The two listing schedules and the household questionnaire are appended.

**b. Village Level Questionnaires**

As the sampling design ensures reliable estimates of village statistics, the village level questionnaire is designed to seek as much details as possible with the overall purpose of ascertaining whether the fiscal development processes have reached the remote corners of villages or not and to ascertain the quality of public services delivered by the local bodies at village level. The village level questionnaire asks details on several aspects of the village population, economic activities and available infrastructures. Relevant general questions precede the main enquiry wherein information is sought on whether the backward class is still isolated, whether any new livelihood activity has stabilized in the village and historically, whether the village could be labeled as disturbance-prone or subject to natural calamities or disaster.

*i. Availability of Infrastructure*

The connectivity of the village with the outside world is the focus when questions are asked about distances from the bus stand, railway station and highway. Distances from public facilities like banks, post office, health centre, hospital etc. are sought to indicate how comfortable or otherwise is the life of the villagers. Granting that it is not possible to make available all conveniences or facilities, the questionnaire addresses to the realities like how much the villager has to traverse for higher education, technical or formal or in matters of health how far is the Divisional hospital or the Medical college or for redressal of his personal security or law matters how far is the District Headquarters.

*ii. Village Primary Schools*

Data are sought on the condition of the primary schools: whether they are conducted in the open or housed in kutchha or pucca buildings, whether seating arrangements are proper or not, whether facilities of playground, bathroom, drinking water, etc., are available or not; the structure of fees, mode of school transport; whether stationery items or books are supplied free. Other particulars like cultural activities, village as a supplier of teachers, school being under gram panchayat are also sought for.

**iii. Participation in Elections**

Details on participation in election to local bodies 'gram panchayat' or 'kshetra panchayat' are sought like number of villagers elected, how many of them are poor or women; whether any villager is a sitting MLA or MP and if so, frequency of their visits and whether he has initiated any scheme of public utility.

**iv. Functioning of Village Panchayat**

The functioning of this local body is sought to be examined in detail viz., location of the office, source of funds, who audits and what is the frequency of audit, how frequently the panchayat meets and the services offered, participation and role of panchayat in government schemes.

**v. Occupations in the Village**

Statistics are collected on the number of households engaged in a wide spectrum of occupations out of which how many are poor households and their annual income. Also sought to be collected are the number of establishments in various village industries, a comprehensive list of which is given and also the number of shops catering to various requirements.

**vi. Community and Cooperative Activities**

The existence and frequency of community and cooperative activities are enquired into. Specifically, the social, religious, women welfare activities etc. undertaken during last year are also asked apart from their opinion about the most active community/cooperative societies.

**vii. Household Information**

Some useful statistics on the households are to be obtained like number of households classified as SC/ST/OBC, income distribution, number of graduates, doctors, nurses, telephone booths and so on. Information on how many of the households having ration cards belong to BPL and APL is also to be collected.

**c. Household Questionnaires**

The household level questionnaire is designed to assess the occupational status, earnings, consumption pattern, assets and liabilities position and various access-oriented problems being faced by the households. A wide range of issues are addressed namely, expenditure on different items of consumption and income from different sources, education, health, water and sanitation, occupation, transportation, access to law and government services, access to information and so on.

*i. Occupation and Income*

Considering the fact that the problem of determining income is difficult, the strategy of going into the working status and occupation of each member of the household is adopted in the demographic block itself for going into details of their activities and income accrued in the next block. Income as from paid employment is separately obtained for those receiving salary; the value of benefits received in kind is also asked. For those engaged in self-employment activities, all the details of the enterprise are gone into for estimating the value of output as also the value of inputs to arrive at the net income. Household income would be taken as the sum of those coming from paid employment and self-employed activities.

*ii. Assets and Liabilities*

All assets including land, livestock and consumer durables are sought to be collected in terms of both number and value. In order to assess the indebtedness of the household, the details of the initial loan plus those taken for agricultural and non-agricultural activities are to be obtained by source. The amount repaid and the interest paid are also sought so as to calculate the loan outstanding at the end of the year.

*iii. Expenditure on Food*

The expenditure on consumption of food is to be obtained by items and by source from which procured. A detailed list of items is provided covering the basket of consumption that is, from cereals to fruits and milk. The possible sources are the Public Distribution System (PDS), market, self-produced and those obtained from the 'Food for work'. In order to adjudge the efficacy of the PDS and its quality, several probing questions are designed. The quality of public distribution system, its spread and accessibility can be analysed through specific data obtained through the survey.

*iv. Expenditure on Non-Food Items*

These items are spread over different blocks in the questionnaire covering clothing, footwear, fuel & light, entertainment, intoxicants, use of means of connectivity besides the expenditure on health, education, water.

*v. Access- Oriented Issues*

Among this category, the source of water, its availability against requirement, the time spent on fetching water are some of the crucial information to be addressed, besides those related to the quality of sanitation.

Importance has been given to adult education and children's education for an investigation into reasons for not attending schools. For those attending schools, a wide range of questions has been posed which would reveal their convenience or otherwise as also the benefits they have received from government by way of scholarships, free books and so on.

Besides the household's preference for certain types of doctor or health centre or dispensary, the issue of women's antenatal and postnatal care is taken up for detailed enquiry because of its importance. Along with this child health is also to be examined through information sought on immunization.

The quality of access to law and security is assessed through detailed questions on time spent, waiting in courts, amount spent on lawyers, the cost incurred and whether the experience was satisfactory. Questions are also to be asked on the most accessible legal system. Apart from the law matters, the rural people also face problems of access to government officials regarding registration of property and of access to security services (police, jails). The questionnaire addresses itself to these issues for the time taken, the cost incurred and the outcome and whether the experience was rewarding.

*vi. Elections*

The sample household is asked a series of questions to obtain the number of members eligible to vote, those with voter identity card, whether any member elected to panchayat and so on. The opinion of the household is obtained on the nature of services provided by the panchayat. The household is then subject to some question on its social perceptions by way of the constraints faced, government services useful and then its perception of poverty.

**vii. Government Services**

All the government schemes implemented from time to time are listed and the members of the household would be required to answer which specific scheme benefited him. The benefit could be in the form of employment, help received in construction of house, in educating children, cash benefit etc.

**d. Urban Sector Questionnaires**

For the urban sector, the universe to be studied is the slum population and in a few towns the squatter settlements also. A slum is a compact area having a collection of poorly built tenements, mostly of temporary nature usually with poor sanitation and inadequate drinking water facilities. A squatter settlement is an unauthorised settlement with unauthorized structures put up by squatters.

The approach to get at the slum households requires listing of slums in the selected town in the first instance. A few are selected at random. In the selected slum the households are listed for the sampling of households along with particulars of the slum.

**i. Particulars of Slum**

The ownership of the land on which the slum is located is to be ascertained and a question asked whether the slum is suitable for relocation and if in the affirmative whether the dwellers are willing to move out if government subsidizes. The type of area surrounding the slum, its physical location whether along a nullah or railway line and so on, type of structures, the approach road, type of drainage system, latrine facility, garbage disposal, source of drinking water are some of the information sought to be obtained. Further, whether the slum has electricity, whether there is water logging in monsoon, what is the distance from the nearest primary school or health centre. The slum dwellers are also asked about any improvement noticed during last three years.

**ii. Household Questionnaires**

This is modeled on the lines of the rural questionnaire, as the basic concerns are the same as that of the rural poor. The approach differs in respect of collection of details on occupation and income. For the urban sector, a different set of occupation codes is used to accommodate the hawkers, rickshaw pullers, auto taxi drivers or construction workers etc., who are expected to live in the slums; the coding has been tailored to cater to the reality.

Moreover, since a person can have two or more occupations, the primary occupation has been separated from the secondary occupations.

For child labour, data are to be collected for hazardous and non-hazardous occupations. The migration history of the slum dwellers is given importance; their native place, whether staying permanently in the town, frequency of visits to the original village, whether remittances are made to family and relatives in the village, whether he has other relatives in the town, the contact he is having with his family and so on.

A different set of government schemes as distinct from the rural ones is listed out and the household members asked the benefits they derived from them as also their perception about poverty.

## **6. Pilot Survey and Related Considerations**

The survey has been piloted in both rural and semi-urban settings, home to the target populations of our survey. The goal of this piloting exercise was to draw suitable information for the overall of the survey, both in terms of design and the implementation process as well as the relevance of answers received from interviewees. In the first pilot survey, villages we visited are located in the Pindra block of the Varanasi district of Uttar Pradesh. The second pilot survey was carried out in slum areas of Allahabad. The third pilot survey was carried out in selected forest villages around Jabalpur in Madhya Pradesh. A list of villages and urban areas where sample questionnaire was tested is given below:

Pilot survey was conducted in the following areas:

- i. Village Nahlapur, Block Pindra, Tehsil Pindra, District Varanasi, Uttar Pradesh.
- ii. Village Neelampur, Block Pindra, Tehsil Ahrak, District Varanasi, Uttar Pradesh.
- iii. Village Paschampur, Block Pindra, Tehsil Pindra, District Varanasi, Uttar Pradesh.
- iv. Village Shivdaspur, District Varanasi, Uttar Pradesh.
- v. Village Mahidaspur, Block Kesi vidya (Urban Village), District Varanasi, Uttar Pradesh.
- vi. Village Chhatarpur, Block Barela, District Jabalpur, Madhya Pradesh.
- vii. Village Tikaria, Block Kundam, District Jabalpur, Madhya Pradesh.

- viii. Village Van Gram, Kundwara, Block Kundam, District Jabalpur, Madhya Pradesh.
- ix. Village Taakbeli, District Jabalpur, Madhya Pradesh.
- x. Village Saraswatighat, Block Bhedaghat, District Jabalpur, Madhya Pradesh.
- xi. Slum Area Nevada, Hastings Road, Allahabad.
- xii. Slum Area Mehdauri, District Allahabad.
- xiii. Slum Area Kydganj, Jamuna Bank Road, Allahabad.
- xiv. Slum Area Kareli, District Allahabad.

A summary description of some of the lessons learned from this experience follows:

- i. The questionnaires that we were able to complete were valuable in terms of assessing the variance of answers and interpretations for certain questions in our survey.
- ii. As anticipated, a small number of questions from each topical section have had to be altered or removed vis-a-vis their relevance to the scope of the project. There is a wide range of economic opportunities pursued by poor populations that are unpredictable and changing in nature. These are aspects that we would like to capture in a systematic way without narrowing the scope to exclude any income generating activity.
- iii. As we conducted our surveys, we were confronted with a number of topics that were not directly addressed in our survey but deserve to be brought to light, such as corruption. Different methods of highlighting these issue-areas and describing some underlying contextual problems related to poverty reduction would require to be considered.
- iv. We have noted that incomes have often been understated by the households and a large difference between income and expenditure emerges. The investigator has to specially cross check income and expenditure figures.
- v. Finally, during the piloting exercise, we were struck by the task of receiving data that is as accurate as possible at the stage when we delegate these surveys to local bodies or agencies. With this concern in mind, it is even more imperative for us to work towards a uniform and simple coding and answer system that may be completed as well as processed easily.

A village level questionnaire was developed asking details on several aspects of the village population, economic activities and available infrastructures. The main aspects covered in the questionnaire deal with (i) availability of infrastructure, (ii) village primary schools, (iii) participation in elections, (iv) functions of the village panchayat, (v) major occupations in the village, (vi) community and cooperative services, and (vii) information regarding types of households.

With respect to the village level questionnaire, a pilot survey of few villages in UP, namely (i) Gour Mirzamurad, Block Arajilines, Varanasi, (ii) Khalispur, Block Sewapuri, Varanasi, and (iii) Lalpur Sewapuri, Varanasi was undertaken in the month of September 2002. Some of the main points and issues that emerged while piloting the questionnaire are listed below:

- i. While primary schools are running regularly, the main problem is attendance of children from poor families especially of SC category. While children are enrolled and they take the benefits of rations and scholarships provided by the government, their effective attendance is extremely poor. These children are still made to work by their parents to support family income. The Village Pramukh of village panchayat interviewed had suggested that (a) there should be no discrimination regarding scholarship according to caste, (b) instead of giving cash scholarship, it should be given in the form of books, stationery and uniforms so that the cash will not be put to non-educational uses by the family, and (c) scholarship should be linked to performance/merit.
- ii. In the context of health services the village Pramukhs indicated that quacks or Jholachhap practitioners are quite popular because they are readily available within the village. Public health centres are located at considerable distance. There is need for more public health centres and better availability of medicines in these centres.
- iii. Water supply facilities, according to the Pramukhs are quite adequate. According to them, it was made possible through the Panchayats and in some Panchayat through the MLAs Local Area Development Fund. The maintenance of hand pumps are done by the village panchayat.
- iv. Many villagers still take loans from private money lenders with interest rate varying from 36 to 120 percent, and there is felt need for greater penetration of credit facilities by public sector banks or credit societies. There were no credit societies operating in these villages.
- v. Drinking alcohol is a major social problem in these villages especially affecting the low income and SC households. The Village Pramukhs were critical of the excise policy of the government which led to the penetration of alcohol shops across states.
- vi. Family planning is still not successful with large families still being the norm in low income and minority households. There is a need to increase literacy in the village and effective family planning education.
- vii. The PDS system has become almost non-functional. Hardly anybody is buying from the ration shops mainly for two reasons; namely, poor quality of PDS supply and higher prices relative to the market.
- viii. The main economic constraints according to the Village Pradhans have been the lack of adequate power supply. According to them, if only power supply could be ensured at reasonable prices, productivity and output will go up considerably and poverty would be effectively reduced. Lack of power supply has also the main constraint to irrigation. With adequate supply of power many small scale

industries could be set up in the village itself which will enable creation of additional jobs within the village.

- ix. No significant out-migration from these villages to urban areas was reported.
- x. In the context of housing, the Indira Awaas Yojana appears to be a useful intervention. The choice regarding beneficiary is being done by Gram Sabha which is appropriate. However, much money is being misused and houses left incomplete.
- xi. In many schemes, money has to be given at all stages where some approval from a government functionary is involved. According to the Pradhans, it would be better to minimise intermediate stages so as to maximise the benefit to the target beneficiary.
- xii. They mentioned that fertiliser and seeds have become highly costly in recent years.

There is an elaborate system of keeping information at the Village Panchayat level by means of keeping a number of registers. The Secretary of the Gram Panchayat maintains the following main registers:

*i. Family Register*

This register describes the household details of each family including number of adults and children, their ages and sex and whether they belong to APL/BPL category.

*ii. Economic Register*

This contains information on property including land holdings and house.

*iii. Livestock Register*

This contains information on cattle, poultry and other livestock population at household level.

In finalising the questionnaires and designing the sampling scheme, the experience gained in the pilot survey has been used to carry out necessary modifications.

## **7. Estimation Procedure: From Sample to Population**

### **a. Derivation of Multipliers**

In a sample survey, since a part of the population is surveyed, the sample observations have to be weighted with the inflation factors or multipliers for obtaining the estimate of the population parameter. The estimation procedure depends on the selection procedure adopted

in different stages. In a three-stage design the generalized form of an estimator of the population total  $Y$  is of the form

$$Y = \sum_i a_i \sum_j a_{ij} \sum_k a_{ijk} y_{ijk}$$

In the present design the FSUs (districts) are selected with probability proportional to size scheme with replacement (PPSWR) and SSUs (villages) also with PPSWR. The ultimate stage units (USUs) are households, selected with simple random sampling without replacement (SRSWOR). If a large village is split up into  $D$  hamlet groups, one of the group is selected with SRSWOR. Let the selection probabilities of the different stage units be

Sampling Unit	Sample Size	Scheme	Selection Probability
District (FSU)	$n$	PPSWR	$p_i$
Village (SSU)	$m$	PPSWR	$p_{ij}$
Household (USU)	$h$	SRSWOR	$p_{ijsk}$

the subscripts  $i, j$  and  $k$  referring to the  $i^{\text{th}}$  district,  $j^{\text{th}}$  village (in the  $i^{\text{th}}$  FSU) and  $k^{\text{th}}$  household (in the  $j^{\text{th}}$  SSU of the  $i^{\text{th}}$  FSU). Since the households are stratified into two strata(s),  $s$  takes value 1 or 2.

The multipliers then in the three stages would be

$$a_i = \frac{1}{n} \times \frac{1}{p_i}$$

$$a_{ij} = \frac{1}{m_i} \times \frac{1}{p_{ij}}$$

$$a_{ijk} = \frac{1}{p_{ijsk}}$$

#### **b. Estimation Procedure for PPS Scheme**

In an earlier section, the reasons for adopting the PPS scheme are explained. Also, elaborated are the two methods of selecting the sample. We now consider the method of estimating population total when a PPS sample is drawn with replacement.

Let  $x_1, x_2, \dots, x_n$  be the sizes, that is, the values of the auxiliary variable for the  $N$  units in the population and let a PPSWR sample of  $n$  units be drawn with selection probability of  $p_i$  attached to the  $i^{\text{th}}$  unit where

$$p_i = \frac{x_i}{\sum x_i} = \frac{x_i}{X} \quad (i = 1, 2, \dots, N)$$

Let  $y_1, y_2, \dots, y_n$  be the  $y$ -values of the  $n$  units included in the sample. Then each of the ratios  $y_1/p_1, y_2/p_2, \dots, y_n/p_n$  is an unbiased estimator of the population total  $Y$ . Taking the arithmetic mean of these  $n$  estimators, we get the unbiased estimator of  $Y$ :

$$\hat{y} = \frac{1}{n} \sum \frac{y_i}{p_i} = \frac{X}{n} \sum \frac{y_i}{x_i}$$

In the present three stage design an unbiased estimator of the population total  $Y$  is given by

$$\hat{Y} = \frac{1}{n} \sum_{i=1}^n \frac{1}{p_i} \times \frac{1}{m_i} \sum_{j=1}^{m_i} D_{ij} \times \frac{1}{p_{ij}} \sum_{s=1}^2 \frac{H_{ij^s}}{h_{ij^s}} \sum_{k=1}^{h_{ij^s}} Y_{ij^s k}$$

where  $D_{ij}$  is the number of hamlet groups formed in case of a large SSU.

It may be noted that in this design using PPS scheme of selection in the first and second stages, the Horwitz-Thomson estimator has been employed wherein each sample observation divided by its selection probability gives an estimate of the population parameter. This explains the divisors 'n' and 'mi' at the first two stages giving the mean of the 'n' and 'mi' estimates respectively.

The unbiased estimator of population mean  $Y/N$  is  $\hat{Y}/N$  and the unbiased estimator of sampling variance of  $\hat{Y}/N$  is  $\hat{V}(\hat{Y})/N^2$ . However, the formula for the estimator of the sampling variance of the population total that is,  $\hat{V}$  is complex. The survey has therefore, been planned to be carried out in two independent and interpenetrating sub-samples.

### c. Independent Sub-Samples

Two independent sub-samples have been drawn at the second stage that is, for each selected district two sub samples of villages are selected for inter-penetration at the field

stage. In other words, the sub-samples will be sought to be surveyed by two different parties of investigators. The merit of this scheme is that the estimator of the sampling variance can be obtained easily as each sub-sample provides a valid estimate of the population characteristic in question.

Let  $y_1, y_2, \dots, y_c$  are unbiased estimates of the parameter  $\theta$  based on  $c$  sub-samples. An unbiased estimator of  $\theta$  based on all sub-samples is given by the mean of the sub-samples

$$\hat{\theta} = \bar{y} = \frac{1}{c} \sum_{i=1}^c y_i$$

an unbiased estimator of the variance  $V(y)$  is given by

$$\hat{V}(\bar{y}) = \frac{1}{c(c-1)} \sum (y_i - \bar{y})^2$$

In case of two sub-samples, as is the case with the present design the variance is reduced to

$$\hat{V}(\bar{y}) = \frac{(y_1 - y_2)^2}{4}$$

The standard error of the estimator of the population parameter  $\theta$  is given by

$$\frac{y_1 - y_2}{2}$$

## 8. Concluding Observations

Bearing in mind the basic concerns of the sample survey to be launched in the four states of Uttar Pradesh, Madhya Pradesh, Uttaranchal and Chhattisgarh, a three stage design is adopted using the PPS method of selection in the first two stages to yield intense representation of the poor in the sample. The use of stratification at the stage of selection of the ultimate sampling units that is, the households, ensures the desired number of poor households in the sample. The sample size would enable estimation of major characteristics with desired precision at the state level and also for quite a few districts. At the state level, in

particular for the two bigger states of Uttar Pradesh and Madhya Pradesh, the sample size promises a much higher precision even for minor characteristics.

The female illiteracy rates of the selected sample villages highlight that the PPS selection has successfully provided a sample where the female illiteracy is very high and consequently the villages would expectedly have not only a substantial proportion of poor households but those depicting lack of access to education in respect of female members, which is itself a dimension of poverty.

In any survey, it is a primary objective to minimise the errors. Since we are surveying a part of the population, the estimate obtained for any characteristic from this survey may not be equal to the true value of the population parameter. Given that the sampling error is in-built when a particular method of random sampling is adopted, we have little control over this component of total error. However, care has been taken to look into the completeness of the sampling frame. The second component that is, the non-sampling error is one which could be very high if measures are not taken before hand to control it. Adequate control would minimise chances of coverage errors, response errors, ascertainment errors and processing errors. The possible sources of errors in the field are wrong understanding of concepts and definitions, incorrect identification of sampling unit, numerical errors in recording, faulty selection of households, incorrect classification of households while stratifying, and defective interviewing techniques where questions are not put properly to the respondents. In view of this, the questionnaires given at the end of this report will be explained at length, with particular emphasis on the sources of non-sampling errors, to the investigators and supervisors in the training sessions to be held before the launching of the surveys in different states.

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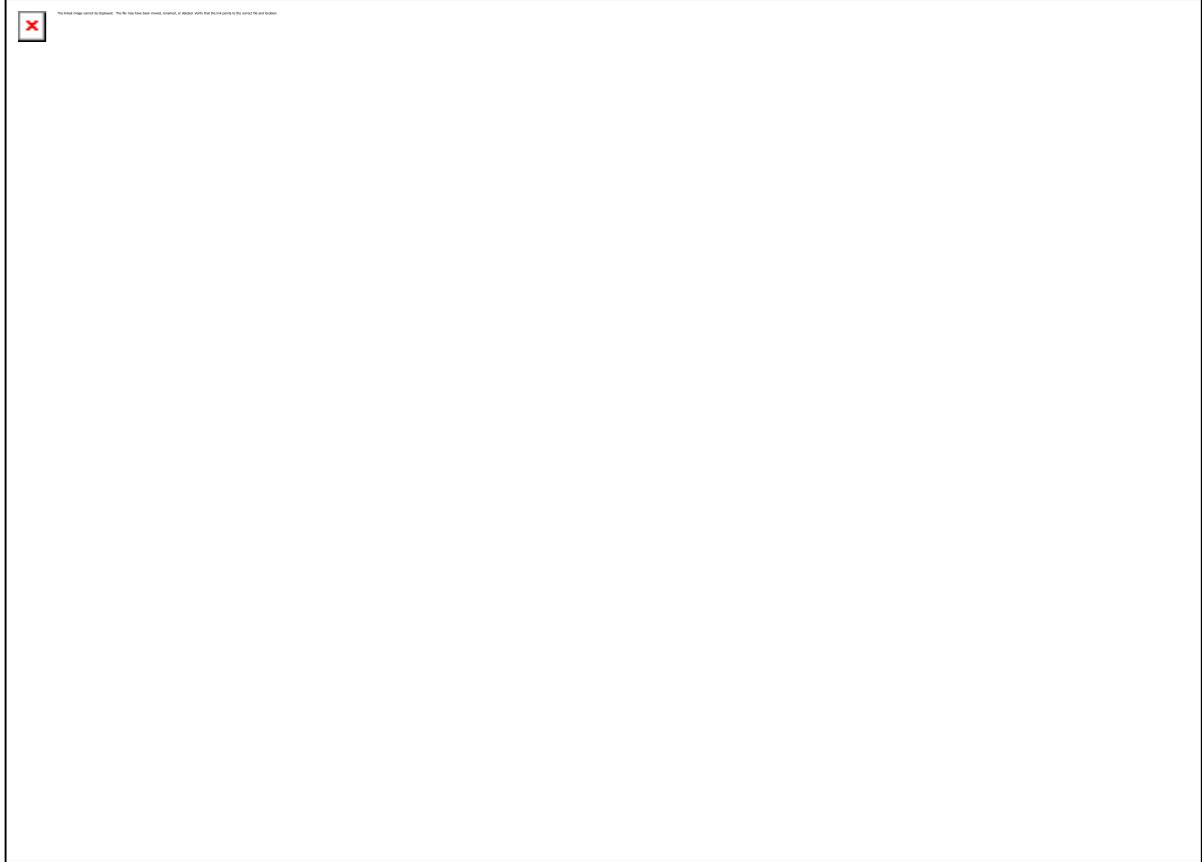
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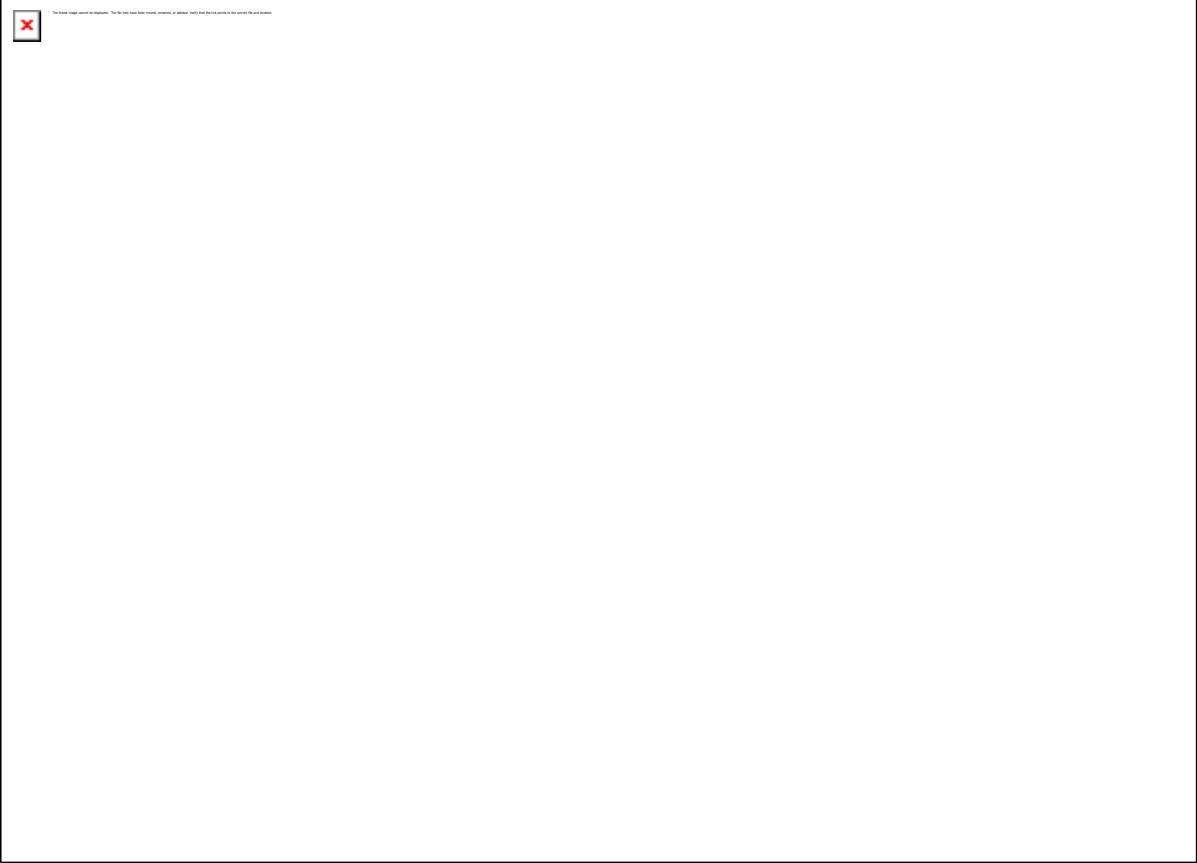
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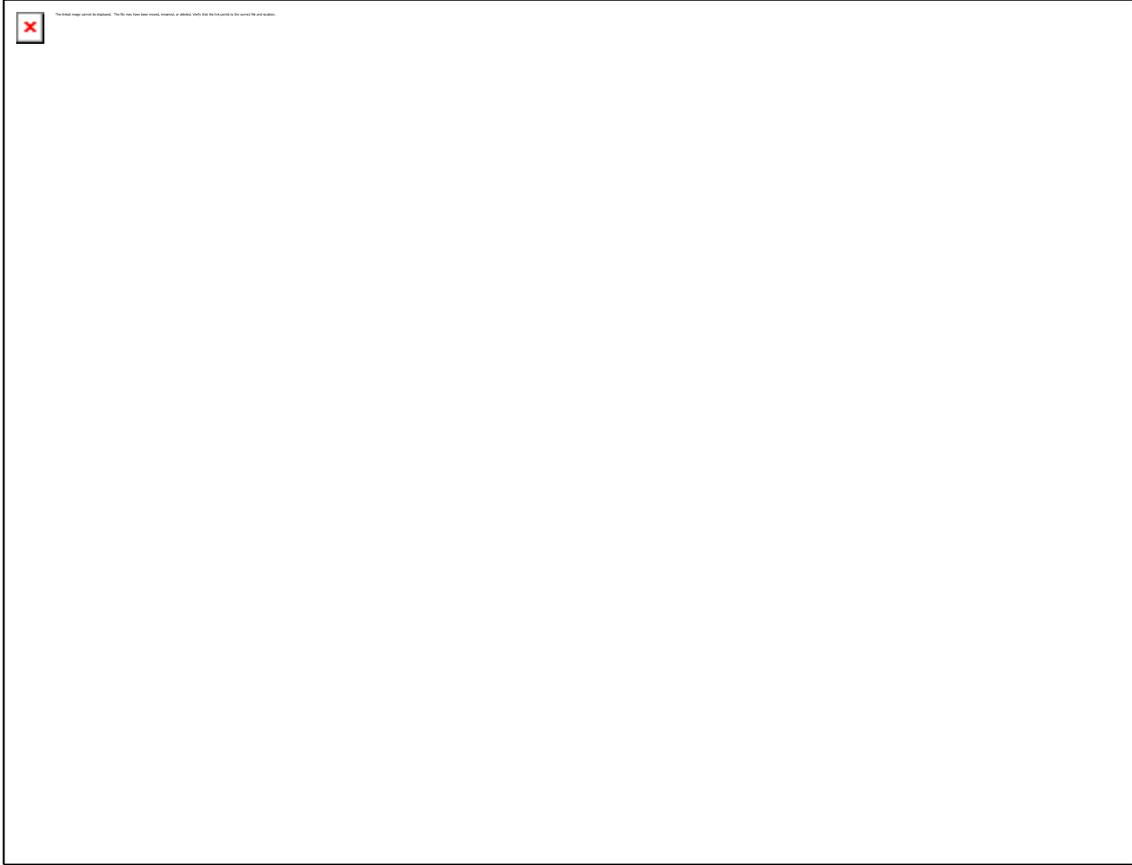
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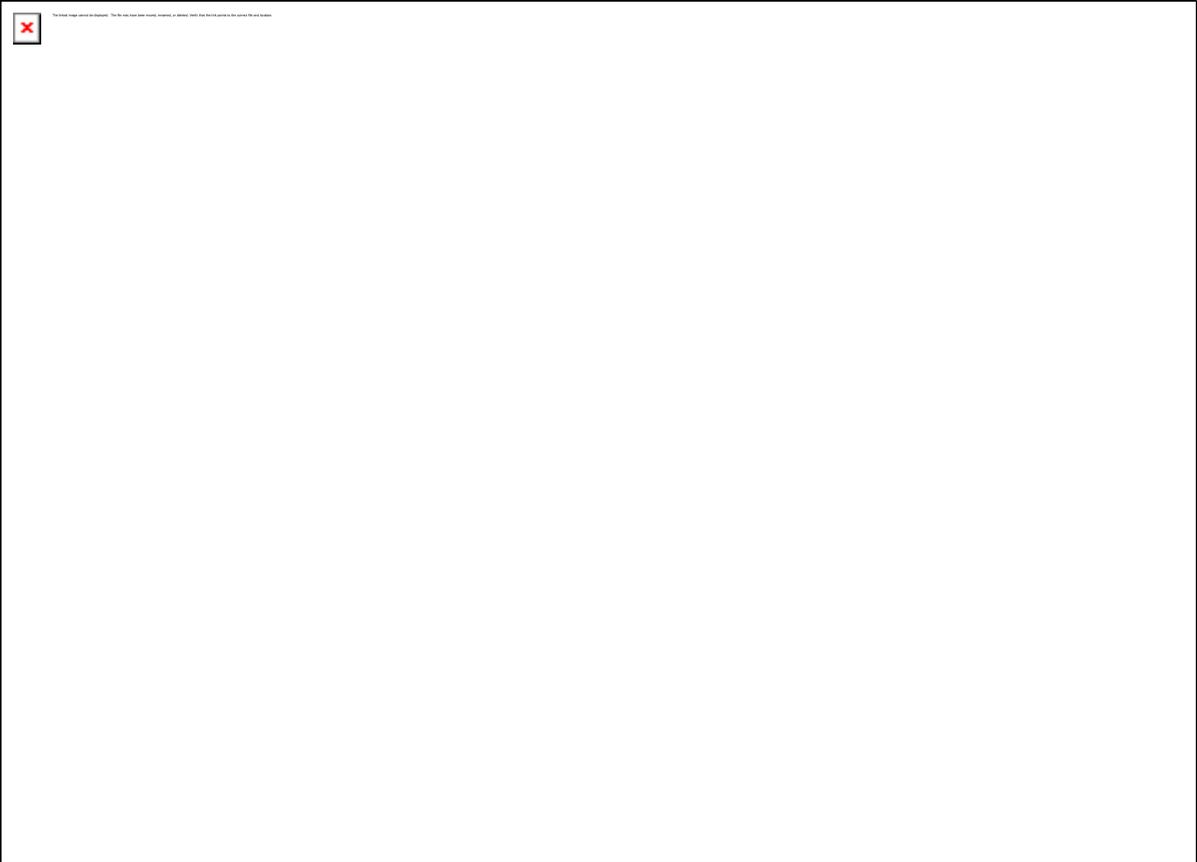
Source: Office of the Registrar General, India, New Delhi.



Source: Office of the Registrar General, India, New Delhi.



Source: Office of the Registrar General, India, New Delhi.



Source: Office of the Registrar General, India, New Delhi.

**Table A1: Population and Rural Female Illiteracy Rates of Selected Districts**

S. No.	Selected Districts	Population*		Rural Female Illiteracy Rates	Selection Probabilities
		Total	Rural		
<b>Madhya Pradesh</b>					
1.	Shivpuri	1440666	1200994	63.35	0.0247
2.	Guna	1665503	1310768	62.70	0.0244
3.	Tikamgarh	1203160	990785	62.66	0.0244
4.	Chattarpur	1474633	1150354	67.66	0.0264
5.	Sagar	2021783	1430421	54.06	0.0211
6.	Ujjain	1709885	1047558	51.91	0.0202
7.	Dhar	1740577	1452342	66.39	0.0259
8.	Katni	1063689	838731	58.45	0.0228
9.	Jabalpur	2167469	920965	49.76	0.0194
10.	Dindori	579312	552450	63.14	0.0246
11.	Balaghat	1445760	1251855	45.36	0.0177
<b>Uttar Pradesh</b>					
1.	Saharanpur	2848152	2103408	52.83	0.0122
2.	Muzaffarnagar	3541952	2638123	54.58	0.0126
3.	Rampur	1922450	1442386	78.58	0.0182
4.	Ghaziabad	3289540	1473559	50.71	0.0117
5.	Aligarh	2990388	2127003	61.13	0.0142
6.	Pilibhit	1643788	1349783	68.03	0.0158
7.	Shahjahanpur	2549458	2022664	67.58	0.0156
8.	Kheri	3200137	2855105	67.41	0.0156
9.	Sitapur	3616510	3184640	68.63	0.0159
10.	Rae Bareli	2872204	2598459	62.36	0.0144
11.	Jhansi	1746715	1029164	61.22	0.0142
12.	Mahoba	708831	554044	65.13	0.0151
13.	Pratapgarh	2727156	2582843	58.67	0.0136
14.	Kaushambi	1294937	1203183	70.75	0.0164
15.	Allahabad	4941510	3727682	62.66	0.0145
16.	Balrampur	1684567	1549293	81.50	0.0189
17.	Siddarthnagar	2038598	1960895	72.88	0.0169
18.	Kushinagar	2891933	2759414	70.57	0.0163
<b>Uttaranchal</b>					
1.	Chamoli	369198	319613	39.46	0.0691
2.	Rudraprayag	227461	224740	40.16	0.0703
3.	Bageshwar	249453	241650	43.23	0.0757
4.	Hardwar	1444213	998550	55.85	0.0978
<b>Chhattisgarh</b>					
1.	Surguja	1970661	1833442	60.53	0.0712
2.	Durg	2801757	1734388	40.45	0.0477
3.	Mahasamund	860176	762410	47.71	0.0562
4.	Bastar	1302253	1172265	72.50	0.0854

\*Source: <http://www.censusindia.net>

**Table A2: Sample Towns Selected from Class I Towns in Uttar Pradesh**

S. No.	Towns	Total Population 2001	Proportion of Slum Population	Sampling S. No.
<b>Stratum I</b>				
1.	Agra	1259979	0.2060	
2.	Aligarh	667732	0.2640	5
3.	Allahabad	990298	0.2460	6
4.	Bareilly	699839	0.1710	
5.	Gorakhpur	624570	0.2570	3
6.	Kanpur Nagar	2532138	0.2060	1
7.	Lucknow	2207340	0.1660	4
8.	Meerut	1074229	0.4630	2
9.	Moradabad	641240	0.7600	
10.	Varanasi	1100748	0.2010	
<b>Stratum II</b>				
1.	Badaun	148138	0.1530	
2.	Behraich	168376	0.3600	
3.	Bulandshahar	176256	0.5310	3
4.	Etawah	211460	0.4800	
5.	Faizabad	144924	0.6600	
6.	Farrukhabad	227876	0.3300	4
7.	Fatehpur	151757	0.1580	
8.	Firozabad	278801	0.7500	
9.	Ghaziabad	968521	0.3870	
10.	Hapur	211987	0.4780	2
11.	Hathras	123243	0.1640	
12.	Jaunpur	159996	0.9000	
13.	Jhansi	383248	0.5500	
14.	Jyotibaphuley Nagar	164890	0.1100	
15.	Mathura	298827	0.5300	
16.	Mau	210071	0.1910	
17.	Mirzapur	205264	0.2230	
18.	Muzzafarnagar	316452	0.3020	
19.	Pilibhit	124082	0.6000	
20.	Raebareli	169285	0.2980	1
21.	Rampur	281549	0.9300	
22.	Saharanpur	452925	0.1320	
23.	Shahjehanpur	297932	0.5100	
24.	Sitapur	151827	0.1820	
25.	Unnao	144917	0.4310	

**Table A3: Sample Towns Selected from Class I Towns in Madhya Pradesh**

S. No.	Towns	Total Population 2001	Proportion of Slum Population	Sampling S. No.
<b>Stratum I</b>				
1.	Indore	1639044	0.1625	
2.	Bhopal	1454830	0.8810	
3.	Jabalpur	1117200	0.2895	
4.	Gwalior	865800	0.2342	2
5.	Ujjain	430669	0.2815	1
6.	Khandwa	171976	0.6475	
7.	Morena	150890	0.7994	3
<b>Stratum II</b>				
1.	Sagar	309164	0.3690	
2.	Ratlam	233480	0.2829	
3.	Dewas	2330658	0.4136	
4.	Satna	229323	0.1576	2
5.	Singrauli	185580	0.1690	
6.	Rewa	183232	0.7110	
7.	Bhind	153768	0.2473	
8.	Chhindwara	153635	0.9850	1
9.	Shivpuri	146859	0.3420	
10.	Guna	137132	0.3756	
11.	Damoh	127939	0.2498	
12.	Vidisha	125457	0.2849	
13.	Mandsuar	117532	0.1805	
14.	Neemuch	112691	0.2180	
15.	Itarsi	109288	0.1080	
16.	Chhatarpur	109021	0.2656	

**Table A4: Sample Towns Selected from Class I Towns in Chhattisgarh**

S. No.	Towns	Total Population 2001	Proportion of Slum Population	Sampling S. No.
1.	Bilaspur	265178	0.3636	1
2.	Korba	315695	0.3437	
3.	Raigarh	110987	0.3574	
4.	Rajnandgaon	143727	0.5397	2
5.	Durg	231182	0.3035	
6.	Bhilai-Nagar	553837	0.1141	
7.	Raipur	605131	0.3576	

**Table A5 List of Sample Villages of Selected Districts of Uttar Pradesh****District: Saharanpur**

S. No.	Tehsil Name	C.D. Block Name	Village Name	Proportion of Female Illiterates	Selection Probabilities	Sampling S. No.
1.	Saharanpur	Puwarka	Jairampur Urf Nanka	0.662420	0.000641	16
2.	Saharanpur	Puwarka	Padli Khushalpur	0.929167	0.000899	19
3.	Behat	Sadauli Qadeem	Nityanandpur Must	0.847222	0.000819	6
4.	Behat	Muzaffarabad	Dayalpur	0.820477	0.000793	11
5.	Behat	Muzaffarabad	Musail	0.754247	0.000729	4
6.	Nakur	Sarsawan	Majhar	0.887574	0.000858	13
7.	Nakur	Sarsawan	Ahari	0.668	0.000646	10
8.	Nakur	Sarsawan	Tith Palu	0.913043	0.000883	12
9.	Nakur	Nakur	Hasanpur	0.8	0.000774	8
10.	Nakur	Nakur	Salhapur	0.806651	0.000780	15
11.	Nakur	Nakur	Khera Afgan	0.772752	0.000747	14
12.	Nakur	Nakur	Bahlolpur	0.682927	0.000660	5
13.	Deoband	Rampur Maniharan	Bhankla	0.835214	0.000808	3
14.	Deoband	Rampur Maniharan	Navada Bhajdu	0.556962	0.000539	2
15.	Deoband	Rampur Maniharan	Tipra	0.7425	0.000718	9
16.	Deoband	Nagal	Tanshipur Must.	0.979679	0.000947	7
17.	Deoband	Nagal	Shahpur	0.854902	0.000827	1
18.	Deoband	Nagal	Tayabpur Badha	0.858364	0.000830	17
19.	Deoband	Nagal	Abdullapur	0.833898	0.000806	18
20.	Deoband	Nanauta	Jogipura	0.930693	0.000900	21
21.	Deoband	Nanauta	Nainpur Saiyyad	0.993506	0.000961	20
<b>Substitute Villages</b>						
1.	Nakur	Gangoh	Sherpur	0.791209	0.000765	1
2.	Saharanpur	Ballia Kheri	Bani Kheda	0.819079	0.000792	2
3.	Behat	Sadauli Qadeem	Noorpur Urf Bharawad	0.971698	0.000934	3
4.	Behat	Muzaffarabad	Pazrana	0.982456	0.000950	4
5.	Nakur	Nakur	Singh Khera	0.867008	0.000838	5

**District: Muzaffarnagar**

1.	Kairana	Un	Garhi Pukhta Rural	0.957746	0.001422	12
2.	Muzaffarnagar	Muzaffarnagar	Nara	0.803724	0.001193	2
3.	Kairana	Un	Miyan Kasba Ahatmali	0.978261	0.001452	22
4.	Kairana	Un	Peer Khera	0.573913	0.000852	10
5.	Kairana	Thana Bhawan	Bhaneraudda	0.784363	0.001164	6
6.	Kairana	Shamli	Kurmali	0.678742	0.001007	14
7.	Kairana	Kairana	Basera Non Allvial	1	0.001484	20
8.	Kairana	Kairana	Jahanpur	0.969118	0.001438	21
9.	Muzaffarnagar	Charthawal	Kallarpur	0.669039	0.000993	7
10.	Muzaffarnagar	Charthawal	Kacholi	0.559937	0.000831	5
11.	Muzaffarnagar	Charthawal	Kacholi(R)	0.559937	0.000831	3
12.	Muzaffarnagar	Purkazi	Kasampur	0.863465	0.001282	1
13.	Muzaffarnagar	Baghara	Pipalhera	0.747440	0.001109	16
14.	Muzaffarnagar	Baghara	Gujarheri	0.820046	0.001217	11
15.	Muzaffarnagar	Baghara	Alipurkhurd	0.697628	0.00104	17
16.	Budhana	Budhana	Mandwara	0.840491	0.001248	9
17.	Budhana	Budhana	Bitaoada	0.693171	0.001029	18
18.	Budhana	Shahpur	Sadrudeen Nagar	0.690722	0.001025	13
19.	Jansath	Morna	Sikandarapur	0.667939	0.000991	15
20.	Jansath	Jansath	Tisang	0.685026	0.001017	19
21.	Jansath	Khatauli	Puttha	0.595376	0.000887	8
22.	Jansath	Khatauli	Barsu	0.655749	0.000973	4
<b>Substitute Villages</b>						
1.	Kairana	Kairana	Kairanaa Rurat	0.813202	0.001207	4
2.	Jansath	Morna	Kasauli	0.837209	0.001243	2
3.	Jansath	Jansath	Ishaqwala	1	0.001484	3
4.	Jansath	Jansath	Raharwa	0.93030	0.001381	1
5.	Jansath	Khatauli	Chitaura	0.635338	0.000943	5

**Table A5 (Contd.)****District: Rampur**

S. No.	Tehsil Name	C.D. Block Name	Village Name	Proportion of Female Illiterates	Selection Probabilities	Sampling S. No.
1.	Suar	Suar	Khaud Kalan	0.961290	0.000979	4
2.	Suar	Suar	Aglaga	0.991409	0.001010	7
3.	Suar	Suar	Mukutpur	0.917857	0.000935	6
4.	Suar	Suar	Ramnagar Latifpur	0.883072	0.000899	11
5.	Suar	Suar	Kesho Nagli Tanda	0.957447	0.000975	1
6.	Suar	Suar	Kesho Nagli Tanda(R)	0.957447	0.000975	8
7.	Suar	Suar	Daranagar	0.911290	0.000928	5
8.	Bilaspur	Bilaspur	Dhuryai	0.687204	0.000700	10
9.	Bilaspur	Bilaspur	Aqilpur	0.843602	0.000859	12
10.	Bilaspur	Bilaspur	Dhavni Bujurg	0.966736	0.000985	13
11.	Sadar (Rampur)	Saidnagar	Mohammadpur North	0.948571	0.000966	3
12.	Sadar (Rampur)	Chamraon	Dabka	0.989809	0.001008	9
13.	Sadar (Rampur)	Chamraon	Bhandpura	0.970077	0.000988	14
14.	Milak	Milak	Jagannathpur	0.963158	0.000981	2
<b>Substitute Villages</b>						
1.	Milak	Milak	Calcutta	0.915493	0.000932	1
2.	Sadar (Rampur)	Chamraon	Ahamad Nagar Pahari	0.857143	0.000873	2
3.	Bilaspur	Bilaspur	Shri Nagar	0.553398	0.000564	3
4.	Suar	Bilaspur	Mirapur Bilaspur	0.875	0.000891	4
5.	Shahabad	Shahabad	Shahpur Dev	0.970543	0.000988	5

**District Ghaziabad**

1.	Modinagar	Muradnagar	Basantpur Saithli	0.592362	0.001526	12
2.	Ghaziabad	Rajapur	Mahmudabad	0.845361	0.002177	13
3.	Ghaziabad	Loni	Mewala Bhatti	0.655242	0.001688	7
4.	Hapur	Loni	Khairpur Khairabad	0.635650	0.001637	11
5.	Hapur	Dhaulana	Galand	0.705289	0.001816	10
6.	Hapur	Dhaulana	Lalpur	0.861295	0.002218	1
7.	Hapur	Hapur	Shahpur Jatt	0.698087	0.001798	3
8.	Hapur	Hapur	Gondi	0.938547	0.002417	4
9.	Hapur	Simbhawali	Beersinghpur	0.870732	0.002243	2
10.	Garhmukteshwar	Simbhawali	Bhagwanpur	0.831933	0.002143	5
11.	Garhmukteshwar	Simbhawali	Himmatpur	0.956923	0.002465	6
12.	Garhmukteshwar	Simbhawali	Rajhera	0.822785	0.002119	14
13.	Garhmukteshwar	Simbhawali	Neknampur Fuldi	0.945634	0.002435	8
14.	Garhmukteshwar	Garh Mukteshwar	Gadawali	0.996016	0.002565	9
<b>Substitute Villages</b>						
1.	Ghaziabad	Loni	Lutfulapur	0.737374	0.001899	4
2.	Ghaziabad	Loni	Fatiyabad Bithora	0.644254	0.001659	2
3.	Hapur	Bhojpur	Khairpur Khairabad(R)	0.635650	0.001637	5
4.	Hapur	Dhaulana	Bhudia	0.870159	0.002241	1
5.	Hapur	Hapur	Peernagar Sudna	0.711439	0.001832	3

**Table A5 (Contd.)****District: Aligarh**

S. No.	Tehsil Name	C.D. Block Name	Village Name	Proportion of Female Illiterates	Selection Probabilities	Sampling S. No.
1.	Khair	Tappal	Burhaka	0.808795	0.000850	08
2.	Khair	Tappal	Atari	0.785714	0.000826	01
3.	Khair	Tappal	Manpur	0.877315	0.000922	03
4.	Khair	Tappal	Vairamganj	0.524528	0.000551	10
5.	Khair	Chandaus	Jamanka	0.846774	0.00089	07
6.	Khair	Khair	Sujanpur	0.709550	0.000746	04
7.	Koil	Jawan Sikanderpur	Daudpur	0.871486	0.000916	11
8.	Koil	Jawan Sikanderpur	Sikandrapur Kota	0.8729723	0.000917	21
9.	Koil	Jawan Sikanderpur	Pauhina	0.651007	0.000684	09
10.	Koil	Jawan Sikanderpur	Chandaukha	0.605634	0.000636	12
11.	Koil	Jawan Sikanderpur	Kirhara	0.948320	0.000996	02
12.	Koil	Dhanipur	Bhawan Khera	0.888889	0.000934	15
13.	Iglas	Gonda	Majoopur Subkara	0.829854	0.000872	18
14.	Iglas	Iglas	Satlauni Kalan	0.931953	0.000979	19
15.	Atrauli	Atrauli	Suratgarh	0.872993	0.000917	16
16.	Atrauli	Atrauli	Madhupur	0.96347	0.001012	14
17.	Atrauli	Bijauli	Raipur Khas	0.961506	0.001010	05
18.	Iglas	Gonda	Hasan Garh	0.933110	0.00098	20
19.	Iglas	Gonda	Nagla Balran	0.835866	0.000878	13
20.	Iglas	Gonda	Khirsauli	0.66	0.000694	17
21.	Atrauli	Gangiri	Dhansari	0.940635	0.000988	06
<b>Substitute Villages</b>						
1.	Khair	Tappal	Piply Nagala Kadirkarah	0.78125	0.000821	03
2.	Khair	Chandaus	Deta kalan	0.695764	0.000731	02
3.	Iglas	Iglas	Bichaula	0.632479	0.000665	01
4.	Atrauli	Bijauli	Barhaul	0.820175	0.00086	05
5.	Sikandra Rao	Akrabad	Khurrampur	0.906931	0.000953	04

**District: Pilibhit**

1.	Pilibhit	Amariya	Keulara	0.682464	0.000666	08
2.	Pilibhit	Amariya	Bhara Pachpera	0.75	0.000732	03
3.	Pilibhit	Amariya	Bhura	0.910141	0.000889	14
4.	Pilibhit	Amariya	Jagat Ahatmali	0.75	0.000732	05
5.	Bisalpur	Barkhera	Barkhari	0.875	0.000854	10
6.	Bisalpur	Bilsanda	Ghuri patti	0.709091	0.000692	07
7.	Bisalpur	Bilsanda	Mawaiya	0.938534	0.000916	09
8.	Bisalpur	Bisalpur	Tihuliya	0.823204	0.000804	06
9.	Bisalpur	Bisalpur	Mainpura	0.832618	0.000813	11
10.	Puranpur	Puranpur	Grant No 1 urf Banganj	0.882353	0.000861	01
11.	Puranpur	Puranpur	Vijai Nagar	0.852590	0.000832	02
12.	Puranpur	Puranpur	Dateli	0.421053	0.000411	13
13.	Puranpur	Puranpur	Haripur T.Ajitpur Bilha	0.892857	0.000872	12
14.	Puranpur	Puranpur	Dilawarpur	0.970443	0.000947	04
<b>Substitute Villages</b>						
1.	Puranpur	Puranpur	Gulraha	0.980263	0.000957	01
2.	Puranpur	Puranpur	Pipria Santosh	0.929134	0.000907	03
3.	Bisalpur	Bisalpur	Mighona	0.759076	0.000741	04
4.	Bisalpur	Bisalpur	Mahadewa	0.901786	0.000880	05
5.	Pilibhit	Amariya	Khamria Dalelganj	0.942634	0.000920	02

**Table A5 (Contd.)****District: Shahjahanpur**

S. No.	Tehsil Name	C.D. Block Name	Village Name	Proportion of Female Illiterates	Selection Probabilities	Sampling S. No.
1.	Powayan	Banda	Gularia	0.856998	0.000460	16
2.	Powayan	Banda	Chikitiha	0.901961	0.000484	06
3.	Powayan	Khutar	Singpur M. Saharu	0.813559	0.000437	09
4.	Powayan	Sindhauri	Raghunathpur J.Rampur	0.809524	0.000435	14
5.	Tilhar	Jaitipur	Biharipur T. Surjupur	0.934426	0.000502	11
6.	Tilhar	Tilhar	Rujvari	0.9	0.000483	15
7.	Tilhar	Tilhar	Rampur Navediya	0.835821	0.000449	07
8.	Tilhar	Nigohi	Khiria	0.914179	0.000491	19
9.	Tilhar	Nigohi	Vikrampur Chakauria	0.959091	0.000515	18
10.	Tilhar	Nigohi	Bajhera Bajheri	0.938389	0.000504	05
11.	Shahjahanpur	Kanth	Nagla Banwari	0.890160	0.000478	08
12.	Shahjahanpur	Dadrol	Sunaura Azampur	0.828671	0.000445	02
13.	Shahjahanpur	Dadrol	Laynipur	0.945652	0.000508	01
14.	Shahjahanpur	Dadrol	Amora	0.901299	0.000484	20
15.	Shahjahanpur	Dadrol	Taharpur	0.988950	0.000531	10
16.	Shahjahanpur	Dadrol	Kapas khiria	0.929577	0.000499	12
17.	Shahjahanpur	Dadrol	Bhargawan	0.957290	0.000514	17
18.	Shahjahanpur	Bhawal Khera	Dadiura	0.872928	0.000469	13
19.	Shahjahanpur	Bhawal Khera	Katia Mundi	1	0.000537	03
20.	Jalalabad	Jalalabad	Amrapur Amela	1	0.000537	04
<b>Substitute Villages</b>						
1.	Powayan	Banda	Nagra J Navadia	0.840237	0.000451	01
2.	Powayan	Powayan	Dharmangadpur Buzurg	0.775	0.000416	05
3.	Powayan	Sindhauri	Kuberpur	1	0.000537	02
4.	Powayan	Sindhauri	Basai	1	0.000537	03
5.	Tilhar	Khudaganj Katra	Khiriya	0.881679	0.000473	04

**District: Kheri**

1.	Nighasan	Palia	Man Nagar	0.882353	0.000599	02
2.	Nighasan	Palia	Gulara	0.97826	0.000665	24
3.	Gola Gokaran Nath	Kumbhigola	Umaria	0.785146	0.000533	12
4.	Gola Gokaran Nath	Kumbhigola	Parshera	0.954717	0.000649	11
5.	Gola Gokaran Nath	Bijua	Pipariya Bhoor	0.800817	0.000544	16
6.	Gola Gokaran Nath	Bijua	Tajpur	0.873362	0.000593	13
7.	Gola Gokaran Nath	Bijua	Jungle No9	1	0.000679	20
8.	Gola Gokaran Nath	Bankeyganj	Mehikhera	0.928571	0.000631	08
9.	Gola Gokaran Nath	Bankeyganj	Sansarpur	0.864286	0.000587	14
10.	Mohammadi	Mohammadi	Kuiyan Madarpur	0.889764	0.000604	17
11.	Mohammadi	Mohammadi	Fatuhabad	0.96875	0.000658	10
12.	Mohammadi	Mitauli	Sainpur	0.832184	0.000565	04
13.	Mohammadi	Mitauli	Behralal	0.858300	0.000583	23
14.	Mohammadi	Pasgawan	Machhechha	0.933649	0.000634	03
15.	Mohammadi	Pasgawan	Mundia Churaman	0.883636	0.000600	21
16.	Mohammadi	Pasgawan	Mohammadpur Narahi	0.884298	0.000601	18
17.	Mohammadi	Pasgawan	Darma	0.981818	0.000667	19
18.	Mohammadi	Pasgawan	Jahan Nagar	0.943925	0.000641	15
19.	Lakhimpur	Behjam	Devvari	0.901499	0.000612	06
20.	Lakhimpur	Phoolbehar	Bilaria	0.941634	0.000640	01
21.	Lakhimpur	Phoolbehar	Ramauwapur Jangli	0.941176	0.000639	09
22.	Lakhimpur	Nakaha	Noudhan	1	0.000679	05
23.	Dhorahara		Tahara	0.940819	0.000639	07
24.	Dhorahara	Dhaurehra	Baburi	0.945074	0.000642	22
<b>Substitute Villages</b>						
1.	Nighasan	Palia	Mujaha	0.933468	0.00063	01
2.	Gola Gokaran Nath	Kumbhigola	Rasul Pur	0.989130	0.000672	03
3.	Lakhimpur	Lakhimpur	Choraha	0.969091	0.000658	04
4.	Lakhimpur	Phoolbehar	Tatarpur	0.930818	0.00063	05
5.	Dhorahara		Matera	1	0.000679	02

**Table A5 (Contd.)****District: Sitapur**

S. No.	Tehsil Name	C.D. Block Name	Village Name	Proportion of Female Illiterates	Selection Probabilities	Sampling S. No.
1.	Misrikh	Pisawan	Baksapur	0.75	0.000369	23
2.	Misrikh	Pisawan	Sarosa	0.953656	0.000469	20
3.	Misrikh	Misrikh	Satnapur	0.935018	0.000460	07
4.	Misrikh	Gondlamau	Gaitha	0.914286	0.000450	11
5.	Sitapur	Ailiya	Jaagdishpur Gohraiya	0.893204	0.000439	13
6.	Sitapur	Ailiya	Rampur Bhooda	0.9830010	0.00048	18
7.	Sitapur	Hargaon	Hardaspur	0.836364	0.000411	12
8.	Sitapur	Khairabad	Mandraha	0.923077	0.000454	19
9.	Laharpur	Hargaon	Bariadih	0.872054	0.000429	16
10.	Laharpur	Parsendi	Patti Samai	0.913994	0.000450	04
11.	Laharpur	Parsendi	Dhimora	0.909091	0.000447	01
12.	Laharpur	Laharpur	Pahladpur	0.935037	0.000460	14
13.	Laharpur	Behta	Chhatagur	0.984556	0.000484	26
14.	Laharpur	Behta	Bothawa	1	0.00049	24
15.	Biswan	Reusa	Barahaee Deeh	0.962865	0.000474	25
16.	Biswan	Reusa	Koliya Charitya	0.986523	0.000485	10
17.	Biswan	Reusa	Dalpatpur	0.971480	0.000478	09
18.	Biswan	Reusa	Itoei	0.931677	0.000458	15
19.	Biswan	Biswan	Akaba Pur	0.917526	0.000451	08
20.	Biswan	Biswan	Boeni Pur	0.884058	0.000435	02
21.	Biswan	Biswan	Shankarpur Bhoila	0.762195	0.000375	03
22.	Biswan	Biswan	Ratnapur Mafi	0.835821	0.000411	21
23.	Biswan	Biswan	Pakariya	0.931579	0.000458	17
24.	Mahmudabad	Pahala	Ladhauhra Raja Sahab	0.744928	0.000367	05
25.	Mahmudabad	Rampur Mathura	Davindapur	0.94138	0.000463	06
26.	Mahmudabad	Rampur Mathura	Bansipur	0.871560	0.000429	22
<b>Substitute Villages</b>						
1.	Misrikh	Pisawan	Tipukapur	0.845638	0.000416	01
2.	Sitapur	Ailiya	Dewai	0.794189	0.000391	04
3.	Laharpur	Laharpur	Kishunpur	0.922667	0.000454	03
4.	Sidholi	Kasmanda	Saidapur	0.703297	0.000346	02
5.	Mahmudabad	Mahmudabad	Malhpur	0.868421	0.000427	05

**Table A5 (Contd.)****District: Raebareli**

S. No.	Tehsil Name	C.D. Block Name	Village Name	Proportion of Female Illiterates	Selection Probabilities	Sampling S. No.
1.	Mahrajganj	Shivgarh	Badaver	0.953307	0.000672	17
2.	Mahrajganj	Mahrajganj	Chandapur	0.896667	0.000632	02
3.	Tiloi	Singhpur	Bhikhipur	0.931133	0.000657	18
4.	Tiloi	Tiloi	Hanswa	0.918685	0.000648	23
5.	Tiloi	Tiloi	Meera Mau	0.862170	0.000608	11
6.	Tiloi	Bahadurpur	Chak Bhoor	0.936610	0.000661	14
7.	Tiloi	Bahadurpur	Tahirpur	0.985507	0.000695	03
8.	Rae Bareli	Harchandpur	Antari	0.853333	0.000602	01
9.	Rae Bareli	Amawan	Bahadur Nagar	0.836502	0.000590	04
10.	Rae Bareli	Amawan	Baikhara	0.940426	0.000663	07
11.	Rae Bareli	Rahi	Rampur Maheri	0.886640	0.000625	22
12.	Lal Ganj	Sareni	Tiwariapur Khurd	0.977011	0.000689	06
13.	Lal Ganj	Sareni	Mailaspur	0.726619	0.000512	21
14.	Lal Ganj	Sareni	Kheman Khera	0.594872	0.000419	15
15.	Lal Ganj	Sareni	Sidhaur Tara Mu.	0.867110	0.000612	08
16.	Dalmau	Dalmau	Risalpur	0.906667	0.000639	16
17.	Dalmau	Dalmau	Makhdumpur Urf Sekhanpur	0.768496	0.000542	12
18.	Dalmau	Jagatpur	Dhobaha	0.743056	0.000524	20
19.	Dalmau	Jagatpur	Sendarajpur Urf Singhpur	0.967105	0.000682	05
20.	Salon	Chhato	Makhdumpur	0.886935	0.000626	19
21.	Salon	Salon	Sher Sindhiyapur	0.948454	0.000669	24
22.	Salon	Salon	Bhawanipur	0.893175	0.000630	13
23.	Salon	Unchahar	Dedauli	0.910345	0.000642	10
24.	Salon	Unchahar	Mawai	0.917895	0.000647	09
<b>Substitute Villages</b>						
1.	Tiloi	Singhpur	Ashrafpur	0.920152	0.00065	04
2.	Tiloi	Singhpur	Satan Ka Purwa	0.943820	0.000666	02
3.	Rae Bareli	Harchandpur	Kankhara	0.862245	0.000608	05
4.	Rae Bareli	Amawan	Pindari Khurd	0.886747	0.000625	03
5.	Salon	Dih	Hajipur	0.80952	0.000571	01

**District: Jhansi**

1.	Moth	Moth	Poonchh	0.638621	0.001029	10
2.	Moth	Moth	Budhawali	0.678112	0.001093	08
3.	Garotha	Bamaur	Gokal	0.911067	0.001468	07
4.	Garotha	Gursarai	Ghuraiya	0.797826	0.001286	04
5.	Mauranipur	Bangra	Pachauro	0.841996	0.001357	05
6.	Mauranipur	Mauranipur	Khanuwan	0.773006	0.001246	06
7.	Mauranipur	Mauranipur	Jhankari	0.970149	0.001563	09
8.	Mauranipur	Mauranipur	Basariya	0.897674	0.001447	01
9.	Jhansi	Babina	Khajuraha Khurd	0.958333	0.001544	03
10.	Jhansi	Badagaon	Karari	0.883686	0.001424	02
<b>Substitute Villages</b>						
1.	Moth	Moth	Jera	0.95890	0.001545	05
2.	Moth	Chirgaon	Chandwari	0.952020	0.001534	01
3.	Moth	Chirgaon	Sikari Buzurg	0.933071	0.001504	02
4.	Garotha	Gursarai	Puratani	0.621053	0.001001	03
5.	Mauranipur	Bangra	Chaukri	0.569231	0.000917	04

**Table A5 (Contd.)****District: Mahoba**

S. No.	Tehsil Name	C.D. Block Name	Village Name	Proportion of Female Illiterates	Selection Probabilities	Sampling S. No.
1.	Kulpahar	Panwari	Niswara	0.938776	0.002618	05
2.	Kulpahar	Panwari	Dulara	0.941824	0.002627	04
3.	Kulpahar	Jaitpur	Kutra	1	0.002789	09
4.	Kulpahar	Jaitpur	Tikariya	0.881232	0.002458	06
5.	Charkhari	Charkhari	Rahuniya	0.879699	0.002454	07
6.	Charkhari	Charkhari	Brijpur	0.987097	0.002753	02
7.	Charkhari	Charkhari	Kakun	0.685714	0.001913	10
8.	Mahoba	Kabrai	Surha	0.836918	0.002334	01
9.	Mahoba	Kabrai	Naigawan	0.886364	0.002472	03
10.	Mahoba	Kabrai	Ghut Bai	0.96460	0.002690	08
<b>Substitute Villages</b>						
1.	Kulpahar	Panwari	Richha	0.927342	0.002587	02
2.	Kulpahar	Jaitpur	Syavan	0.921348	0.002570	05
3.	Charkhari	Charkhari	Bapretha	0.910646	0.002540	01
4.	Mahoba	Kabrai	Gauhari	0.972973	0.002714	03
5.	Mahoba	Kabrai	Basaora	0.958042	0.002672	04

**District: Pratapgarh**

1.	Kunda	Kalakankar	Vajidpur	0.818452	0.000464	14
2.	Kunda	Kalakankar	Ainthu	0.926890	0.000526	13
3.	Kunda	Babaganj	Bharat Garh	0.810458	0.000460	08
4.	Kunda	Babaganj	Ray Kashipur	0.770588	0.000405	05
5.	Kunda	Kunda	Salempur Nindura	0.948454	0.000538	15
6.	Kunda	Vihar	Belajatmalpur	0.714286	0.000405	24
7.	Kunda	Vihar	Kodrasal	0.941176	0.000534	04
8.	Lalganj	Sangipur	Daulatpur	0.936224	0.000531	06
9.	Lalganj	Sangipur	Rajmatipur	0.862270	0.000489	11
10.	Lalganj	Sangipur	Nanhopur	0.852941	0.000484	20
11.	Lalganj	Rampur Khas	Pure Sewkram	0.954693	0.00054	23
12.	Lalganj	Rampur Khas	Pure Bansi	0.913580	0.000518	10
13.	Pratapgarh (Sadar)	Sandwa Chandrika	Paschim Gaon	0.842308	0.000478	09
14.	Pratapgarh (Sadar)	Sandwa Chandrika	Bahuchara	0.434783	0.000247	24
15.	Pratapgarh (Sadar)	Mandhata	Katata	0.708812	0.000402	03
16.	Pratapgarh (Sadar)	Mandhata	Bahrapur	0.857724	0.000486	02
17.	Patti	Magraura	Sarauli	0.761845	0.000432	12
18.	Patti	Patti	Rampur Bela	0.854008	0.000484	16
19.	Patti	Patti	Chandua Patti	0.568862	0.000323	17
20.	Patti	Patti	Gadauri Khurd	0.871642	0.000494	01
21.	Patti	Patti	Godho Patti	0.818966	0.000464	19
22.	Patti	Gaura	Purey Bhaiyaji	0.794118	0.000450	07
23.	Patti	Gaura	Fatehpur Dariyapur	0.837209	0.000475	21
24.	Patti	Gaura	Dhanuha	0.815470	0.000463	18
<b>Substitute Villages</b>						
1.	Kunda	Kalakankar	Rokaiyapur	0.624294	0.000354	04
2.	Kunda	Kunda	Paharpur Banoahi	0.853061	0.000484	02
3.	Kunda	Vihar	Saraybabuien	0.918367	0.000521	03
4.	Lalganj	Sangipur	Pure Bhagwat	0.886986	0.000503	01
5.	Lalganj	Rampur Khas	Pure Bhikhari	0.961749	0.000545	05

**Table A5 (Contd.)****District: Kaushambi**

S. No.	Tehsil Name	C.D. Block Name	Village Name	Proportion of Female Illiterates	Selection Probabilities	Sampling S. No.
1.	Sirathu	Kara	Kanemay	0.961165	0.000313	30
2.	Sirathu	Kara	Mogari Aamad Hath Ganwa	0.931373	0.000304	08
3.	Sirathu	Kara	Kachh Dariya Burd Uperhar	0.952381	0.000310	10
4.	Sirathu	Sirathu	Salempur urf Maheshpur	1	0.000326	29
5.	Sirathu	Sirathu	Mohiuddeenpur Bela	0.960177	0.000313	26
6.	Sirathu	Sirathu	Sehiya Amad Karari	0.935361	0.000305	15
7.	Manjhanpur	Sarsawan	Purab Sarawan	0.993658	0.000324	06
8.	Manjhanpur	Sarsawan	Jafarpur Mahauwa	0.872762	0.000284	23
9.	Manjhanpur	Manjhanpur	Babura	0.934615	0.000305	11
10.	Manjhanpur	Manjhanpur	Pawara	0.848138	0.000276	21
11.	Manjhanpur	Koshambhi	Rasulpur Bargaon	0.985011	0.000321	33
12.	Manjhanpur	Koshambhi	Aingawa Uparhar	0.934866	0.000305	39

**District: Allahabad**

1.	Chayal	Muratganj	Mitwapur	0.950980	0.000310	14
2.	Soraon	Kaurihar	Bhikhpur urf Bhikharipur	0.960938	0.000313	01
3.	Soraon	Holagarh	Umariasari	0.885400	0.000289	16
4.	Soraon	Holagarh	Mahespur	0.886525	0.000289	09
5.	Soraon	Soraon	Berboli	0.974359	0.000318	36
6.	Phulpur	Bahria	Rajepursani urf Rajjupur	0.905	0.000295	13
7.	Phulpur	Bahria	Husenpur	0.786260	0.000256	25
8.	Phulpur	Bahria	Garapur	0.781690	0.000255	05
9.	Phulpur	Bahadurpur	Faizullapur	0.783058	0.000255	40
10.	Handia	Pratappur	Gora Dauli	0.81	0.000264	38
11.	Handia	Pratappur	Majhiyari Ta. Chhatauna	0.905512	0.000295	41
12.	Handia	Saidabad	Naraharpur	0.883978	0.000288	27
13.	Handia	Saidabad	Fatuha	0.841073	0.00027	19
14.	Handia	Saidabad	Saray Bansi	0.965665	0.000315	34
15.	Handia	Dhanupur	Bhagipur	0.976744	0.000318	18
16.	Handia	Dhanupur	Saifabad	0.985294	0.000321	32
17.	Handia	Dhanupur	Madhopur Siya Dih	1	0.000326	17
18.	Bara	Jasra	Bhamaur	0.941558	0.000307	42
19.	Bara	Shankargarh	Khan Semra	0.978873	0.000319	37
20.	Karchhana	Chaka	Dhanuha	0.835789	0.000272	20
21.	Karchhana	Chaka	Chak Gulam Mohmmad	0.8	0.000261	31
22.	Karchhana	Chaka	Chak Hidayatullah	0.233918	7.624634	07
23.	Karchhana	Karchhana	Sulamai	0.950427	0.000310	02
24.	Meja	Uruwan	Kukur Katva	0.884170	0.000288	12
25.	Meja	Uruwan	Jagepur	0.827586	0.000270	03
26.	Meja	Meja	Jora	0.76	0.000248	24
27.	Meja	Meja	Gaderiya	0.820690	0.000268	35
28.	Meja	Meja	Akhari Shahpur	0.913208	0.000298	28
29.	Meja	Meja	Kunchi	0.935673	0.000305	04
30.	Meja	Koraon	Hardiya	0.89375	0.00029	22

**Substitute Villages of Allahabad and Kaushambi**

1.	Sirathu	Kara	Alawalpur Tikari	0.855422	0.000279	49
2.	Soraon	Holagarh	Tawakkalpur	0.932432	0.0003034	43
3.	Phulpur	Bahadurpur	Ibrahimpur Uperhar	0.897436	0.000293	52
4.	Handia	Dhanupur	Jaraon	0.923591	0.000301	44
5.	Handia	Dhanupur	Kharagpur	1	0.000326	45
6.	Handia	Dhanupur	Dhowaha	0.828263	0.000270	46
7.	Handia	Handia	Chak Ajij Urph Birapur	0.882507	0.000288	47
8.	Meja	Meja	Ghoraha	0.968421	0.00032	53
9.	Meja	Koraon	Pathakpur	0.887850	0.000289	51
10.	Meja	Koraon	Mandav	1	0.000326	54
11.	Meja	Koraon	Kathar	1	0.000326	50
12.	Meja	Manda	Sukulpur	0.878788	0.000286	55

**Table A5 (Contd.)****District: Balrampur**

S. No.	Tehsil Name	C.D. Block Name	Village Name	Proportion of Female Illiterates	Selection Probabilities	Sampling S. No.
1.	Balrampur	Haraya Satgharwa	Sahajana	0.972583	0.001055	06
2.	Balrampur	Haraya Satgharwa	Dhuri Kalan	0.956364	0.001038	01
3.	Balrampur	Haraya Satgharwa	Kerwania	0.995935	0.001080	03
4.	Balrampur	Haraya Satgharwa	Baldeo Nagar	0.948148	0.001029	04
5.	Balrampur	Balrampur	Chirraiya	0.992565	0.0010767	07
6.	Balrampur	Balrampur	Birahimpur	0.881877	0.000957	08
7.	Balrampur	Balrampur	Gangapur	0.943052	0.001023	09
8.	Balrampur	Balrampur	Harbaspur	0.991826	0.001076	13
9.	Balrampur	Balrampur	Parsiamafi	0.892430	0.000968	10
10.	Tulsipur	Gesari	Dhobha	1	0.001085	14
11.	Tulsipur	Pachperwa	Mankapur	0.840909	0.0009	02
12.	Utraula	Shri Dutt Ganj	Kolhuai Binauni	0.975779	0.00106	11
13.	Utraula	Shri Dutt Ganj	Pipra Yaqoob	0.937563	0.00102	05
14.	Utraula	Gaindas Buzurg	Puraina Buland	0.966197	0.001048	12
<b>Substitute Villages</b>						
1.	Tulsipur	Tulsipur	Mainahwa	0.988782	0.001073	05
2.	Tulsipur	Tulsipur	Khairhaniya	0.958810	0.001040	02
3.	Tulsipur	Gesari	Pakri	0.921478	0.0001000	04
4.	Utraula	Gaindas Buzurg	Rasoolabad	0.996622	0.001081	03
5.	Utraula	Rehra Bazar	Mubarakpur	0.933530	0.001013	01

**District: Siddharthanagar**

1.	Itawa	Khuniyaon	Kherdeori	0.983333	0.000474	04
2.	Itawa	Bhanwapur	Trilokpur	0.834146	0.000402	18
3.	Naugarh	Birdpur	Gauhaniya Urf Debiyapur	0.847059	0.000408	03
4.	Naugarh	Naugarh	Rasulpur	0.802174	0.000386	01
5.	Naugarh	Naugarh	Semariyaw	0.989063	0.000476	14
6.	Naugarh	Jogia	Banjarah Khurd	1	0.000482	11
7.	Naugarh	Uska Bazar	Nebuiya	1	0.000482	06
8.	Naugarh	Uska Bazar	Susanaha	0.988889	0.000476	16
9.	Dumariya Ganj	Manwapur	Ganwaria Khurad	0.903509	0.000435	15
10.	Dumariya Ganj	Manwapur	Madhukarpur	0.917647	0.000442	10
11.	Dumariya Ganj	Manwapur	Sakhuy Goverdhen	0.908163	0.000437	07
12.	Dumariya Ganj	Domariyaganj	Koryabhari	0.969325	0.000467	09
13.	Bansi	Mithwal	Batyapur	1	0.000482	17
14.	Bansi	Mithwal	Bahadurpur	0.993506	0.000479	13
15.	Bansi	Khesraha	Gengta	0.954338	0.000460	05
16.	Bansi	Khesraha	Pendari Buzurg	0.930825	0.000448	12
17.	Bansi	Khesraha	Misraulia	0.973077	0.000469	08
18.	Bansi	Khesraha	Marawatia	0.966102	0.000465	02
<b>Substitute Villages</b>						
1.	Itawa	Khuniyaon	Badhya	0.904018	0.000435	03
2.	Itawa	Khuniyaon	Madhwapur Kalan	0.946588	0.000456	01
3.	Itawa	Khuniyaon	Dhangarwa	0.892473	0.000430	02
4.	Naugarh	Naugarh	Basauni	0.983240	0.000474	05
5.	Naugarh	Uska Bazar	Khaira	1	0.000482	04

**Table A5 (Contd.)****District: Kushinagar**

S. No.	Tehsil Name	C.D. Block Name	Village Name	Proportion of Female Illiterates	Selection Probabilities	Sampling S. No.
1.	Hata	Kaptanganj	Mujahana	0.834891	0.000611	04
2.	Hata	Kaptanganj	Baulia	0.828947	0.000607	02
3.	Hata	Motichak	Udedupar	0.823529	0.0006023	19
4.	Hata	Motichak	Mathiya urf Akataha	0.964036	0.000706	06
5.	Hata	Motichak	Puraini	0.85	0.000622	13
6.	Hata	Sukrauli	Bishunpura	0.869757	0.000637	18
7.	Hata	Sukrauli	Chhapiya	0.887073	0.00065	16
8.	Hata	Sukrauli	Pagara	0.900929	0.000659	07
9.	Hata	Hata	Piprak Pura	0.851648	0.000623	09
10.	Padrauna	Khadda	Shivpur	0.991280	0.000726	10
11.	Padrauna	Padrauna	Palia	0.790541	0.000579	21
12.	Padrauna	Padrauna	Sampur Hatwa	0.826297	0.000605	20
13.	Padrauna	Padrauna	Deoria	0.909091	0.000665	01
14.	Padrauna	Kasiya	Narkatia Khurd	0.776765	0.000569	03
15.	Tamkuhi Raj	Dudhahi	Shahpur Mafi	1	0.000732	22
16.	Tamkuhi Raj	Dudhahi	Jungle Ghorath	0.963415	0.000705	14
17.	Tamkuhi Raj	Tamkuhi	Jawar	0.939394	0.000688	08
18.	Tamkuhi Raj	Tamkuhi	Jogia Janubi Patti	0.694444	0.000508	05
19.	Tamkuhi Raj	Tamkuhi	Bihar Khurd	0.904715	0.000662	17
20.	Tamkuhi Raj	Sevarhi	Noniya Patti	0.636364	0.000466	15
21.	Tamkuhi Raj	Sevarhi	Pakriar Pachim Patti	0.868132	0.000635	11
22.	Tamkuhi Raj	Sevarhi	Karan Patti	0.876522	0.000642	12
<b>Substitute Villages</b>						
1.	Hata	Motichak	Nanhu Mundera	0.887608	0.000650	05
2.	Padrauna	Vishunpura	Madhopur	1	0.000732	02
3.	Padrauna	Padrauna	Jungle Jagdishpur	0.954410	0.000699	03
4.	Tamkuhi Raj	Fazilnagar	Bhathahi Khurd	0.80126	0.000587	01
5.	Tamkuhi Raj	Sevarhi	Salemgarh	0.853537	0.000625	04

**Table A6: List of Sample Villages of Selected Districts of Madhya Pradesh****District: Shivpuri**

<b>S. No.</b>	<b>Tehsil Name</b>	<b>Village Name</b>	<b>Proportion of Female Illiterates</b>	<b>Selection Probabilities</b>	<b>Sampling S. No.</b>
1.	Pohari	Deopur	0.978142	0.000792	17
2.	Pohari	Barod	0.943396	0.000763	11
3.	Pohari	Ranipura	0.992701	0.000803	10
4.	Pohari	Parichchha Ahir	0.846575	0.000685	13
5.	Pohari	Barkheda	0.927203	0.000750	07
6.	Shivpuri	Gugripura	0.981651	0.000794	19
7.	Shivpuri	Chhar	0.993865	0.000804	02
8.	Shivpuri	Rator	0.934091	0.000756	01
9.	Shivpuri	Suhara	0.821429	0.000665	22
10.	Narwar	Barsodi	0.965812	0.000782	16
11.	Kolaras	Padori	1.000000	0.000809	04
12.	Kolaras	Kulwara	0.884000	0.000715	12
13.	Kolaras	Tudayawad	0.985755	0.000798	20
14.	Kolaras	Toriya	1.000000	0.000809	21
15.	Pichhore	Kota	0.966667	0.000782	09
16.	Pichhore	Tidhari	0.946237	0.000766	18
17.	Khaniyadhana	Kanji Khedi	1.000000	0.000809	03
18.	Khaniyadhana	Garha	1.000000	0.000809	08
19.	Khaniyadhana	Nadawan Chanderi	0.985714	0.000798	05
20.	Khaniyadhana	Durgapur	1.000000	0.000809	14
21.	Khaniyadhana	Muhari	0.893939	0.000723	06
22.	Khaniyadhana	Rajpur	0.968153	0.000783	15

**District: Guna**

<b>S. No.</b>	<b>Tehsil Name</b>	<b>Village Name</b>	<b>Proportion of Female Illiterates</b>	<b>Selection Probabilities</b>	<b>Sampling S. No.</b>
1.	Isagarh	Manheti	0.974684	0.000511	16
2.	Chanderi	Dabiya	0.947368	0.000497	18
3.	Chanderi	Bamor Hurra	0.953947	0.000501	06
4.		Khadela	0.916955	0.000481	05
5.	Guna	Madhopura	1.000000	0.000525	19
6.	Guna	Chentbari	1.000000	0.000525	17
7.	Guna	Tarapur	1.000000	0.000525	08
8.	Guna	Nasira	0.979899	0.000514	01
9.	Guna	Badli	1.000000	0.000525	15
10.	Ashok nagar	Himnoda	0.796610	0.000418	22
11.	Ashok nagar	Pipariya Kachhi	0.910345	0.000478	10
12.	Ashok nagar	Sawan	0.877049	0.000460	09
13.	Raghoagarh	Bala Bhaint	0.930636	0.000488	07
14.	Raghoagarh	Gopalgargh	1.000000	0.000525	14
15.	Raghoagarh	Thuniya Kundal	1.000000	0.000525	11
16.	Mungaoli	Barola	0.989691	0.000519	03
17.	Mungaoli	Kodhyai	0.940476	0.000493	04
18.	Mungaoli	Nehakai	1.000000	0.000525	20
19.	Mungaoli	Nadan Khedi	0.925714	0.000486	13
20.	Chachaura	Chitoda	0.898438	0.000471	02
21.	Chachaura	Nesh Khurd	1.000000	0.000525	12
22.	Arnon	Shohrok	0.972705	0.000510	21

**Table A6 (Contd.)****District: Tikamgarh**

<b>S. No.</b>	<b>Tehsil Name</b>	<b>Village Name</b>	<b>Proportion of Female Illiterates</b>	<b>Selection Probabilities</b>	<b>Sampling S. No.</b>
1.	Niwari	Neguwan	0.758824	0.001030	04
2.	Niwari	Dabar Jangal	0.857143	0.001163	13
3.	Prithvipur	Jaitwara	0.806452	0.001094	05
4.	Prithvipur	Bhopalpura	0.948201	0.001286	08
5.	Prithvipur	Khiston	0.890777	0.001209	12
6.	Prithvipur	Manikpur	0.789474	0.001071	10
7.	Jatara	Jerra	0.950820	0.001290	06
8.	Jatara	Baharo Tal	0.873333	0.001185	09
9.	Jatara	Simariya	0.822511	0.001116	15
10.	Palera	Prempura	0.939024	0.001274	18
11.	Palera	Charee	0.884735	0.001200	01
12.	Palera	Kapasi	0.884696	0.001200	16
13.	Palera	Chhidara	0.929078	0.001261	03
14.	Baldeogarh	Jhinguan	0.801418	0.001087	07
15.	Baldeogarh	Darguan khalsa	0.891705	0.001210	14
16.	Baldeogarh	Hata	0.807737	0.001096	17
17.	Tikamgarh	Bad Madai Ugad	1.000000	0.001357	11
18.	Tikamgarh	Magra	0.988764	0.001342	02

**District: Chhatarpur**

<b>S. No.</b>	<b>Tehsil Name</b>	<b>Village Name</b>	<b>Proportion of Female Illiterates</b>	<b>Selection Probabilities</b>	<b>Sampling S. No.</b>
1.	Gaurihar	Tikari	0.855234	0.000898	20
2.	Gaurihar	Goyra	0.745763	0.000783	06
3.	Gaurihar	Khadeha	0.909864	0.000955	14
4.	Laundi	Siddhupur	0.736842	0.000773	15
5.	Laundi	Beehar purwa	0.989474	0.001038	13
6.	Laundi	Andhiyari Bari	0.894057	0.000938	11
7.	Laundi	Bigpur	0.971963	0.001020	16
8.	Nowgong	Ama(Aman-81)	0.857923	0.000900	02
9.	Nowgong	Nathpur	0.779292	0.000818	04
10.	Chhatarpur	Ramgarh	0.853333	0.000896	09
11.	Chhatarpur	Bari	0.899200	0.000944	17
12.	Rajnagar	Sura	0.766082	0.000804	01
13.	Rajnagar	Rampur	0.959770	0.001007	18
14.	Rajnagar	Bamitha	0.637527	0.000669	07
15.	Bada Malhera	Para	1.000000	0.001049	19
16.	Bada Malhera	Kheron	1.000000	0.001049	05
17.		Dangrai	0.886364	0.000930	10
18.	Bijawar	Lakhanguwan	0.867777	0.000911	08
19.	Bijawar	Bila	1.000000	0.001049	12
20.	Bijawar	Pipariya khurd	1.000000	0.001049	03

**Table A6 (Contd.)****District: Sagar**

<b>S.No.</b>	<b>Tehsil Name</b>	<b>Village Name</b>	<b>Proportion of Female Illiterates</b>	<b>Selection Probabilities</b>	<b>Sampling S. No.</b>
1.	Bina	Jaukheri	0.800000	0.000551	05
2.	Khurai	Muhli Khurd	0.625767	0.000431	11
3.		Dugaha Kalan	0.813896	0.000561	17
4.		Khamera	0.807229	0.000556	18
5.		Padariya	0.718310	0.000495	09
6.		Bikor Kalan	0.730612	0.000503	16
7.		Radon Raitwari	0.808219	0.000557	06
8.		Mudiya Ghusai	0.971429	0.000669	08
9.	Banda	Gadar	0.665888	0.000459	01
10.	Banda	Majhguwan	0.857143	0.000591	21
11.	Banda	Ghoghra	0.837989	0.000577	10
12.		Luhari	0.655405	0.000452	19
13.		Piperiya Gehalpur	0.755869	0.000521	12
14.	Sagar	Semra Angad	0.767347	0.000529	24
15.	Sagar	Bersala	0.962264	0.000663	14
16.	Sagar	Berkheri Guru	0.668380	0.000460	04
17.	Sagar	Kudari	0.704104	0.000485	15
18.	Rehli	Raja Kherdi	0.826923	0.000570	22
19.	Rehli	Nawalpur	0.805085	0.000555	13
20.	Deori	Harduli	1.000000	0.000689	23
21.	Kesli	Pipariya Toda	0.986667	0.000680	03
22.	Kesli	Gatauri Pana	0.764463	0.000527	20
23.	Kesli	Hiranpur Churrka	0.955882	0.000659	07
24.	Kesli	Mahka	0.662722	0.000457	02

**District: Ujjain**

<b>S. No.</b>	<b>Tehsil Name</b>	<b>Village Name</b>	<b>Proportion of Female Illiterates</b>	<b>Selection Probabilities</b>	<b>Sampling S. No.</b>
1.	Khacharod	Farnakhedi	0.849699	0.000873	02
2.	Khacharod	Pachlasi	0.899628	0.000924	04
3.	Mahidpur	Dhablasiya	0.977941	0.001005	12
4.	Mahidpur	Pipalya dhuma	0.961929	0.000988	07
5.	Mahidpur	Aranya najeeek sherpur	0.961538	0.000988	14
6.	Mahidpur	Padikheda	0.990566	0.001018	11
7.	Mahidpur	Shakkarkhedi	0.924282	0.000950	09
8.	Mahidpur	Hingonya	0.898148	0.000923	18
9.	Ghatiya	Dhanda bhalla	0.961977	0.000988	15
10.	Ghatiya	Dabri	0.773529	0.000795	17
11.	Tarana	Dhanyakhedi	1.000000	0.001027	10
12.	Tarana	Kachnariya	0.791024	0.000813	05
13.	Tarana	Siddhipurnipanya	0.982222	0.001009	01
14.	Tarana	Raipura	0.938326	0.000964	08
15.	Tarana	Aserkaytha	0.931751	0.000957	03
16.	Ujjain	Matanakhurd	0.937198	0.000963	16
17.	Badnagar	Amlawadkalan	0.930233	0.000956	13
18.	Badnagar	Suwasna	0.738046	0.000758	06

**Table A6 (Contd.)****District: Dhar**

<b>S. No.</b>	<b>Tehsil Name</b>	<b>Village Name</b>	<b>Proportion of Female Illiterates</b>	<b>Selection Probabilities</b>	<b>Sampling S. No.</b>
1.	Badnawar	Hanumantya	0.991935	0.000751	15
2.	Badnawar	Mausar	0.817568	0.000619	14
3.	Badnawar	Dhaniya Khedi	0.865672	0.000656	23
4.	Sardarpur	Salwa	0.940653	0.000712	01
5.	Sardarpur	Idriya	0.913043	0.000692	20
6.		Sengwi khurd	1.000000	0.000757	17
7.		Devipura	0.914634	0.000693	02
8.	Dhar	Sadalpur	0.734072	0.000556	03
9.		Udali	0.777778	0.000589	08
10.		Bhiltalwada	0.974026	0.000738	11
11.	Gandhwani	Jalokhiya	0.990196	0.000750	10
12.	Gandhwani	Behadada	0.960993	0.000728	06
13.	Gandhwani	Kheda	1.000000	0.000757	09
14.		Badwanya	0.760766	0.000576	07
15.		Atarsuma	0.871753	0.000660	16
16.		Jamda	0.969977	0.000735	12
17.		Loni	0.616667	0.000467	19
18.		Ghatgaon	0.899160	0.000681	24
19.		Bagdi	0.811321	0.000614	13
20.	Manawar	Kuradkhal	0.803279	0.000608	18
21.	Manawar	Borli	0.916667	0.000694	22
22.		Jetapur	0.915423	0.000693	04
23.		Surani	0.916667	0.000694	05
24.	Dharamपुरi	Masidpura	0.933962	0.000707	21

**District: Katni**

<b>S. No.</b>	<b>Tehsil Name</b>	<b>Village Name</b>	<b>Proportion of Female Illiterates</b>	<b>Selection Probabilities</b>	<b>Sampling S. No.</b>
1.	Murwara	Pipariya	0.639053	0.000886	12
2.	Murwara	Parai Kap	0.870130	0.001206	13
3.	Murwara	Karibarah	0.919540	0.001274	04
4.	Murwara	Bilayat Khurd	0.867188	0.001202	08
5.	Murwara	Ganeshpur	0.861048	0.001193	11
6.	Murwara	Barchheka	0.788650	0.001093	01
7.	Murwara	Midaki	0.962025	0.001333	15
8.	Murwara	Jajagarh	0.910828	0.001262	02
9.	Vijayraghavgarh	Majhgawan	0.887574	0.001230	05
10.	Vijayraghavgarh	Kalhara	0.774436	0.001073	16
11.	Bahoriband	Gada	0.744681	0.001032	03
12.	Bahoriband	Diwari	0.835006	0.001157	14
13.	Bahoriband	Diwari	0.971831	0.001347	10
14.	Dhimarkheda	Gaura	0.649289	0.000900	09
15.	Dhimarkheda	Dadar Sihudi	0.941463	0.001305	06
16.	Dhimarkheda	Bichuwa	0.925000	0.001282	07

**Table A6 (Contd.)****District: Jabalpur**

<b>S. No.</b>	<b>Tehsil Name</b>	<b>Village Name</b>	<b>Proportion of Female Illiterates</b>	<b>Selection Probabilities</b>	<b>Sampling S. No.</b>
1.	Sihora	Kurro	0.731959	0.000727	15
2.		Marhati	0.718085	0.000714	05
3.		Bargawan Darachi	0.704433	0.000700	17
4.		Ghana Kalan	0.812721	0.000808	08
5.		Mahgawan	0.722835	0.000718	06
6.	Patan	Jhagri	0.791667	0.000787	11
7.		Richhai	0.615385	0.000612	13
8.		Chhedi	0.572034	0.000568	01
9.		Deori	1.000000	0.000994	04
10.		Dabkiya	0.852814	0.000847	03
11.		Kashi	0.698864	0.000694	16
12.		Maniyari Kalan	0.690000	0.000686	09
13.		Khiriya Kalan	0.467213	0.000464	10
14.	Jabalpur	Junwani	0.753191	0.000748	12
15.	Jabalpur	Gokalpur	0.740385	0.000736	14
16.	Jabalpur	Kareli	1.000000	0.000994	02
17.	Kundam	Dunda (Duda)	0.898438	0.000893	18
18.	Kundam	Bhaiswahi	0.866397	0.000861	07

**District: Dindori**

<b>S. No.</b>	<b>Tehsil Name</b>	<b>Village Name</b>	<b>Proportion of Female Illiterates</b>	<b>Selection Probabilities</b>	<b>Sampling S. No.</b>
1.	Dindori	Jarguda Mal.	0.901449	0.001297	02
2.	Dindori	Bulda Mal.	0.859016	0.001236	06
3.	Shahpura	Lalpur Mal	0.952862	0.001371	08
4.	Shahpura	Ishanpura Ryt.	0.813953	0.001171	10
5.	Shahpura	Tikra Khamariya Ma	0.991667	0.001427	01
6.	Dindori	Basideori Ryt.	0.852174	0.001226	09
7.	Dindori	Barchha Mal.	0.715753	0.001030	04
8.	Dindori	Kurkwarra Ryt.	0.986842	0.001420	07
9.	Dindori	Dhaurai Ryt.	0.865979	0.001246	05
10.	Dindori	Pachgaon Mal.	0.805825	0.001160	03

**Table A6 (Contd.)****District: Balaghat**

<b>S. No.</b>	<b>Tehsil Name</b>	<b>Village Name</b>	<b>Proportion of Female Illiterates</b>	<b>Selection Probabilities</b>	<b>Sampling S. No.</b>
1.	Katangi	Chandadoh	0.692607	0.000827	12
2.	Katangi	Borikheda Mal.	0.699164	0.000835	04
3.	Katangi	Tirodi (N.M.)	0.479773	0.000573	06
4.		Tekadighat	0.544170	0.000650	15
5.		Murjhad	0.724919	0.000865	14
6.		Garra	0.602441	0.000719	03
7.	Waraseoni	Pipariya	0.611672	0.000730	05
8.	Balaghat	Nagarwada	0.565517	0.000675	18
9.	Balaghat	Jhurmur (Pratappur)	0.852547	0.001018	11
10.	Balaghat	Amgaon	0.798131	0.000953	16
11.	Kirnapur	Kothiatola	1.000000	0.001194	02
12.	Kirnapur	Murri	0.774359	0.000924	17
13.	Kirnapur	Kalkatta	0.779310	0.000930	19
14.		Bhada Mal.	0.856618	0.001023	07
15.		Pindkapar	0.732283	0.000874	08
16.		Rupjhar	0.497041	0.000593	01
17.		Kundul	1.000000	0.001194	20
18.		Bandaniya	0.800000	0.000955	10
19.	Lanji	Mahurkhodra	1.000000	0.001194	09
20.	Lanji	Pandhari	0.961538	0.001148	13

**Table A7: List of Sample Villages of Selected Districts of Uttarakhand****District: Chamoli**

S. No.	Tehsil Name	Village Name	Proportion of Female Illiterates	Selection Probabilities	Sampling S. No.
1.	Chamoli	Durmi	0.901408	0.001290	15
2.	Chamoli	Gairi	0.830508	0.001188	05
3.	Pokhari	Kalsir	0.816964	0.001169	08
4.	Pokhari	Majyadi	0.386792	0.000553	04
5.	Karnaprayag	Sindra Pani Laga Kanda	0.413043	0.000591	06
6.	Karnaprayag	Mulyagaon	0.786885	0.001126	09
7.	Karnaprayag	Jalgaon	0.711864	0.001019	07
8.	Karnaprayag	Syalpani	0.600000	0.000859	19
9.	Karnaprayag	Thirpak	0.632432	0.000905	03
10.	Karnaprayag	Dothla	0.628205	0.000899	01
11.	Karnaprayag	Rikholi	0.461538	0.000660	14
12.	Tharali	Naibi Laga	0.350000	0.000501	17
13.	Tharali	Raigaon	0.732143	0.001048	16
14.	Tharali	Kandai	0.617834	0.000884	13
15.	Tharali	Losari	0.781457	0.001118	11
16.	Gair Sain	Pajyana Kumar	0.350000	0.000501	20
17.	Gair Sain	Dadeo Laga Panchali	1.000000	0.001431	12
18.	Gair Sain	Saner Laga Jingor	0.576923	0.000825	02
19.	Gair Sain	Kalchunda	0.621469	0.000889	10
20.	Gair Sain	Dasamiya Gaon	0.952381	0.001363	18

**District: Rudraprayag**

1.	Ukhimath	Khumera	0.705426	0.001781	06
2.	Ukhimath	Kunjapur	0.761905	0.001923	03
3.	Ukhimath	Paula Kundalia	0.746269	0.001884	09
4.	Ukhimath	Akhauri	0.591743	0.001494	10
5.	Ukhimath	Bhanja Gwar	0.547826	0.001383	04
6.	Rudraprayag	Mayali	0.510753	0.001289	08
7.	Rudraprayag	Liswalta	0.826923	0.002088	02
8.	Rudraprayag	Jakhawari Talli	0.864583	0.002183	07
9.	Rudraprayag	Sema	0.791411	0.001998	05
10.	Rudraprayag	Lukhundri	1.000000	0.002525	01

**District: Bageshwar**

1.	Kapkot	Oliyagaon	0.777778	0.001430	08
2.	Bageshwar	Rolyan	0.763736	0.001404	03
3.	Bageshwar	Gani Gaon	0.939394	0.001727	09
4.	Bageshwar	Bhakunkhola	0.464286	0.000853	07
5.	Bageshwar	Kwairali	0.576923	0.001061	02
6.	Bageshwar	Papu	0.587156	0.001079	04
7.	Bageshwar	Dharari	0.441860	0.000812	06
8.	Bageshwar	Dobar Gara	0.791667	0.001455	01
9.	Bageshwar	Kras Mafi	0.417476	0.000767	10
10.	Bageshwar	Batuliya	0.533333	0.000980	05

**Table A7 (Contd.)****District: Hardwar**

<b>S. No.</b>	<b>Tehsil Name</b>	<b>Village Name</b>	<b>Proportion of Female Illiterates</b>	<b>Selection Probabilities</b>	<b>Sampling S. No.</b>
1.	Roorkee	Khedali	0.984211	0.002512	08
2.	Roorkee	Fatehullapur Telpura	0.777563	0.001984	11
3.	Roorkee	Khedi Shikohpur	0.908414	0.002318	26
4.	Roorkee	Shahpur	0.697248	0.001779	09
5.	Roorkee	Dayapur Dayalpur (A.H.)	0.961864	0.002455	03
6.	Roorkee	Harchand Pur	0.572034	0.001460	02
7.	Roorkee	Saliyer Salhapur	0.787436	0.002010	06
8.	Roorkee	Dhanauri	0.562016	0.001434	05
9.	Roorkee	Kamalpur Saini Bas	0.921569	0.002352	23
10.	Roorkee	Govindpur Wazidpur	1.000000	0.002552	25
11.	Roorkee	Ratanpur	0.996212	0.002542	19
12.	Roorkee	Padliganda	0.960123	0.002450	07
13.	Roorkee	Latherdewa Shekh	0.954545	0.002436	24
14.	Roorkee	Hathiya Thal	0.836190	0.002134	16
15.	Roorkee	Sunhaira	0.615544	0.001571	01
16.	Roorkee	Bijhauri	0.680636	0.001737	27
17.	Roorkee	Naseerpur Afzalpur	0.701754	0.001791	17
18.	Roorkee	Barampur	0.659574	0.001683	30
19.	Roorkee	Rajpur Mustafabad Urf Gadharon	0.843924	0.002154	29
20.	Roorkee	Kagwali	0.954545	0.002436	12
21.	Hardwar	Dadubans	0.987500	0.002520	18
22.	Hardwar	Mohd Begpur Urf Takabhari	0.912281	0.002328	14
23.	Hardwar	Begampur	0.672566	0.001716	04
24.	Hardwar	Kangari	0.748428	0.001910	15
25.	Laksar	Mubarikpur Alipur	0.860000	0.002195	10
26.	Laksar	Kharanja Kutubpur	0.799845	0.002041	20
27.	Laksar	Yahayyapur	0.930556	0.002375	28
28.	Laksar	Hastauli	0.926316	0.002364	13
29.	Laksar	Chandpuri Bangar	0.836364	0.002134	21
30.	Laksar	Chandpuri Khadar	0.973333	0.002484	22

**Table A8: List of Sample Villages of Selected Districts of Chhattisgarh****District: Surguja**

S. No.	Tehsil Name	C.D. Block Name	Village Name	Proportion of Female Illiterates	Selection Probabilities	Sampling S. No.
1.	Pal	Ramchandrapur Dev. Block	Mitgai	0.982684	0.000627	06
2.	Pal	Balrampur Dev. Block	Sonhara	0.947581	0.000605	18
3.	Pal	Balrampur Dev. Block	Kanda	0.965714	0.000616	10
4.	Pal	Balrampur Dev. Block	Vishramnagar	0.690722	0.000441	20
5.	Pal	Balrampur Dev. Block	Bhelwadih	0.928082	0.000592	02
6.	Pal	Balrampur Dev. Block	Maharajganj	0.947032	0.000604	26
7.	Wadrafanagar	Wadrafanagar Dev. Block	Janakpur	0.940075	0.000600	24
8.	Pratappur	Pratappur Dev. Block	Bhel Kachh	0.918239	0.000586	21
9.	Pratappur	Pratappur Dev. Block	Pahad Karwa	0.960227	0.000613	09
10.	Pratappur	Pratappur Dev. Block	Domhat	0.622951	0.000398	14
11.	Pratappur	Pratappur Dev. Block	Karsi	0.934741	0.000597	17
12.	Samri	Shankargarh Dev. Block	Kotalu	0.890845	0.000569	23
13.	Samri	Kusmi Dev. Block	Bentpani	0.907692	0.000579	13
14.	Surajpur	Surajpur Dev. Block	Kaskela	0.968919	0.000618	22
15.	Surajpur	Surajpur Dev. Block	Biharpur	0.930748	0.000594	25
16.	Surajpur	Surajpur Dev. Block	Kartama	0.867725	0.000554	07
17.	Surajpur	Bhaiyathan Dev. Block	Govindgarh	0.981481	0.000626	12
18.	Surajpur	Ramanujnagar Dev. Block	Pandri	0.900217	0.000575	08
19.	Surajpur	Ramanujnagar Dev. Block	Keshopur	0.911058	0.000581	03
20.	Surajpur	Premnagar Dev. Block	Kedarpur	0.905188	0.000578	19
21.	Ambikapur	Ambikapur Dev. Block	Karmha	0.925267	0.000590	05
22.	Ambikapur	Ambikapur Dev. Block	Vishunpur	0.784722	0.000501	04
23.	Ambikapur	Lakhanpur Dev. Block	Kunnni	0.923267	0.000589	11
24.	Ambikapur	Lakhanpur Dev. Block	Shivpur	0.807018	0.000515	16
25.	Ambikapur	Lakhanpur Dev. Block	Potka	0.968750	0.000618	15
26.	Ambikapur	Udaipur Dev. Block	Mudgaon	0.960187	0.000613	01
<b>Substitute Villages</b>						
1.	Wadrafanagar	Wadrafanagar Dev. Block	Wadrafanagar	0.470838	0.000300	04
2.	Pratappur	Pratappur Dev. Block	Nawadih	0.869128	0.000555	01
3.	Rajpur	Rajpur Dev. Block	Ladkund	0.956835	0.000611	05
4.	Ambikapur	Udaipur Dev. Block	Matringa	0.948454	0.000605	03
5.	Sitapur	Mainpat Dev. Block	Bisarpani	0.947955	0.000605	02

**Table A8 (Contd.)****District: Durg**

S. No.	Tehsil Name	C.D. Block Name	Village Name	Proportion of Female Illiterates	Selection Probabilities	Sampling S. No.
1.	Navagarh	Navagarh Dev. Block	Janadandu	0.840580	0.000670	24
2.	Navagarh	Navagarh Dev. Block	Gunjera	0.758621	0.000605	13
3.	Bemetara	Bemetara Dev. Block	Mohtra	0.785199	0.000626	04
4.	Bemetara	Bemetara Dev. Block	Matka	0.832134	0.000663	01
5.	Saja	SajaDev. Block	Odiya	0.810726	0.000646	10
6.	Saja	SajaDev. Block	Boriya (Hatranka)	0.793103	0.000632	23
7.	Saja	SajaDev. Block	Atarjhola	0.663866	0.000529	17
8.	Saja	SajaDev. Block	Bundeli	0.621795	0.000496	18
9.	Berla	Berla Dev. Block	Surujpura	0.747934	0.000596	16
10.	Berla	Berla Dev. Block	Sonkra	0.735726	0.000587	07
11.	Berla	Berla Dev. Block	Nawagaon	0.890625	0.000710	15
12.	Durg	Durg Dev. Block	Borigarka	0.526384	0.000420	12
13.	Durg	Durg Dev. Block	Kuthrel (Anda)	0.531839	0.000424	20
14.	Patan	Patan Dev. Block	Gabhra	0.706161	0.000563	08
15.	Patan	Patan Dev. Block	Jheet	0.628729	0.000501	02
16.	Gunderdehi	Gunderdehi Dev. Block	Budena	0.621701	0.000496	22
17.	Gunderdehi	Gunderdehi Dev. Block	Sakrand	0.547782	0.000437	11
18.	Gunderdehi	Gunderdehi Dev. Block	Khuteri (Aannaud)	0.675000	0.000538	21
19.	Dondilohara	Dondilohara Dev. Block	Tekapar	0.854369	0.000681	05
20.	Sanjari Balod	Dondi Dev. Block	Danitola	0.611872	0.000488	09
21.	Sanjari Balod	Dondi Dev. Block	Gudum	0.720143	0.000574	14
22.	Sanjari Balod	Dondi Dev. Block	Pusawad	0.747967	0.000596	19
23.	Sanjari Balod	Dondi Dev. Block	Amadula	0.703777	0.000561	03
24.	Gurur	Gurur Dev. Block	Balodgahan	0.560229	0.000447	06
<b>Substitute Villages</b>						
1.	Navagarh	Navagarh Dev. Block	Khatai	0.688462	0.000549	04
2.	Bemetara	Bemetara Dev. Block	Sanakpat	0.919463	0.000733	05
3.	Patan	Patan Dev. Block	Changori	0.576324	0.000459	01
4.	Dondilohara	Dondilohara Dev. Block	Junnapani	0.656827	0.000524	03
5.	Gurur	Gurur Dev. Block	Pikaripar	0.629412	0.000502	02

**Table A8 (Contd.)****District: Mahasamund**

S. No.	Tehsil Name	C.D. Block Name	Village Name	Proportion of Female Illiterates	Selection Probabilities	Sampling S. No.
1.	Basana	Basana Dev. Block	Indarpur	0.899023	0.001041	03
2.	Basana	Basana Dev. Block	Dhalan	0.612403	0.000709	02
3.	Saraipali	Saraipali Dev. Block	Bandupali	0.850746	0.000985	10
4.	Saraipali	Saraipali Dev. Block	Gaurbahali	0.900000	0.001042	06
5.	Mahasamund	Mahasamund Dev. Block	Jampali	0.881773	0.001021	12
6.	Mahasamund	Mahasamund Dev. Block	Turidih	0.651515	0.000755	08
7.	Mahasamund	Mahasamund Dev. Block	Gondpali	0.842975	0.000976	04
8.	Mahasamund	Mahasamund Dev. Block	Tungaon	0.715385	0.000829	11
9.	Mahasamund	Mahasamund Dev. Block	Ondar	1.000000	0.001158	07
10.	Mahasamund	Pithora Dev. Block	Rampur tukda	1.000000	0.001158	05
11.	Mahasamund	Pithora Dev. Block	Laripur tukda chhota	0.727273	0.000842	09
12.	Mahasamund	Bagbahara Dev. Block	Karagula	0.979167	0.001134	01

**Substitute Villages**

1.	Saraipali	Saraipali Dev. Block	Sukhapali	0.855670	0.000991	03
2.	Mahasamund	Pithora Dev. Block	Pandrikhar	0.823944	0.000954	05
3.	Mahasamund	Pithora Dev. Block	Teka	0.714789	0.000828	02
4.	Mahasamund	Pithora Dev. Block	Jhapimauha (Jhapimauta)	0.801205	0.000928	04
5.	Mahasamund	Bagbahara Dev. Block	Sondadar	0.875969	0.001015	01

**District: Bastar**

1.	Keshkal	Keshkal Dev. Block	Hudawa	1.000000	0.000734	11
2.	Keshkal	Keshkal Dev. Block	Kohkameta	0.746988	0.000549	09
3.	Keshkal	Baderajpur Dev. Block	Korahobeda	0.964706	0.000708	16
4.	Narayanpur	Abhujmad(Orchha)Dev. Block	Kasturmeta	1.000000	0.000734	03
5.	Narayanpur	Narayanpur Dev. Block	Kanera	0.937500	0.000689	04
6.	Kondagaon	Makadi Dev. Block	Jarandi	0.880361	0.000647	12
7.	Kondagaon	Farasgaon Dev. Block	Urendabeda	0.914439	0.000672	18
8.	Kondagaon	Farasgaon Dev. Block	Kakodajaganar	0.911972	0.000670	15
9.	Kondagaon	Farasgaon Dev. Block	Madkada	0.972222	0.000714	14
10.	Kondagaon	Kondagaon Dev. Block	Ahkali	1.000000	0.000734	17
11.	Kondagaon	Kondagaon Dev. Block	Mungapadar	0.981081	0.000721	07
12.	Jagdalpur	Lohandiguda Dev. Block	Sulanga	1.000000	0.000734	01
13.	Jagdalpur	Lohandiguda Dev. Block	Binta	0.825065	0.000606	08
14.	Jagdalpur	Lohandiguda Dev. Block	Mendir	1.000000	0.000734	06
15.	Jagdalpur	Bastar Dev. Block	Chitalwar	0.910112	0.000668	02
16.	Jagdalpur	Jagdalpur Dev. Block	Adhanpur	0.634016	0.000466	10
17.	Jagdalpur	Darbha Dev. Block	Koynar	0.965217	0.000709	05
18.	Jagdalpur	Darbha Dev. Block	Sautnar	0.970842	0.000713	13

**Substitute Villages**

1.	Keshkal	Baderajpur Dev. Block	Koundkera	0.774510	0.000569	01
2.	Kondagaon	Makadi Dev. Block	Arangula	0.920354	0.000676	05
3.	Kondagaon	Kondagaon Dev. Block	Kivaibalega	0.885246	0.000650	04
4.	Jagdalpur	Bastar Dev. Block	Pathari	0.956012	0.000702	03
5.	Jagdalpur	Bastar Dev. Block	Bangapal	1.000000	0.000734	02

# INDIA: FISCAL REFORMS FOR POVERTY REDUCTION

## PAPER 3: CASE STUDY OF MADHYA PRADESH

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## **Preface**

This study has been undertaken by the National Institute of Public Finance and Policy at the instance of the Canadian International Development Agency (CIDA), Canada.

The study team consists of D. K. Srivastava, S. K. Sanyal, C. Bhujanga Rao, and Pinaki Chakraborty. Opinions and analyses here are those of the authors. The members of the Governing Body of the National Institute of Public Finance and Policy are in no way responsible for these.

March 2004  
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## PAPER 3: CASE STUDY OF MADHYA PRADESH

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# INDIA: FISCAL REFORMS FOR POVERTY REDUCTION

## PAPER 3: CASE STUDY OF MADHYA PRADESH

### Chapter 1: INTRODUCTION

This paper examines the role of fiscal policy in Madhya Pradesh in reducing poverty. Madhya Pradesh is one of the poor income states of the country and with vast area with sharp inter-regional differences in socio economic achievements. The state of Madhya Pradesh was bifurcated to form Chhattishgarh in November 10, 2000. As per the 2001 census, the erstwhile Madhya Pradesh is the second most populous states in the Country with a population of 6.039 crore spreaded over 45 districts.<sup>1</sup> The state can be divided into six regions, *viz.*, Central, Malwa Plateau, Northern, South Central, South Western, and Vidisha. The distribution of districts across these regions are the following: Malwa plateau having the maximum number of districts (11 districts), followed by Vidisha (10 districts), North (7 districts), South central and central (each 6 districts) and southwest (5 districts).

#### 1.1 Basic Socio Economic and Demographic Profile

Table 1.1 gives relative position of Madhya Pradesh vis-a-vis other states in relation to population and other demographic characteristics. It shows that the share of population of Madhya Pradesh is 5.88 percent of the total population of the country, with a geographical area of 9.7 percent. The state has a adverse sex ratio of 920 per thousands of male when the all India sex ratio is 933, although the state has a better sex ratio compared to that of relatively affluent states like Punjab and Haryana as also that of relatively poorer states like Uttar Pradesh. The density of population reveals that the state is sparsely populated with a population density of 196 compared to the all India average of 324. The decadal rate of growth of population of Madhya Pradesh was 24.34 percent as compared to the all India rate of 21.34 percent. Among the low-income states, the population growth rate of Madhya Pradesh was second lowest after Orissa, which had a decadal population growth of 15.94 percent.

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<sup>1</sup> The undivided Madhya Pradesh also had 45 districts. Seven of these districts, *viz.*, Bastar, Bilaspur, Durg, Raigarh, Raipur, Rajnandgaon, and Surguja were carved out to constitute Chhattisgarh. These districts were reorganised into 16 districts. Seven new districts were reconstituted from the remaining districts of Madhya Pradesh. Thus, the new Madhya Pradesh also has 45 districts.

**Table 1.1: Population and Other Demographic Characteristics: 2001**

States	Geographical Area (Share in India)	Share of National Population	Sex Ratio (Per 1000 Males)	Density (Per sq. km)	Decadal Growth of Population
Andhra Pradesh	8.7	7.37	978	275	13.86
Assam	2.5	2.59	932	340	18.85
Bihar	3	8.07	921	880	28.43
Goa	0.1	0.13	960	363	14.89
Gujarat	6.2	4.93	921	258	22.48
Haryana	1.4	2.05	861	477	28.06
Karnataka	6.1	5.13	964	275	17.25
Kerala	1.2	3.1	1058	819	9.42
Madhya Pradesh	9.7	5.88	920	196	24.34
Maharashtra	9.7	9.42	922	314	22.57
Orissa	4.9	3.57	972	236	15.94
Punjab	1.6	2.37	874	482	19.76
Rajasthan	10.8	5.5	922	165	28.33
Tamil Nadu	4.1	6.05	986	478	11.19
Uttar Pradesh	7.6	16.17	898	689	25.8
West Bengal	2.8	7.81	934	904	17.84
<b>All India</b>			<b>933</b>	<b>324</b>	<b>21.34</b>

Source: Third Human Development Report Madhya Pradesh, 2002.

## 1.2 Relative Position of Madhya Pradesh in Inter-State Ladder of Poverty

Table 1.2 gives the poverty ratio of Madhya Pradesh vis-à-vis all India and other low income states for the year 1973-74, 1977-78, 1983, 1987-88, 1993-94 and 1999-00. It shows that poverty ratio declined in Madhya Pradesh as in other states over the years. Considering the latest poverty estimates, relatively low income states have a higher poverty ratio. Rural poverty ratio has declined faster than the urban poverty ratio. However, it needs to be mentioned that in most of the states rural poverty ratio remained higher than the urban poverty ratio. Madhya Pradesh, though in 1973-74 and 1977-78, urban poverty remained lower than the rural poverty, the trend reversed from 1987-88 onwards. Though in 1999-00, the rural and urban poverty gap declined significantly, the urban poverty ratio still remained slightly higher than the rural one.

**Table 1.2: Poverty Ratio at the State Level**

States	(Percent)																	
	1973-74			1977-78			1983			1987-88			1993-94			1999-00		
	Rural	Urban	Total															
Bihar	63.0	53.0	61.9	63.3	48.8	61.6	64.4	47.3	62.2	52.6	48.7	52.1	58.2	34.5	55.0	44.3	32.9	42.6
Orissa	67.3	55.6	66.2	72.4	50.9	70.1	67.5	49.2	65.3	57.6	41.6	55.6	49.7	41.6	48.6	48.0	42.8	47.2
Uttar Pradesh	56.5	60.1	57.1	47.6	56.2	49.1	46.5	49.8	47.1	41.1	43.0	41.5	42.3	35.4	40.9	31.2	30.9	31.2
Madhya Pradesh	62.7	57.7	61.8	62.5	58.7	61.8	48.9	53.1	49.8	41.9	47.1	43.1	40.6	48.4	42.5	37.1	38.4	37.4
Rajasthan	44.8	52.1	46.1	35.9	43.5	37.4	33.5	37.9	34.5	33.2	41.9	35.2	26.5	30.5	27.4	13.7	19.9	15.3
<b>All India</b>	<b>56.4</b>	<b>49.0</b>	<b>54.9</b>	<b>53.1</b>	<b>45.2</b>	<b>51.3</b>	<b>45.7</b>	<b>40.8</b>	<b>44.5</b>	<b>39.1</b>	<b>38.2</b>	<b>38.9</b>	<b>37.3</b>	<b>32.4</b>	<b>36.0</b>	<b>27.1</b>	<b>23.6</b>	<b>26.1</b>

Apart from the official estimates of poverty published by government of India, various other alternative estimates are available. Among them, some of the estimates that have come into focus in recent debates on poverty in an extensive way. A comparison of those alternative estimates is given in relation to official estimates. The Deaton and Dreze (2002) estimates which adjusted the poverty estimates by alternative price indexes computed from the unit record data and corrected for the questionnaire design in the 55<sup>th</sup> round of NSS survey show large variations between rural and urban poverty as compared to the differences of official estimates (Table 1.3). A comparison of alternative estimates of rural and urban poverty of Madhya Pradesh indicates that in the case of rural poverty though the adjusted estimates are lower than the official estimates, the differences are much smaller than those in the case of urban poverty estimates. A similar pattern is also observed in the case of poverty gap index with adjusted poverty gap index remaining much lower than the official PGI.

The state specific poverty line separately for the rural and urban areas for 1999-00, for the year 1999-00 is given in Table 1.4, where urban poverty line remained much higher than the rural one. However, both adjusted urban and rural poverty line remained much lower than the official poverty line.

Sundaram and Tendulkar (2003) also examined the severity and the depth of poverty in 15 major states in India through four different dimensions by examining the headcount ratio, size of poor population, depth and severity for the rural urban and total population which is summarised in Table 1.5 and Table 1.6. With regard to the uniform reference period for 30 days for all items of expenditure and the mixed reference period computed from the unit record data that are comparable with the 55<sup>th</sup> round of the NSS survey, it is evident that in case of mixed reference period, the poverty ratio is lower than the mixed reference period in case of all the states including Madhya Pradesh. It is also evident from the Table that in case of MRP for rural population, the numbers of poor are marginally higher than the URP estimation. However, in case of urban population, the number of urban poor in Madhya Pradesh is much higher than the number of poor arrived at through URP method.

**Table 1.3: State Specific Head Count Ratios and Poverty Gap Indexes**

States	(Percent)					
	Official Methodology			Adjusted Estimates		
	1987-88	1993-94	1999-00	1987-88	1993-94	1999-00
<i>State Specific Head Count Ratio</i>						
<b>Madhya Pradesh</b>						
Rural	42.0	40.7	37.2	43.7	36.6	31.3
Urban	47.3	48.1	38.5	20.7	18.5	13.9
<b>All India</b>						
Rural	39.4	37.1	26.8	39.0	33.0	26.3
Urban	39.1	32.9	24.1	22.5	17.8	12.0
<i>State Specific Poverty Gap Indexes</i>						
<b>Madhya Pradesh</b>						
Rural	10.6	9.5	7.7	11.2	8.2	6.6
Urban	13.6	13.4	9.5	4.1	3.5	2.6
<b>All India</b>						
Rural	9.4	8.4	5.2	9.2	7	5.2
Urban	10.4	8.3	5.2	4.8	3.7	2.3

Source: Deaton and Dreze (2002).

- Notes: 1. The head count ratios labeled “official methodology” are computed from the unit record data using the official poverty lines, as well as the official procedures for assigning poverty rates (or poverty lines) to small states. We have also followed the official treatment of Jammu & Kashmir. The all India poverty rates are computed by adding up the number of poor in each state and dividing by the total population. Because the Planning Commission uses interpolation rather than computations from the unit record data, there are minor differences between these numbers and those published in the official releases. The adjusted estimates are computed as described in the text (and more fully in Deaton and Tarozzi, 2001, and Deaton, 2001b); they use price indexes computed from the unit record data, and correct for the changes in questionnaire design in the 55<sup>th</sup> Round. The final column is a somewhat refined version of the corresponding column in Deaton (2001b). The estimates for Jammu & Kashmir are calculated directly, and not by assuming the poverty line or poverty rate for any other state (as in official methodology)
2. The poverty gap indexes labelled “official methodology” are computed from the unit record data using the official poverty lines, and using rules for assigning poverty gap indexes to small states (and to Jammu & Kashmir) that mirror the rules used by the Planning Commission for computing the official head count ratios. The adjusted indexes use the recomputed price indexes to update the poverty lines, and correct for the changes in questionnaire design in the 55<sup>th</sup> Round. All numbers are directly computed from poverty lines and unit record data for each state, and the all India estimates are calculated as weighted averages of the state estimates.

**Table 1.4: State Specific Poverty Lines in 1999-00 (Rs. Per Capita Per Month)**

States	Rural	Urban	Difference as Percentage of Rural	Rural Poverty Line as Percentage of All India	Urban Poverty Line as Percentage of All India	Adjusted Poverty Line (Rural)	Adjusted Poverty Line (Urban)
Madhya Pradesh	311.34	481.65	54.7	95.05	106.06	288.89	321.29
<b>All India</b>	<b>327.56</b>	<b>454.11</b>	<b>38.63</b>	<b>100.00</b>	<b>100.00</b>	<b>303.52</b>	<b>349.22</b>

Source (Basic Data): Government of India, Press Information Bureau, Poverty Estimate Press Release, February 22, 2001 and Deaton and Dreze (2002).

**Table 1.5: Head Count Ratios and the Size of Poor Population on Uniform and Mixed Reference Periods: 1983-84-2000**

States	HCR on URP		HCR on MRP		Number of Poor (000) on URP		Number of Poor (000) on MRP	
	(Percent)		(Percent)					
	1983	1993-94	1993-94	1999-00	1983	1993-94	1993-94	1999-00
<b>Rural Population</b>								
Bihar	70.43	65.73	64.28	51.49	45203	53316	52140	47871
Madhya Pradesh	54.03	36.65	32.23	32.93	23572	19615	17249	19640
Orissa	65.04	59.57	58.11	56.27	15725	16951	16536	17299
Rajasthan	41.99	26.25	21.71	11.39	11979	9544	7893	4791
Uttar Pradesh	49.76	39.14	38.38	25.50	47481	46352	45973	34293
<b>Fifteen States</b>	<b>51.27</b>	<b>43.01</b>	<b>40.97</b>	<b>31.86</b>	<b>271560</b>	<b>275192</b>	<b>262824</b>	<b>224049</b>
<b>Urban Population</b>								
Bihar	51.29	46.30	41.15	44.11	4754	5711	5076	6280
Madhya Pradesh	51.95	46.62	44.29	38.89	5988	7742	7355	7633
Orissa	52.54	38.49	37.62	41.92	1755	1755	1715	2235
Rajasthan	37.22	32.30	28.64	15.72	2901	3512	3114	2011
Uttar Pradesh	48.14	34.84	34.42	31.75	10377	10424	10299	11268
<b>Fifteen States</b>	<b>40.61</b>	<b>33.05</b>	<b>31.14</b>	<b>24.58</b>	<b>65273</b>	<b>73148</b>	<b>68913</b>	<b>63018</b>

Sources: (1) Tendulkar, Sundaram and Jain (1993) for 1983.

(2) Figures for 1993-94 and 1999-2000 are based on calculations of the authors from the unit level records for the 50<sup>th</sup> and 55<sup>th</sup> rounds.

Notes: (1) Last line is population-weighted averages for the fifteen states.

(2) URP: Uniform Reference Period of 30 days for all items of Consumer Expenditure; MRP: Mixed-Reference Period of 30 days for all items other than clothing, footwear, education, medical (institutional) and durable which have a reference period of 365 days.

In Table 1.6, the estimates of PGI and FGT are given. It is evident from the Table that both the PGI and FGT\* for Madhya Pradesh declined over the years. It is particularly important to note that in Madhya Pradesh where there was a small rise in the rural head count ratio and also the number of poor, both PGI and FGT\* has declined.

### 1.3 Calorie Deprivation

As noted, the overall poverty either measured through head count ratio or through other alternative estimates shows an inter-temporal decline. In order to probe into the crucial issue of whether this decline in the poverty ratio led to the corresponding increase in the calorie intake of poor, Meenakshi and Vishwanathan (2003) observed that it has not been so. In the case of Madhya Pradesh, as shown in Table 1.7, the average calorie intake has declined from 2323 calorie in 1983 to 2062 calorie in 1999-00. It is also to be noted that among the low income states, the average calorie intake is lower than the prescribed calorie norm of 2400 calorie.

**Table 1.6: Poverty Gap Index and FGT\* on Uniform and Mixed Reference Periods: 1983-84 – 1999-00**

States	PGI on URP		PGI on MRP		FGT* on URP		FGT* on MRP	
	1983	1993-94	1993-94	1999-00	1983	1993-94	1993-94	1999-00
<b>Rural Population</b>								
Bihar	0.2355	0.1820	0.1655	0.1099	0.1015	0.0671	0.0580	0.0335
Orissa	0.2078	0.1529	0.1394	0.1478	0.0907	0.0551	0.0473	0.0534
Assam	0.0997	0.1264	0.1055	0.1236	0.0294	0.0380	0.0306	0.0419
Uttar Pradesh	0.1337	0.0922	0.0845	0.0438	0.0525	0.0305	0.0265	0.0116
Madhya Pradesh	0.1542	0.0821	0.0668	0.0646	0.0602	0.0277	0.0212	0.0190
Rajasthan	0.1226	0.0517	0.0391	0.0170	0.0496	0.0155	0.0110	0.0041
West Bengal	0.2238	0.1259	0.1212	0.0959	0.1015	0.0412	0.0386	0.0311
<b>15 States (wt. Avg.)</b>	<b>0.1491</b>	<b>0.1039</b>	<b>0.0933</b>	<b>0.0653</b>	<b>0.0603</b>	<b>0.0361</b>	<b>0.0308</b>	<b>0.0202</b>
<b>Urban Population</b>								
Bihar	0.1494	0.1157	0.1022	0.1061	0.0575	0.0415	0.0362	0.0357
Orissa	0.1531	0.1022	0.0967	0.1040	0.0596	0.0373	0.0340	0.0362
Assam	0.0392	0.0131	0.0106	0.0186	0.0110	0.0031	0.0027	0.0054
Uttar Pradesh	0.1327	0.0894	0.0848	0.0699	0.0498	0.0323	0.0294	0.0216
Madhya Pradesh	0.1363	0.1270	0.1131	0.0968	0.0495	0.0470	0.0409	0.0338
Rajasthan	0.0953	0.0732	0.0637	0.0287	0.0344	0.0238	0.0203	0.0073
West Bengal	0.0662	0.0405	0.0354	0.0226	0.0231	0.0125	0.0108	0.0061
<b>15 States (wt. Avg.)</b>	<b>0.1083</b>	<b>0.0837</b>	<b>0.0747</b>	<b>0.0544</b>	<b>0.0406</b>	<b>0.0301</b>	<b>0.0263</b>	<b>0.0176</b>

Source: (1) Tendulkar, Sundaram and Jain (1993), (2) Sundaram and Tendulkar (2003).

Note: PGI: Poverty Gap Index; FGT\*: Squared poverty gap; URP: Uniform Reference Period of 30 days for all items of Cons. Exp.; MRP: Mixed-Reference Period of 30 days for all items other than clothing, footwear, education, medical (institutional) and durable which have a reference period of 365 days.

**Table 1.7: Calorie Intake and Poverty in Selected States**

States	Average Calorie Intake Per Capita Per Day (kcal)		Median Calorie Intake Per Capita Per Day (kcal)		Head Count Ratios (Percent Consuming below 2400 Calories Per Day)		Head Count Ratios of Poverty (Percent with BPL Incomes)	
	1983	1999-00	1983	1999-00	1983	1999-00	1983	1999-00
Bihar	2189	2121	2081	2034	67.6	74.9	60.5	44.0
Orissa	2103	2119	1995	2051	70.9	74.6	66.2	48.0
Uttar Pradesh	2399	2327	2252	2176	58.4	64.5	50.8	31.2
Madhya Pradesh	2323	2062	2175	1932	62.5	78.4	53.7	37.1
Rajasthan	2433	2425	2324	2292	54.2	56.7	46.7	13.7
West Bengal	2027	2095	1902	2009	76.0	75.6	66.7	31.9

Source: Meenakshi and Vishwanathan (2003).

## 1.4 The Human Poverty Index

The recent literature on poverty and human development widened the scope of the definition of poverty from calorie deprivation to deprivation of opportunities. This paradigm shift in the approach to understand poverty led to the development of concepts like human

development index and human poverty index. The human poverty index is a composite index with variables capturing attainments in three dimensions of human development, viz., economic, education and health. These have been captured by proportion of population below poverty line, proportion of population without access to drinking water/sanitation/electricity, medical attention at birth, vaccination and proportion of living in kutcha houses, proportion of illiterate population and children not enrolled in schools and proportion of population not accepted to survive beyond age 40.

Similarly, human development index is a composite index of variables capturing attainments in three dimensions of human development, viz., economic, education and health. These have been captured by per capita monthly expenditure adjusted for inequality, a combination of literacy rate and intensity of formal education and a combination of life expectancy at age 1 and infant mortality rate. The comparison of HCR and HPI shown in Table 1.8 brings out the fact that there is a positive association between the both. In other words, there is a urgent need to focus on both direct and indirect poverty reduction methods. Given the composition of the HPI, it is all the more necessary to provide added emphasis on fiscal policy for overall improvement in the living conditions.

**Table 1.8: Human Poverty Index, 1991 and Head Count Ratios, 1993-94**

	<b>Human Poverty Index 1991</b>	<b>HCRs (Combined) (Percent) 1993-94</b>
<b>Madhya Pradesh</b>		
Rural	45.43	40.6
Urban	25.69	48.4
Combined	40.79	42.5
<b>All India</b>		
Rural	42.25	<b>37.1</b>
Urban	23.03	<b>32.9</b>
Combined	37.42	<b>36.0</b>

Source: *Economic Survey 2002-03, National Human Development Report 2001, Planning Commission and Tenth Five Year Plan (2002-07), Planning Commission.*

## Chapter 2: GSDP PROFILE OF MADHYA PRADESH

There has been an extensive literature explaining the limitations of using income of a country or a region within, to measure the economic and social well being of the their respective population.<sup>2</sup> However, that income of a country or a region remains a key determinant of the social and economic well being of its residents. In this chapter, we analyse the income profile of the state of Madhya Pradesh in a comparative perspective with other States with a view to analysing the interface between income and poverty.

Comparison are drawn with the fourteen non-special category states and Assam. The analysis covers a period between 1980-81 and 1999-00. This long time span of twenty years is chosen to examine how the State of Madhya Pradesh has performed vis-a-vis other States in long run and also focus on its own performance in two decades.

Madhya Pradesh is one of the low income category States in India. As per the real per capita income,<sup>3</sup> shown in Table 2.1, it ranked fourth lowest among the fifteen major States in the year 2000-01.<sup>4</sup> Between 1990-91 and 2000-01, the real per-capita income of Madhya Pradesh increased from Rs. 6391 to Rs. 8553, i.e., an increase of 2.72 percent per annum. This growth was the second highest among the five low income category States, viz., Bihar, Orissa, Uttar Pradesh, Madhya Pradesh and Rajasthan. Among all the States, the per capita income growth was highest in West Bengal at 5.31 percent and lowest in Bihar with a negative rate of growth of -0.13 percent per annum. The growth of real per capita income across States during the 1990s also brings out the fact that except for Punjab and Haryana, the high income States had higher growth rates in per capita income vis-à-vis low income States. But in the middle income category of States, West Bengal, Tamil Nadu and Karnataka, surpassed the growth of real per capita income of high income States.

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<sup>2</sup> Relying on average income has major limitation, as it is not the average level of income that is important in assessing the economic attainments, but it is desirable to know how it is distributed across the population of the State (GOI: 2002). Also see (UNDP: 1991 and Dreze and Sen: 1995), which explains why income is an inadequate tool to analyse the poverty and social attainments.

<sup>3</sup> Income relates to percapita GSDP of the new series with 1993-94 base. The implicit GSDP deflator is converted to the base of 1993-94 and GSDP at constant prices for the series beginning with 1980-81 is obtained.

<sup>4</sup> In Table 1, States are ranked in ascending order of their per capita real income for the year 2000-01.

**Table 2.1: Real Per Capita Income: An Inter-State Comparison**

States	(Rupees)								
	1990-91	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	TGR
Bihar	4526	4154	4377	4023	4360	4458	4645	4694	-0.13
Orissa	5914	5462	5635	5841	5495	6131	6051	6170	1.35
Assam	6162	6360	6428	6498	6574	6526	6400	6723	0.41
Uttar Pradesh	5871	5813	6013	6127	6609	6466	6759	6984	1.50
Madhya Pradesh	6391	7336	7332	7624	7936	7992	8387	8553	2.72
Rajasthan	6740	6875	7865	7946	8592	9327	9382	8898	3.07
West Bengal	6078	7408	7782	8222	8650	9217	9706	10258	5.31
Andhra Pradesh	7703	8314	8667	9062	9509	9257	10249	10573	3.24
Kerala	7661	8766	9406	9742	10012	10209	10793	11446	3.88
Karnataka	7569	8635	8974	9392	10080	10410	11496	12173	4.75
Tamil Nadu	8523	9915	11064	11347	11770	12581	13206	13821	5.03
Haryana	11203	12327	12874	12869	14012	13866	14279	14907	2.56
Gujarat	10501	11092	12828	13260	14844	14767	15362	14970	4.65
Punjab	12694	14002	14125	14413	15187	15350	15715	16494	2.64
Maharashtra	11041	13368	13433	14675	15261	15527	15724	16985	4.51

Source (Basic Data): Central Statistical Organisation.

The extreme regional inequality was also evident from the Table 2.1. The real per capita income of Madhya Pradesh was only 31.98 percent of the highest per capita income state Maharashtra and that of Bihar (the lowest per capita income states) was only 27.64 percent. It is also to be noted that the income inequality has widened over the years. The real per capita income of Madhya Pradesh in the year 1990-91 was 40.99 percent of the highest income state Maharashtra, which as mentioned, declined to 32 percent in 1999-00.

The nominal per capita income of Madhya Pradesh showed more than six-fold increase during this period, whereas the real per capita income showed only an increase of 1.4 fold. This marginal increase in the real per capita GSDP in two long decades indicates that real income growth has been minimal and the purchasing power seems to have not gone up to a significant extent. It is also to be noted that if the income distribution of the State is taken into account, the per capita income would be significantly lower in certain income groups. The extent of that inequality will depend on the degree of skewed distribution of income. The per capita consumption expenditure which reflects better command over resources across population groups, showed that inequality adjusted monthly per capita consumption expenditure has increased in real terms at national level, by nearly 25 percent in rural areas from Rs. 78.90 to Rs. 98.49 and over 29 percent in urban areas from Rs. 111.01 to

Rs.143.49 between 1983 and 1999-00.<sup>5</sup> However, among the low income category States, especially in Bihar, Uttar Pradesh and Madhya Pradesh, in rural area per capita consumption expenditure remained below the national average.<sup>6</sup>

The growth profile of aggregate GSDP is shown in Chart 2.1. Between 1980-81 and 1999-00, the nominal GSDP grew at a rate of 11.27 percent per annum and the real GSDP grew at the rate of 4.49 percent. The trend line fitted to the annual growth rate of GSDP (both nominal and real) showed a moderately upward rising trend. However, this growth profile as has been seen in Table 2.1, revealed that aggregate GSDP growth remained insufficient for a higher growth of real per capita income. A closer look at the growth profile also revealed that there had been substantial volatility in the rates of growth of GSDP during this period. In fact, rates of growth increased during the mid-1980s and then slowed down from 1995-96 onwards. The nominal GSDP growth came below the trend level from 1995-96 onwards. However, the real GSDP moved cyclically around the trend during this period. The real GSDP growth remained negative in various years during 1981-82 and 1999-00, especially it has been so in 1984-85 and 1986-87 and also in 1991-92.

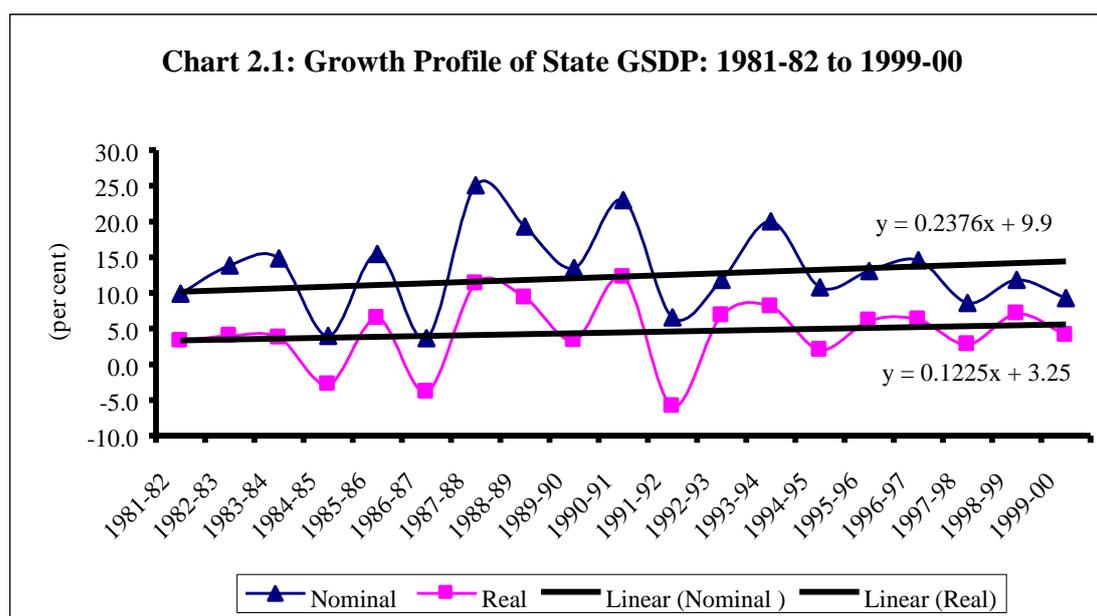


Table 2.2 provides an inter-state comparison of real GSDP growth for the decade of 1980s' and 1990s'. The states having per capita income below that of Madhya Pradesh are Bihar, Orissa and Uttar Pradesh. It can be seen from the table that the real rate of growth of

<sup>5</sup> These estimates are drawn from Government of India (2002).

GSDP for the decade of 1990s' for Madhya Pradesh was 4.71 percent which was higher than that of the decade of 1980s' when it was at 3.43 percent. However, the rates of growth achieved in Madhya Pradesh both in 1980s and in 1990s were much lower compared to the growth of income of high and middle income states. It is also to be noted that among the low income states, the rate of growth of real GSDP was higher in Rajasthan during the 1980s and 1990s than that of Madhya Pradesh.

**Table 2.2: Trend Growth Rates of Real GSDP: An Inter-State Comparison**

States	(Percent Per Annum)		
	1980-81 to 1989-90	1990-91 to 1999-00	1980-81 to 1999-00
Andhra Pradesh	4.22	4.78	4.42
Bihar	4.67	2.36	2.91
Assam	3.51	1.96	3.00
Gujarat	4.60	7.11	5.55
Haryana	6.13	5.00	5.67
Karnataka	5.33	6.64	5.76
Kerala	2.40	4.79	4.07
Madhya Pradesh	3.43	4.71	4.49
Maharashtra	5.29	6.73	6.51
Orissa	4.56	3.62	3.15
Punjab	5.19	4.61	4.73
Rajasthan	6.02	5.56	6.02
Tamil Nadu	4.85	6.22	5.55
Uttar Pradesh	3.58	3.90	3.66
West Bengal	4.54	7.08	5.68

Source (Basic Data): Central Statistical Organisation.

The structure of GSDP of Madhya Pradesh is shown in Table 2.3. It is evident from the table that Madhya Pradesh is predominantly an agriculture-based economy. The share of agriculture and allied activities<sup>7</sup> contributed more than one third in total GSDP. However, its share declined from 40.46 percent in 1990-91 to 37.82 percent in 1999-00. The share of manufacturing sector remained stagnant at around 16 percent during this period. The share of construction, electricity gas and water supply and transport, storage and communication increased from 13.64 percent to around 16 percent. The share of services like trade, hotels and restaurants, remained stagnant at around 11 percent. The share of public administration increased marginally from 3.75 to 4.7 percent during this period.

<sup>6</sup> Government of India (2002).

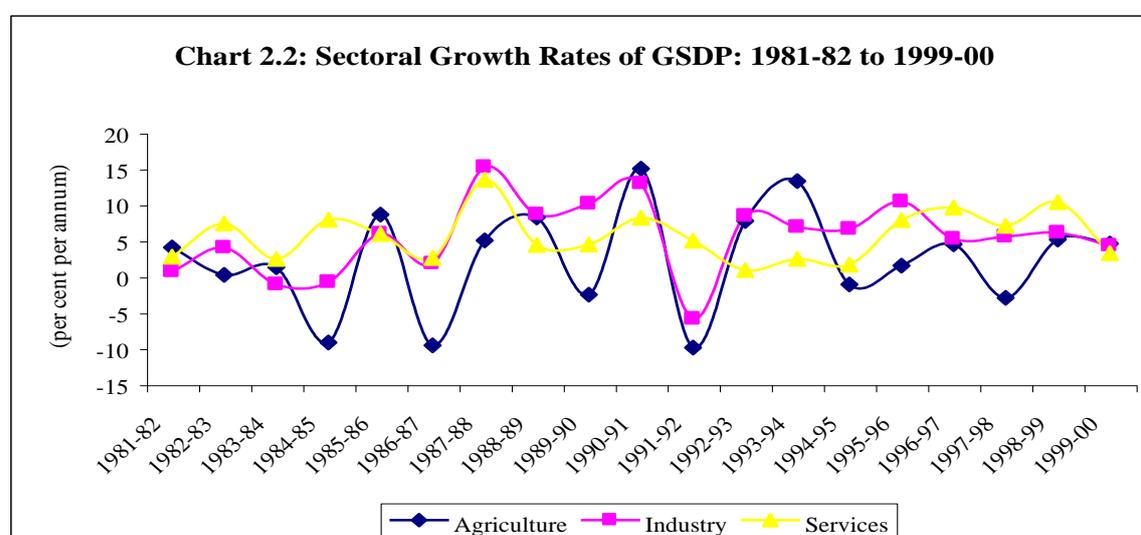
<sup>7</sup> The agriculture and allied includes agriculture, forestry and logging, fishing and mining and quarrying.

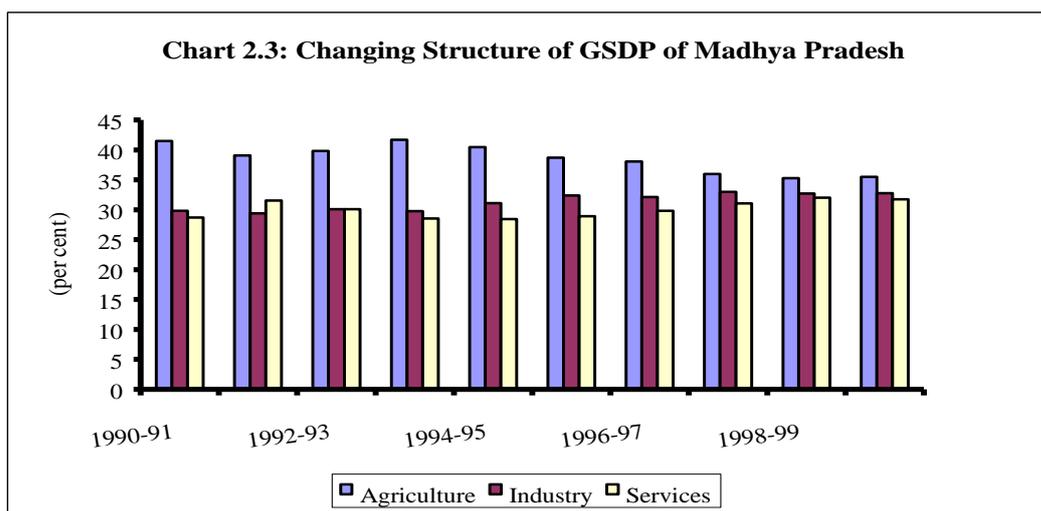
**Table 2.3: The Structure of GSDP of Madhya Pradesh**

	(Percent)						
	1990-91	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00
Agriculture and Allied	40.46	39.61	37.83	38.25	36.56	36.73	37.82
Manufacturing	15.99	16.02	16.80	16.05	16.43	15.83	15.74
Cons. Elec. Trans	13.64	15.88	16.06	15.74	16.16	15.73	15.28
Trade, hotels and restaurants	11.32	10.66	11.01	11.62	12.15	11.95	11.94
Banking & Insurance	2.60	2.29	2.65	2.89	3.09	3.01	2.98
Real Estate, Ownership of Dwellings & Business Services	6.84	6.03	5.77	5.43	5.35	5.16	5.05
Public administration	3.75	3.91	4.04	3.93	4.04	4.74	4.70
Other services	5.39	5.59	5.84	6.08	6.23	6.85	6.49
State domestic product	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source (Basic Data): Central Statistical Organisation.

The growth and structure of GSDP of Madhya Pradesh in broader aggregates of agriculture, industry and services are shown in Chart 2.2 and Chart 2.3. It can be seen from the Chart 2.2 that sectoral growth rates of GSDP between 1980-81 and 1999-00 remained negative in many years and the growth pattern was extremely volatile ranging between negative 15 percent to positive 20 percent growth rates. Between 1981-82 and 1999-00, agriculture grew at the rate of 2.34 percent, industry grew at the rate of 5.56 percent the services grew at the highest rate of 5.68 percent. If we take the growth rates of various sectors during the 1990s, agriculture grew at the rate of 3.81 percent, industry grew at the rate of 6.09 percent and the service sector grew at the rate of 5.66 percent.



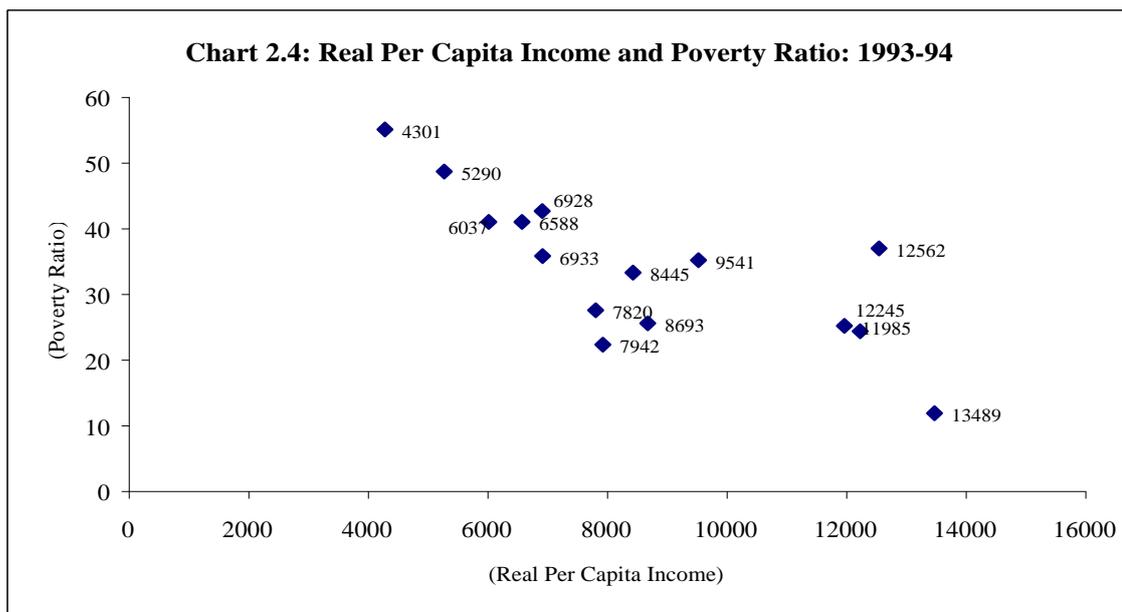


The composition of GSDP shown in Chart 2.3 reveals that share of agriculture has been declining over the years. The share of agriculture, which was 50.76 percent in GSDP, declined to 41.45 percent in 1990-91 and even further to 35.48 percent in 1999-00. The share of industry, which was around 25 percent in the first half of 1980s', increased to 29.67 percent in 1990-91 and then further to more than 32 percent in 1999-00. The share of service sector also increased both during the 1980s' and 1990s'. In 1999-00, the share of service sector in total GSDP was 31.77 percent. It is evident from the Chart 2.3 that during the 1990s' the share of industry and service sector remained almost same hovering around 30 to 32 percent.

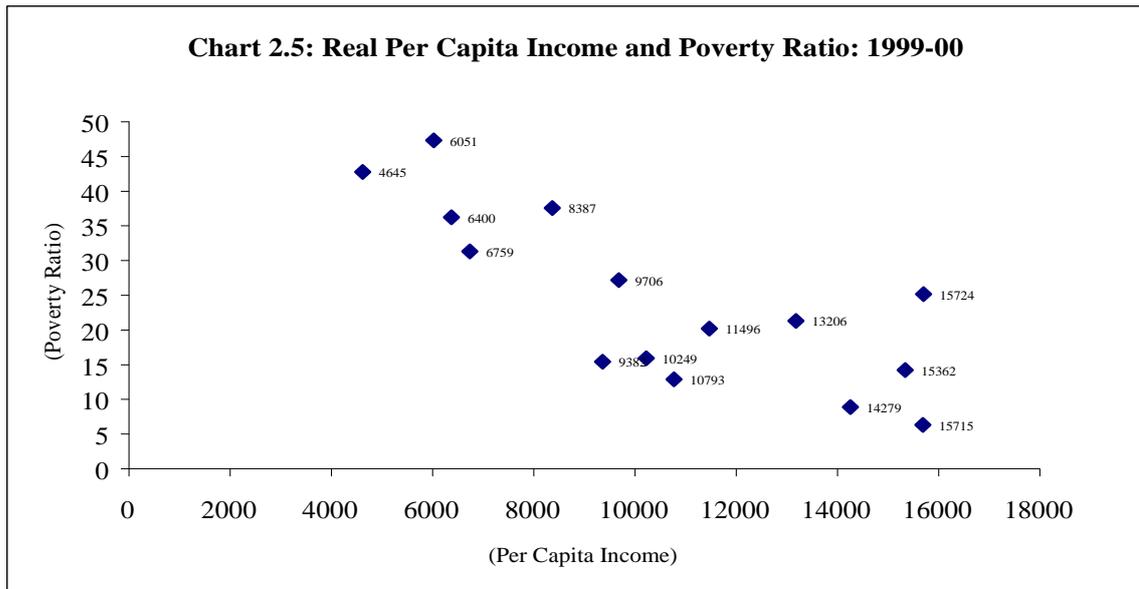
Clearly, Madhya Pradesh, which is a low income state, has failed to improve its growth performance significantly during the 1990s' compared to 1980s'. The growth performance of the Madhya Pradesh economy remained much lower than that of various high and middle income states. The marginal increase in the real per capita income is a cause for worry, when juxtaposed in relation to the reduction in poverty in the state. The rural and urban poverty ratio declined significantly between 1973-74 and 1993-94. However, the rate of decline was lower during 1993-94 to 1999-00. In Madhya Pradesh, on an average, a decline of 0.59 and 1.66 percentage points per annum for both rural and urban poverty respectively was observed between 1993-94 and 1999-00. During the same period, the all state average yearly decline was by 1.69 and 1.46 percentage points for both rural and urban

respectively. This decline reflects a pattern which seems to have been relatively more successful in reducing the urban poverty than the rural poverty.<sup>8</sup>

Even within the low income States, the growth performance of Rajasthan was better than that of Madhya Pradesh. It can also be seen from the Table 2.4 that the rate of decline in the poverty in Rajasthan was much higher than that in Madhya Pradesh. In order to have a preliminary understanding of the relationship between income growth and poverty, we have plotted the scatter of real per capita income of the states and corresponding poverty ratios both for the year 1993-94 and 1999-00 in Chart 2.4 and Chart 2.5 respectively. It is quite evident from both the Charts that there exists a negative functional relationship between real per capita income and poverty ratio. Also, a closer look at both the graphs reveals that the cluster of states within the range of real per capita income of Rs. 5000 and Rs. 8000 and corresponding poverty ratio showed a down ward movement in the year 1999-00 to a higher range of per capita income of Rs. 8000 to Rs. 12,000. Another notable point is that though all India poverty ratio declined sharply from 35.9 percent in 1993-94 to 26.10 percent in 1999-00, the dispersion in the poverty across states remained as wide as it was in 1993-94. The all India range in both the years fluctuated above 54 percent to below 10 percent.



<sup>8</sup> The nature, causes and the pattern of urban poverty is quite different compared to rural poverty. A detailed discussion on this differential nature of urban poverty compared to rural poverty is discussed in Issues and



## Summing Up

On the basis of the above analysis of the income growth and levels of poverty in an inter-temporal scale across fifteen states in India with a focus on Madhya Pradesh, the major findings of the study can be summarised below:

- As per the real per capita income, Madhya Pradesh ranked fourth lowest among the fifteen major States in the year 2000-01. Between 1990-91 and 2000-01, the real per capita income growth was as low as 2.72 percent per annum.
- The analysis revealed an extreme regional inequality in the real per capita income. The real per capita income of Madhya Pradesh was only 31.98 percent of the highest per capita income State Maharashtra.
- The inequality adjusted per capita consumption expenditure also revealed that the per capita consumption expenditure of Madhya Pradesh and other low income States remained below the national average.
- The inter-temporal growth profile of Madhya Pradesh revealed that there had been substantial volatility in the rates of growth of GSDP. While the growth increased during the mid-1980s, it slowed down from 1995-96 onwards and came below the trend level. In fact, the real GSDP growth remained negative in various years during this period.

- The structure of GSDP showed that Madhya Pradesh is predominantly an agriculture based economy with a stagnant manufacturing sector whose share was around 16 percent of total GSDP during the 1990s.
- The marginal increase in the real per capita income, and corresponding movement of the poverty ratio in Madhya Pradesh (both rural and urban) revealed that though declined significantly between 1973-74 and 1993-94, the same was lower during 1993-94 to 1999-00.
- A relative comparison of rural and urban poverty revealed that Madhya Pradesh has been relatively more successful in reducing the urban poverty than the rural poverty.
- The analysis of the distribution of income poverty ratio revealed a prima-facie negative functional relationship between the two.

### Chapter 3: FISCAL IMBALANCE: MADHYA PRADESH

Madhya Pradesh, apart from ranking fourth lowest among the fifteen major states in India in terms of real per capita income, is also ranked 2<sup>nd</sup> lowest among the fifteen major states<sup>9</sup> in terms of social and economic infrastructure. In terms of the size of the government measured in terms of government expenditure to GSDP ratio, Madhya Pradesh ranked sixth lowest with a government expenditure GSDP ratio of 18.65 percent. One of the main constraints for better fiscal stimulus for effective improvement of social and economic infrastructure having direct bearing on the reduction in poverty, is the growing fiscal imbalance of the state.

In the face of growing fiscal deterioration, there has been an attempt to control the rapid growth of non-plan expenditures and reform in the tax system so that the levels of fiscal and revenue deficits can be brought down to sustainable level. Though the objective was to contain the growth of non-plan expenditure to restore fiscal balance, in practice it became impossible to contain its (non-plan expenditure) growth, as the major part of non-plan expenditure constitutes committed liabilities of the government, *viz.*, interest payment, pension and wages and salaries. Thus, having failed to contain the growth of non-plan expenditure, the government attempted to reduce expenditure to restore fiscal balance by cutting down discretionary government expenditure on social and economic services. Thus, the question arises, whether these cut in government expenditure affected the expenditure on services that has a positive impact on the reduction of poverty. The identification of such budgetary expenditures is done in the next chapter and their broad trends and patterns are analysed.

As a prelude to such analysis, in this chapter we analyse major fiscal trends in Madhya Pradesh with a view to highlighting fiscal problems that have emerged in recent years, besetting effective fiscal intervention in social and economic services. This chapter has been divided in following section. In section 1, we have discussed a detailed profile of fiscal imbalance of the state of Madhya Pradesh. In section 2, we have analysed the receipt side of the government. An analysis of expenditures (both revenue and capita expenditure) is

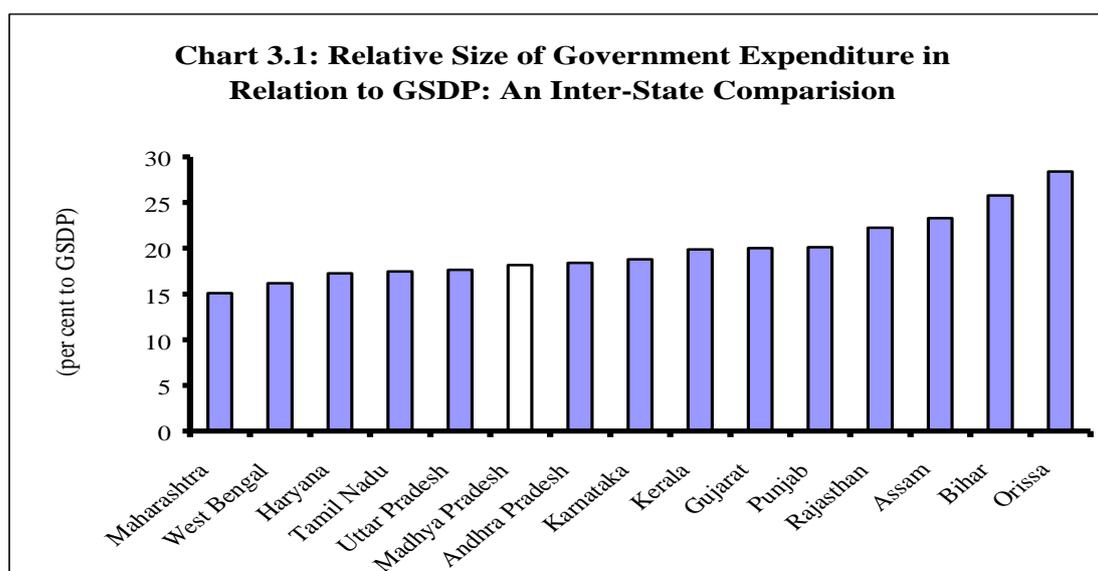
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<sup>9</sup> The composite index of social and economic infrastructure is taken from the Eleventh Finance Commission's Report (2000, p. 218).

undertaken in section 3. The fourth section gives an exposition of the structure of state debt. A summary of major finding is given in section 5.

### 3.1 Fiscal Imbalance

The size of the government measured in terms of aggregate expenditure to GSDP ratios vary considerably across states. The relative size of the government can be understood from the Chart 3.1 The ordering of the major States in the ascending order of their government expenditure to GSDP ratio, revealed that Madhya Pradesh ranked sixth lowest among the fifteen major states in India in the year 1999-00.



Although, the aggregate government expenditure as a percent to GSDP worked out to be more than 18 percent, it can be seen from Table 3.1, the total revenue receipts of the Madhya Pradesh remained more or less stagnant at little more than 13 percent of GSDP. With stagnant revenue receipts to GSDP ratio, the revenue expenditure to GSDP ratio increased sharply from 13.89 percent in 1987-88 to 16.25 percent in 1999-00. Failure to contain the revenue expenditure growth contributed to the widening of the gap between revenue receipts and revenue expenditure. However, in the context of fiscal reform, like the central government, states are also under pressure to follow fiscal reform especially controlling of fiscal deficit to achieve a sustainable deficit regime.

**Table 3.1: The Profile of Fiscal Imbalance of Madhya Pradesh**

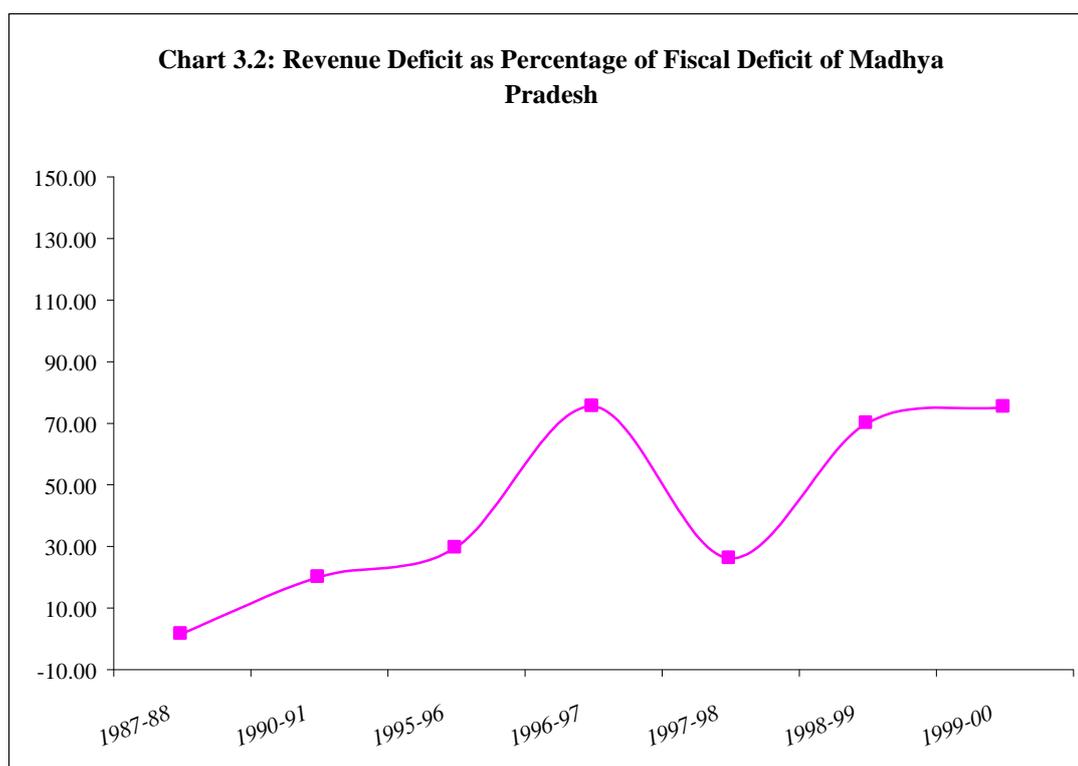
	(As Percent to GSDP)							
	1987-88	1990-91	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00
Revenue Receipts	13.85	12.46	13.19	13.24	13.38	13.85	12.48	13.29
Revenue Expenditure	13.89	13.01	13.51	13.97	15.31	14.42	15.64	16.25
Capital Outlay	2.63	1.95	1.51	1.32	1.36	2.06	1.11	0.96
Net Lending	0.64	0.29	0.61	0.45	-0.72	-0.40	0.27	0.03
Revenue Deficit	0.04	0.55	0.33	0.73	1.93	0.58	3.16	2.95
Fiscal Deficit	3.31	2.79	2.45	2.50	2.57	2.24	4.54	3.94
Primary Deficit	1.98	1.39	0.56	0.73	0.73	0.20	2.52	1.78
Outstanding Debt	20.07	17.89	18.31	18.85	18.66	19.73	21.20	23.25

Source (Basic Data): Finance Accounts.

Most of the state governments having failed to contain the revenue expenditure, tried to contain fiscal deficit through a cut in capital expenditure-the main discretionary component of government expenditure. The capital expenditure (net of repayment) as a percentage of GSDP declined from 3.27 percent in 1987-88 to 0.99 percent in 1999-00. This sharp decline in the capital expenditure was due to the fall in both capital outlay and net lending by the government. It is also to be noted that net lending (gross lending net recoveries) became negative in the year 1996-97 and 1997-98.

The inter-temporal movement of receipts and expenditure contributed to the emergence of a fiscal situation where revenue deficit has widened very fast and cut in capital expenditure, though tried to contain the fiscal deficit has failed to do so in last half of 1990s because of the widening of revenue deficits, which is the single largest component of fiscal deficit. Increase in the share of revenue deficit in total fiscal deficits during the later half of the 1990s was principally because of the increase in the salary component of government expenditure due to the implementation of fifth pay commissions recommendations. The primary deficits, which represents the budgetary gap arising out of the current years budgetary operations of the government, seems to have been contained. However, it increased during the last half of 1990s. The outstanding debt to GSDP ratio, though remained stagnant, it showed a sharp rise in the last two years of 1990s. In the year 1999-00, the ratio increased to 23.25 percent. The interest payment to GSDP ratio also increased from 1.33 to 2.15 percent during this period.

The share of revenue deficits in total fiscal deficits for Madhya Pradesh is given in Chart 3.2. It is evident from the chart that the share of revenue deficit in fiscal deficit had shown more or less an increasing trend since 1996-97 and with a sudden fall in the share in 1997-98, it tended to increase further. Increase in the share of revenue deficit in fiscal deficit imply diversion of borrowed resources for revenue expenditure purposes which is not productive in commercial sense capable of giving financial return. Use of borrowed resources for current expenditure added further strain on state finances by increasing the interest payment. A sort of vicious circle had set in motion where large scale resources were diverted to finance the revenue deficit which in turn increased the fiscal deficit further by increasing the burden of interest payment.



The states' inability to change the expenditure structure away from current consumption expenditure to productive capital formation, a substantial stock of debt and growing interest burden have become a major constraint for the government to undertake necessary expenditure in social and economic services. Growing interest burden is one of the major reasons for the increase in the growth of expenditure under general services at a faster rate compared to social and economic services (see section 3). Also, the major reason for the increase in the share of expenditure under general services in total expenditure was the rising

interest burden of the states. The interest payment as a percentage of revenue expenditure increased sharply from 9.60 percent in 1987-88 to 13.25 percent in 1999-00. Another component of committed liabilities of all the state governments is the rising pension obligation. In Madhya Pradesh more than 20 percent of total revenue expenditure was set aside to meet interest payment and pension obligation. These rising committed liabilities, reduced the availability of resources for expenditure under other services.

### 3.2 A Disaggregated Analysis of Revenue Receipts

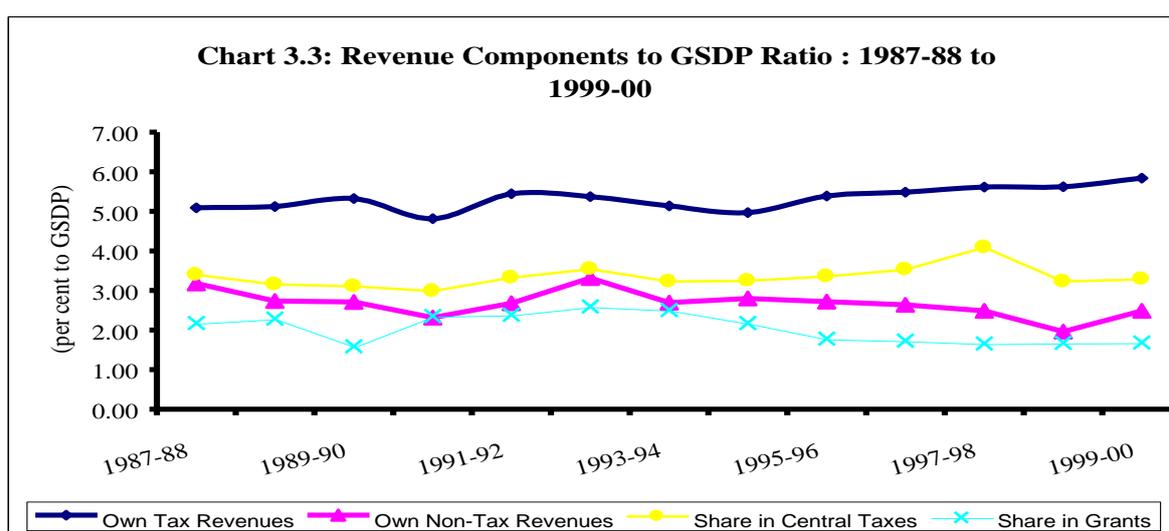
Having analysed the broad fiscal trend of the state, in this section we undertake a disaggregated analysis of the revenue mobilization trends of the State. The Structure of the revenues can be decomposed into three components, viz., own tax revenues, own non-tax revenues, tax devolution from the centre and central grants. The profile of these components as a percentage of GSDP and their structure is shown in Table 3.2. The long run year wise movement is also depicted in Chart 3.3. The own tax revenue effort of the State showed a marginal improvement between 1987-88 and 1999-00, though in the early 1990s, the ratio went below the 1987-88 level. The own non-tax revenue as a percentage of GSDP showed a declining trend during this period. The Central tax transfers as a percentage of GSDP declined having reached its peak in 1997-98 at 4.09 percent. The transfer of central grants as a percentage of GSDP showed a steep fall during this period. Thus, a marginal increase in the own tax revenue effort coupled with a decline in the non-tax revenue effort and the central transfers, the aggregate revenue to GSDP ratio did not shown any significant improvement during this period.

**Table 3.2: Disaggregated Revenue Profile and Its Structure**

	(Percent)							
	1987-88	1990-91	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00
<i>As a % to GSDP</i>								
Own Tax Revenues	5.09	4.81	4.97	5.38	5.48	5.61	5.62	5.83
Own Non-Tax Revenues	3.18	2.31	2.80	2.72	2.64	2.48	1.96	2.49
Share in Central Taxes	3.39	2.99	3.25	3.36	3.52	4.09	3.23	3.28
Share in Grants	2.18	2.35	2.18	1.78	1.74	1.66	1.68	1.69
<b>Total Revenues</b>	<b>13.85</b>	<b>12.46</b>	<b>13.19</b>	<b>13.24</b>	<b>13.38</b>	<b>13.85</b>	<b>12.48</b>	<b>13.29</b>
<i>The Structure</i>								
Own Tax Revenues	36.78	38.61	37.68	40.66	40.98	40.55	45.03	43.89
Own Non-Tax Revenues	22.97	18.54	21.20	20.55	19.72	17.93	15.71	18.70
Share in Central Taxes	24.51	23.97	24.62	25.36	26.32	29.55	25.84	24.70
Share in Grants	15.73	18.89	16.50	13.44	12.98	11.97	13.43	12.71
<b>Total Revenues</b>	<b>100.00</b>							

Source (Basic Data): Finance Accounts.

The structure of revenue shown in Table 3.2 also revealed that the total revenue is heavily weighted by the own revenues of the state government, viz., own tax revenue and own non-tax revenues. The share of the own tax revenue in total revenues increased from 36.78 percent in 1987-88 to 43.89 percent in 1999-00. However, the share of own non-tax revenues declined from 22.97 percent to 18.70 percent during this period. The share in central taxes remained at around 25 percent during this period except for the year 1997-98 when it increased to 29.55 percent. The share of grants, which was lowest among all the components of revenues, declined even further over the years. Its share declined from 15.73 percent in 1987-88 to 12.71 percent in 1999-00.



The growths of these components of revenues are also shown in Table 3.3. It is evident that in the last half of 1990s, the year wise growth rates of own tax revenue declined sharply from 16.64 percent in 1996-97 to 13.44 percent in 1999-00. In the case of non-tax revenues and central tax transfers, there were negative rates of growth of -11.72 percent and -11.86 percent in 1998-99. Consequently the total revenue growth had been only 0.79 percent in that year. Another point to be noted here is that there had been extreme volatility in the growth of individual components of revenues.

**Table 3.3: The Growth of Various Components of Revenue**

	(Percent Per Annum)							
	1988-89	1990-91	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00
Own Tax Revenues	19.96	11.21	7.23	22.56	16.64	11.23	11.92	13.44
Own Non-Tax Revenues	2.62	4.94	15.06	10.09	11.07	2.21	-11.72	38.55
Share in Central Taxes	10.94	18.23	11.55	17.01	20.11	26.22	-11.86	11.24
Share in Grants	25.43	81.89	-3.87	-7.50	11.81	3.65	13.03	10.15
Total Revenues	14.63	20.43	7.76	13.59	15.73	12.41	0.79	16.37

Source (Basic Data): Finance Accounts.

The structure of own tax revenues shown in Table 3.4 revealed that like any other States, the government of Madhya Pradesh also depends heavily on the sales tax in mobilizing own tax revenues. Its share declined marginally during the period of analysis from 46.14 percent to 44.09 percent. The other major taxes are state excise duties, taxes on vehicles, stamp duty and registration fees and other minor taxes clubbed together as 'other taxes'. The share of 'other taxes' declined from 25.47 percent to 22.34 percent during this period. The share of state excise duty and that of stamp duty and registration fees in own tax revenues increased during this period.

**Table 3.4: The Structure of Own Tax Revenues**

	(Percent)							
	1987-88	1990-91	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00
Sales Tax	46.14	45.51	45.63	43.19	42.19	45.05	44.97	44.09
State Excise Duties	16.30	17.14	19.30	17.50	18.10	18.52	18.90	18.52
Taxes on Vehicles	6.08	4.27	8.07	8.77	8.24	8.14	7.48	6.94
Stamp Duty & Reg. Fees	6.00	6.32	7.88	7.83	7.77	7.91	7.83	8.11
Other Taxes	25.47	26.75	19.12	22.70	23.70	20.38	20.81	22.34
<b>Total</b>	<b>100.00</b>							
Own Tax Rev. (in Rs. Crore)	1115.10	1754.80	2870.60	3518.20	4103.50	4564.30	5108.50	5795.21

Source (Basic Data): Finance Accounts.

The buoyancy of individual state taxes estimated with respect to GSDP revealed that own tax buoyancy was 1.135 during this period. The sales tax had buoyancy of 1.041. Among the individual taxes, taxes on vehicles had the highest buoyancy of 1.43 followed by stamp duty and registration fees and other taxes (Table 3.5). The growth rates of taxes, is an indication of the fact that the overall tax buoyancy could have been much higher the observed buoyancy. The overall buoyancy for the period could have been much higher if the growth of taxes would not have suffered during the later half of 1990s.

**Table 3.5: Buoyancy of State Taxes**

Own Tax	1.135 (36.07)
Sales Tax	1.041 (40.26)
State Excise Duty	1.179 (39.89)
Tax on Vehicles	1.430 (11.95)
Stamp Duty and Reg. Fee	1.317 (35.59)
Other Taxes	1.140 (18.77)

Source (Basic Data): Finance Accounts.

Note: Figures within parenthesis are t-values.

Having analysed in detail the profile of own tax revenues we turn to examine the various sources of non-tax revenues of the state government and their relative importance. The major sources are classified as interest earning and dividends and profits, and earnings from general social and economic services. The interest receipts relate to the outstanding loans extended by the state government to various other public sector enterprises and other entities, dividends come from the outstanding equity investment. The return under general, social and economic services mainly comes as fee, fines, cess and user charges. It is to be noted that non-tax revenue earning is intimately linked with the rates of user charges assigned by the government, the rates of recovery of the provision of public services and the flow of earning from state run public sector enterprises in the form of interest earnings, dividends and profits are very low across Indian States and Madhya Pradesh is also not an exception. The Eleventh Finance Commission in its report (2002) observed that "... In the case of non-tax revenues, not only structural changes but a paradigm shift is called for. Where government consider it essential to publicly provide private goods, such provision should be at efficient cost and costs should be recovered from all users who can pay for them eliminating the subsidy implicit in under pricing" (para 3.50, p.29).

It has generally been noted that effective rates of recovery on various public services have been abysmally low and the performances of public sectors have also been dismal at the state level.<sup>10</sup> The reflection of that is indirectly visible from the Table 3.6. The share of dividends and profits had been as low as 0.16 percent, which declined, even further to 0.07 percent in 1999-00. The share of interest earning also declined from 19.51 percent in 1987-88 to 10.41 percent in 1999-00. The contribution of social services declined from 4.18 percent to 3.79 percent. The contribution of economic services increased during this period. It is also to

<sup>10</sup> A detailed discussion on rates of recovery of selected States, Srivastava et al. (2002a and 2002b and 2001c).

be noted that largest share of contribution of non-tax revenues (more than 70 percent of the total) of Madhya Pradesh comes from economic services.

**Table 3.6: The Structure of Non-Tax Revenues**

	(Percent)							
	1987-88	1990-91	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00
Interest Receipts	19.51	15.01	13.19	7.93	13.66	11.06	8.28	10.41
Dividends & Profits	0.16	0.07	0.05	0.09	0.14	0.08	0.06	0.07
General Services	3.23	16.40	6.55	5.26	5.47	6.65	6.22	8.59
Social Services	4.18	4.65	2.92	2.60	2.88	3.86	3.80	3.79
Economic Services	72.93	63.87	77.29	84.12	77.85	78.36	81.65	77.13
<b>Total</b>	<b>100.00</b>							
Non Tax Rev. (in Rs. Crore)	696.60	842.90	1615.20	1778.10	1974.90	2018.50	1781.90	2468.90

Source (Basic Data): Finance Accounts.

The transfers of central resources in the form of taxes and grants are the two other major components of revenue of the state government. The major share of central transfers takes place through tax devolution. The share of tax devolution in total transfers increased from 60.91 percent in 1987-88 to 66.03 percent in 1999-00. The corresponding share of grants declined from 39.09 to 33.97 percent (Table 3.7). The share of non-plan grants, though very small, remained to be extremely fluctuating during the whole period. The share of plan grants declined steadily from 33.08 to 27.34 percent due to the steady decline in the grants for central plan scheme. The share of centrally sponsored schemes tended to have increased and reached to 20.13 percent in 1995-96 and then on declined sharply to 11.68 percent in 1999-00.

**Table 3.7: The Structure of Central Transfers in Revenue Account**

	(Percent)							
	1987-88	1990-91	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00
Share in Central Taxes	60.91	55.93	59.87	65.36	66.97	71.17	65.81	66.03
Total Grants	39.09	44.07	40.13	34.64	33.03	28.83	34.19	33.97
Non-Plan Grants	6.01	7.30	1.28	3.52	1.88	4.19	4.36	6.62
Plan-Grants	33.08	36.77	38.85	31.12	31.15	24.64	29.83	27.34
Grants for State Plan Schemes	13.15	13.34	18.90	6.14	11.11	7.78	8.50	14.64
Grants for Central Plan Schemes	7.15	4.97	3.28	4.85	3.29	3.18	4.20	1.03
Grants for CS Schemes	12.78	18.45	16.67	20.13	16.76	13.69	17.13	11.68
<b>Total</b>	<b>100.00</b>							
Total Transfers (in Rs. Crore)	1220.40	1947.80	3132.40	3357.10	3935.80	4674.30	4455.40	4939.50

Source (Basic Data): Finance Accounts.

### 3.3 Disaggregated Analysis of Revenue and Capital Expenditure

Having analysed the revenue receipts in a disaggregated manner, in this section we analyse the expenditure side of the government budget. It is evident from the Table 3.8 that structure of government expenditure can be classified into general services, social services, economic services and compensation assignments to local bodies. The structure of revenue expenditure showed that there has been a steady increase in the share of interest payment and pension expenditure of the government of Madhya Pradesh. Also there had been a steady increase in the share of other general services also during this period.

**Table 3.8: Structure of Revenue Expenditure: 1987-88 to 1999-00**

	(Percent)							
	1987-88	1990-91	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00
<b>General Services</b>	25.94	27.34	31.84	31.12	29.17	32.89	33.52	32.50
Interest Payment	9.60	10.81	14.01	12.68	12.01	14.16	12.90	13.25
Pensions & Other Retirement Benefits	2.77	3.55	4.94	5.78	5.95	6.42	8.04	7.41
Others	13.58	12.98	12.89	12.66	11.21	12.32	12.58	11.84
<b>Social Services</b>	39.91	39.14	38.66	37.30	35.25	38.22	39.21	38.49
Education	16.36	18.06	16.43	16.97	15.49	16.10	17.26	17.92
Medical & Public Health	5.36	4.83	4.75	4.22	4.09	4.27	5.06	4.47
Family Welfare	1.35	0.95	0.97	0.85	0.73	0.71	0.71	0.71
Water Supply & Sanitation	5.45	3.40	4.16	3.54	3.30	3.48	3.38	3.08
Other Social Services	11.38	11.90	12.33	11.72	11.63	13.65	12.81	12.30
<b>Economic Services</b>	32.27	30.98	27.32	28.67	32.71	26.03	24.35	25.00
Irrigation	2.76	2.46	2.36	2.33	1.94	2.15	2.11	1.96
Roads and Bridges	4.33	3.27	4.00	3.80	3.27	3.40	2.96	1.92
Others	25.18	25.25	20.96	22.54	27.50	20.48	19.28	21.12
<b>C. &amp; A. to Local Bodies</b>	1.87	2.54	2.18	2.91	2.87	2.86	2.92	4.01
<b>Total</b>	<b>100.00</b>							
Total Expenditure (Rs. Crore)	3041.20	4746.10	7808.70	9130.90	11462.00	11726.40	14217.60	16135.90

Source (Basic Data): Finance Accounts.

Increase in the share of general services in turn contributed to the sharp decline in the share of expenditure on economic services from 32.27 percent in 1987-88 to 25 percent in 1999-00. Though the share of social service expenditure fluctuated between around 40 to 35 percent, a trend of decline is not observed. In fact, after an initial decline it tended to increase from 1997-98 onwards. Much of this increase may be due to the increase in the upward revision of expenditure due to the salary revision arising out of fifth pay commissions recommendations. The share of expenditure on education under social services increased marginally during this period. However, expenditure under crucial services like 'medical and public health', 'family welfare', 'water supply and sanitation' tended to have declined during this period. Expenditure under economic services on 'irrigation' and 'roads and bridges'

which are by nature infrastructure declined sharply during this period. There has been a steady increase in the share of compensation assignment to local bodies during this period from 1.87 percent to 4.01 percent. While commenting on the restructuring of government expenditure, EFC (2002) argued that “ ... “(A) long side revenue augmentation, restructuring of public finances will require structural changes on the expenditure side as well. While the thrust should be on compression, the composition of expenditure would need to be restructured in favour of priority sectors like elementary education, primary health care, water supply and sanitation, roads and bridges and other infrastructure. Items that would require a tight rein are salary and pension, interest payment and subsidies. There has to be a radical change in the method of plan financing as well” (para 3.56, p.29).

The trend rates of growth of expenditures for the period between 1987-88 and 1999-00 are shown in Table 3.9. One of the fastest growing expenditure in the revenue account is the pension and other retirement benefits, which grew at a trend rate of growth of 24.95 percent per annum. The rates of growth of interest payment expenditure have been 17.68 percent during this period. However, if we look at the broad category of expenditures, it is the general services, which grew at the highest rates of 17.07 percent, followed by social services at 14.32 percent and economic services at 12.98 percent. Within social services, expenditure under family welfare grew at the lowest rate of 8.98 percent during this period. The structure of gross capital expenditure shown in Table 3.10 revealed that there has been steady decline in the share of capital outlay and gross lending from 48.77 to 11.85 percent and 14.85 to 4.28 percent.

**Table 3.9: Trend Rates of Growth: 1987-88 to 1999-00**

	(Percent Per Annum)
<b>General Services</b>	17.07
Interest Payment	17.68
Pensions & Other Retirement Benefits	24.95
Others	13.67
<b>Social Services</b>	14.32
Education	14.64
Medical & Public Health	13.21
Family Welfare	8.98
Water Supply & Sanitation	10.77
Other Social Services	16.03
<b>Economic Services</b>	12.98
Irrigation	12.68
Roads and Bridges	10.79
Others	13.29
<b>C. &amp; A. to Local Bodies</b>	20.67
<b>Total</b>	<b>14.92</b>

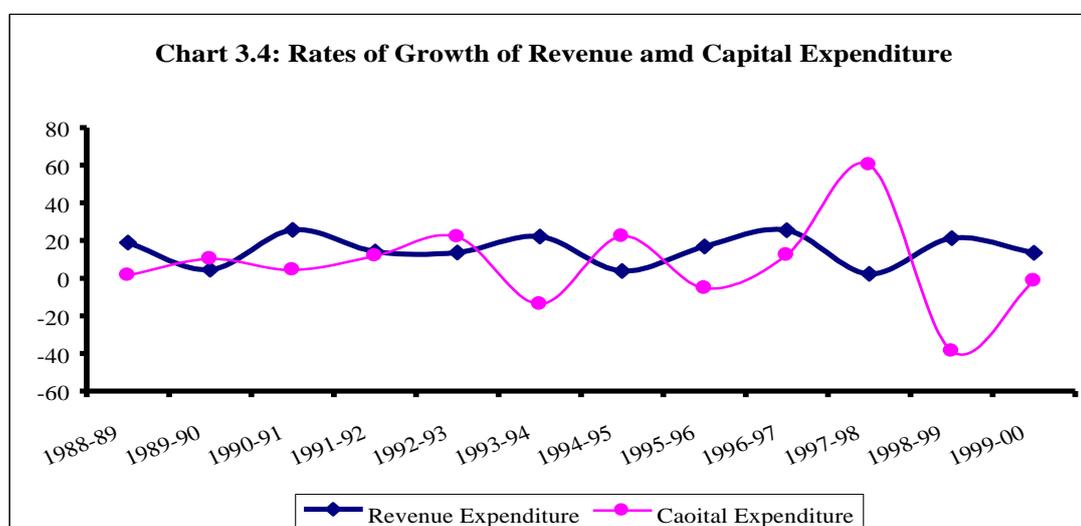
Source (Basic Data): Finance Accounts.

**Table 3.10: Structure of Gross Capital Expenditure**

	(Percent)							
	1987-88	1990-91	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00
Capital Outlay	48.77	28.40	17.99	22.33	24.01	28.07	15.71	11.85
Loans and Advances	14.85	6.57	7.97	8.65	7.49	7.82	4.69	4.28
Repayment of Loans & Advances	36.38	65.03	74.03	69.02	68.50	64.11	79.60	83.87
<b>Total</b>	<b>100.00</b>							
Total Expenditure (Rs. Crore)	1182.10	2508.30	4857.20	3852.70	4252.00	5977.80	6428.90	8015.20

Source (Basic Data): Finance Accounts.

The rates of growth of revenue and capital expenditure shown in Chart 3.4, revealed that it is not a steady one. The observed trend estimated is of decline. There has been extreme violability in the rates of growth of both revenue and capital expenditure. Between 1987-88 and 1999-00, the rates have fluctuated within a range of -60 percent to +80 percent. In many years, the growth rates of expenditure were negative.



### 3.4 The Debt Structure

As we know that the major sources of state borrowing is from the central government. Other sources are states' internal debt, provident funds etc. Over the years, the state has shifted to high cost market borrowing. The state's share of internal debt has increased over the years from 9.56 percent to as high as 26.60 percent (Table 3.11). Within internal debt, the share of high cost market borrowing increased from 7.00 percent in 1987-88 to 18.43 percent.

The share of central loans in total outstanding debt declined from 61.60 percent in 1987-88 to 44.15 percent in 1999-00.

**Table 3.11: The Structure of Debt**

	(Percent)							
	1987-88	1990-91	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00
Internal Debt <i>of which</i>	9.56	12.58	15.96	19.42	19.63	20.88	21.76	26.60
Market Borrowing	7.00	10.13	14.22	15.47	16.87	17.79	17.67	18.43
Loans & Adv. From the Central Government	61.60	56.06	49.59	47.00	47.15	48.12	47.91	44.15
Small Savings, Provident Funds, etc.	28.84	31.36	34.45	33.58	33.22	31.00	30.33	29.25
<b>Total</b>	<b>100.00</b>							
Outstanding Debt (in Rs. Crore)	4395.00	6527.30	10577.50	12317.70	13966.40	16039.70	19267.90	23089.30

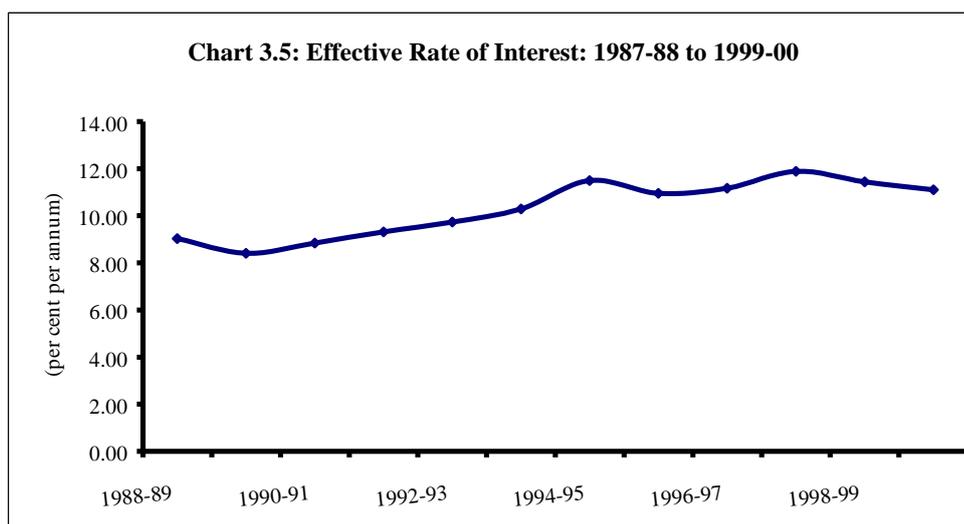
Source (Basic Data): Finance Accounts.

The effective rates of interest on various categories of debt shown in Table 3.12 indicates among the various categories of debt, the market borrowing the highest effective rates of interest at 13.64 percent in 1999-00. It is to be noted that the ERI on small savings, provident funds, carried very high rates of interest during the late 1980s, but over the year the ERI on these instruments declined significantly. Between 1987-88 and 1999-00, the average effective rates of interest on these instruments declined from 10.89 percent to 5.84 percent. The loans and advances from the central government also became costlier over the years. However, it should be noted that still central loans carry lower rate of interest compared to the internal debt and market borrowing. This sharp increase in the ERI becomes evident from the Chart 3.5.

**Table 3.12: Effective Rates of Interest on Various Categories of Debt**

	(Percent Per Annum)							
	1988-89	1991-92	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00
Internal Debt <i>of which</i>	8.28	11.97	11.71	13.09	12.40	13.82	13.52	13.29
Market Borrowing	9.07	11.41	13.62	12.73	13.31	13.59	13.30	13.64
Loans & Adv. From the Central Govt.	7.68	9.23	10.36	10.63	11.02	11.36	11.91	12.29
Small Savings, Provident Funds, etc.	10.89	8.34	9.01	8.72	8.95	9.71	7.40	5.84
Total Interest Payment	9.02	9.31	11.49	10.95	11.17	11.89	11.44	11.10

As the debt structure became increasingly skewed towards high cost debt and also as the over all interests rates structure in the economy moved up due to the financial deregulation, this has added severe strain on the finances of the state government by increases the overall interest burden. Increasing interest burden in turn reduced the availability of resources for non interest expenditure which in turn adversely affected various other discretionary expenditures of the government including those expenditures which has direct bearing on the reduction of poverty.



### 3.5 Conclusion

On the basis of the above analysis, the major findings of the study can be summarized in the following points:

- Stagnating revenue receipts to GSDP ratio accompanied by a sharp increase in the revenue expenditure to GSDP contributed to the widening of the gap between revenue receipts and revenue expenditure and thus, the revenue deficit.
- Unable to contain the revenue expenditure, the state resorted to cut in capital expenditure. The capital expenditure (net of repayment) as a percentage of GSDP declined from 3.27 percent in 1987-88 to 0.99 percent in 1999-00. Decline in productive capita expenditure adversely affected the finances of the state government.
- The states' inability to change the expenditure structure away from current consumption expenditure to productive capital formation, a substantial stock of debt and growing interest burden have become a major constraint for the government to undertake necessary expenditure in social and economic services. The share of expenditure on general services increased sharply at the cost of decline in the expenditure under economic services and social service expenditure maintained near stagnant share.
- A disaggregated analysis of the revenue side of the state government revealed a marginal improvement in the own tax revenue effort of the State, decline in the non-tax revenue mobilisation, and decline in central transfers. The transfer of central grants as a percentage of GSDP showed a steep fall during this period.
- The analysis of the debt structure also revealed that the debt structure became high cost in nature because of the increase in the share of market borrowing. The effective rates of interest also increase steeply during this period.

## Chapter 4: THE SPATIAL DISTRIBUTION OF POVERTY AND ITS DETERMINANTS: A DISTRICT LEVEL ANALYSIS

Having analysed the interface between economic growth, poverty and the constraints of the fiscal policy in undertaking an appropriate policy for poverty elimination because of states' own fiscal stress, in this chapter we examine the spatial distribution of poverty in Madhya Pradesh by taking both regions and district as the unit of analysis. As per the 2001 census, Madhya Pradesh is the second most populous states in the country with a population of 6.039 crore spreaded over 45 districts<sup>11</sup>. The state can be divided into six regions, viz., Central, Malwa Plateau, Northern, South Central, South Western, and Vidisha. The distribution of districts across these regions is presented in Table 4.1, with Malwa plateau having the maximum number of districts (11 districts), followed by Vidisha (10 districts), North (7 districts), South central and central (each 6 districts) and south west (5 districts).

**Table 4.1: Districts in Reorganised Madhya Pradesh**

<b>Central</b>	<b>Malwa Plateau</b>	<b>North</b>	<b>South Central</b>	<b>South West</b>	<b>Vidisha</b>
Bhopal	<b>Badwani</b>	Bhind	Balaghat	Betul	Chattarpur
Damoh	Dewas	Datia	Chhindwara	East Nimar	<b>Dindori</b>
Raisen	Dhar	Guna	Jabalpur	<b>Harda</b>	<b>Katni</b>
Sagar	Indore	Gwalior	Mandla	Hoshangabad	Panna
Sehore	Jhabua	Morena	Narsimhpur	West Nimar	Rewa
Vidisha	Mandsaur	<b>Sheopur</b>	Seoni		Satna
	<b>Neemach</b>	Shivpuri			Shahdol
	Rajgarh				Sidhi
	Ratlam				Tikamgarh
	Shajapur				<b>Umaria</b>
	Ujjain				

### 4.1 District-Wise Rural Poverty: Madhya Pradesh

For Madhya Pradesh we have two estimates of district-wise rural poverty head count ratio roughly for the same period. These include the Chhattisgarh districts prior to reorganisation. One set of estimates is obtained from the Human Development Report of 1995, which gives the poverty estimates for the period 1992 to 1997. The second set of estimates which pertains to the year 1993-94. is provided in the Human Development Report

<sup>11</sup> The undivided Madhya Pradesh also had 45 districts. Seven of these districts, viz., Basti, Bilaspur, Durg, Raigarh, Raipur, Rajnandgaon, and Surguja were carved out to constitute Chhattisgarh. These districts were reorganised into 16 districts. Seven new districts were reconstituted from the remaining districts of Madhya Pradesh. Thus, the new Madhya Pradesh also has 45 districts.

of Madhya Pradesh of 1998 based on region wise NSS estimates of rural poverty. As per the first set of estimates (Table 4.2) the range of poverty head count ratio in rural areas varies from 26.1 to 95.0. The poorest five districts are: Narsimhapur, Jabalpur, Seoni, Sarguja, and Bilaspur. In the second set, the five poorest districts are West Nimar, Betul, Mandla, Damoh, and East Nimar (Table 4.3). The range of rural poverty as per the head count ratio is from 7.7 to 78.6. The first set of estimates shows higher incidence of poverty in different districts as compared to the second set. The relative positions of districts in terms of these alternative estimates of poverty are given in Tables 4.2 and 4.3 where districts are arranged in descending order of poverty head count ratio in rural areas. The ranks of the districts arranged in descending order also change. In terms of regions, South Central and Malwa Plateau appear to be the poorest regions in the first set, and South Western and Central regions appear to be relatively poorer in the second set.

**Table 4.2: District-Wise Rural Poverty in Madhya Pradesh and Chhattisgarh: Estimate 1: 1992-97**

Districts	Regions	Poverty Ratio (%)	Districts	Regions	Poverty Ratio (%)
Narsimhapur	South Central	95.0	Raisen	Central	57.2
Jabalpur	South Central	84.0	Indore	Malwa Plateau	56.4
Seoni	South Central	81.6	Satna	Vindhya	55.5
Sarguja	Chhattisgarh	81.2	Mandsaur	Malwa Plateau	55.3
Bilaspur	Chhattisgarh	78.5	West Nimar	South Western	55.0
Sagar	Central	78.5	Hoshangabad	South Western	54.1
Shajapur	Malwa Plateau	75.8	Dewas	Malwa Plateau	52.5
Jhabua	Malwa Plateau	75.2	Bastar	Chhattisgarh	51.9
Dhar	Malwa Plateau	72.1	Damoh	Central	51.0
Balaghat	South Central	68.5	Raipur	Chhattisgarh	50.6
Ujjain	Malwa Plateau	68.5	Datia	North	49.0
Rajnandgaon	Chhattisgarh	68.1	Shivpuri	North	48.5
Sidhi	Vindhya	64.6	Vidisha	Central	48.1
East Nimar	South Western	63.2	Panna	Vindhya	48.0
Mandla	South Central	63.2	Chhindwara	South Central	45.7
Rajgarh	Malwa Plateau	63.0	Guna	North	39.7
Rewa	Vindhya	62.8	Bhopal	Central	39.6
Ratlam	Malwa Plateau	62.5	Morena	North	38.9
Durg	Chhattisgarh	62.4	Sehore	Central	38.9
Raigarh	Chhattisgarh	61.2	Gwalior	North	32.6
Shahdol	Vindhya	58.7	Chhatarpur	Vindhya	29.8
Tikamgarh	Vindhya	58.3	Bhind	North	26.1
Betul	South Western	57.9	<b>MP</b>		<b>60.1</b>

Source: *Human Development Report 1995*, Madhya Pradesh.

**Table 4.3: District-Wise Rural Poverty in Madhya Pradesh and Chhattisgarh: Estimate 2: 1993-94**

Districts	Regions	Head Count Ratio	Districts	Regions	Head Count Ratio
West Nimar	South Western	78.6	Satna	Vindhya	23.4
Betul	South Western	66.9	Chhindwara	South Central	23.1
Mandla	South Central	53.9	Durg	Chhattisgarh	21.6
Damoh	Central	49.3	Raipur	Chhattisgarh	21.5
East Nimar	South Western	48.5	Rajgarh	Malwa Plateau	21.5
Sagar	Central	44.7	Narsimhapur	South Central	18.9
Balaghat	South Central	43.3	Panna	Vindhya	18.3
Jabalpur	South Central	39.3	Dhar	Malwa Plateau	18.0
Sidhi	Vindhya	36.1	Chhatarpur	Vindhya	17.3
Sarguja	Chhattisgarh	35.6	Dewas	Malwa Plateau	17.1
Seoni	South Central	35.3	Shajapur	Malwa Plateau	14.0
Hoshangabad	South Western	34.5	Tikamgarh	Vindhya	13.6
Bilaspur	Chhattisgarh	31.6	Bhind	North	12.8
Jhabua	Malwa Plateau	30.2	Ratlam	Malwa Plateau	12.4
Vidisha	Central	29.2	Mandsaur	Malwa Plateau	11.5
Sehore	Central	28.7	Indore	Malwa Plateau	11.3
Shahdol	Vindhya	28.6	Ujjain	Malwa Plateau	11.2
Raisen	Central	28.0	Morena	North	11.0
Raigarh	Chhattisgarh	26.3	Shivpuri	North	10.0
Rewa	Vindhya	25.9	Datia	North	9.5
Bhopal	Central	25.2	Guna	North	9.2
Rajnandgaon	Chhattisgarh	24.4	Gwalior	North	7.7
Bastar	Chhattisgarh	24.0			

Source: *Human Development Report 1998*, Madhya Pradesh.

The relative proportion of different categories of population/workers in the total rural poor is given in Table 4.4. For undivided Madhya Pradesh the largest sections of the rural poor were agricultural labourers followed by marginal farmers and small farmers. The respective share of these groups was 30.7, 25.9, and 21.6 percent of the total rural poor. This pattern is generally reflected in most districts. However, in some cases the relative share of non-agricultural labourers is also very high. For example, in Damoh the share of non-agricultural labourer is 34.6 percent, and in Gwalior 33.1 percent. In Chhatarpur the share of non-agricultural labourers in total rural poor is 29.1 percent and that of village artisans is 25.3 percent.

**Table 4.4: Share of Different Categories of Workers in Total Poor Estimate 1: Madhya Pradesh and Chhattisgarh**

Districts	Small Farmers	Marginal Farmers	Agr. Labourer	Non-Agr. Labourer	Village Artisans	Others	Total
Balaghat	18.9	30.0	27.4	16.4	2.1	5.2	100.0
Bastar	33.1	25.2	23.2	14.2	4.3	0.0	100.0
Betul	30.2	17.3	34.7	12.5	3.0	2.4	100.0
Bhind	21.0	39.4	23.7	13.1	2.5	0.2	100.0
Bhopal	13.2	11.1	39.4	22.8	1.8	11.7	100.0
Bilaspur	21.8	39.4	24.4	11.5	2.9	0.0	100.0
Chhatarpur	12.6	13.5	18.3	29.1	25.3	1.2	100.0
Chhindwara	18.1	14.8	45.0	14.7	3.9	3.4	100.0
Damoh	13.0	20.1	30.3	34.6	2.1	0.0	100.0
Datia	28.7	32.5	13.9	13.6	4.0	7.3	100.0
Dewas	30.6	34.6	23.4	4.0	3.5	4.0	100.0
Dhar	20.2	19.1	43.6	7.2	3.7	6.3	100.0
Durg	24.5	41.2	23.9	5.8	2.2	2.5	100.0
East Nimar	22.7	10.6	54.2	0.0	8.6	4.0	100.0
Guna	28.8	24.2	35.2	7.7	1.8	2.4	100.0
Gwalior	27.8	28.9	8.1	33.1	0.7	1.4	100.0
Hoshangabad	13.2	12.1	47.6	15.6	5.7	5.7	100.0
Indore	12.1	17.0	41.9	21.7	2.4	5.0	100.0
Jabalpur	12.6	19.2	30.2	30.3	3.3	4.4	100.0
Jhabua	27.2	26.8	28.2	11.2	3.0	3.6	100.0
Mandla	19.6	22.1	30.9	24.4	3.1	0.0	100.0
Mandsaur	18.4	26.5	39.3	11.7	2.9	1.2	100.0
Morena	20.1	40.1	24.2	15.0	0.5	0.2	100.0
Narsimhapur	13.9	15.6	34.4	27.0	4.8	4.4	100.0
Panna	17.0	21.7	32.6	23.1	2.8	2.7	100.0
Raigarh	27.1	27.0	28.6	10.7	4.9	1.7	100.0
Raipur	22.2	35.1	31.6	8.6	1.9	0.7	100.0
Raisen	14.4	13.3	42.1	23.1	4.3	2.7	100.0
Rajgarh	29.9	30.1	25.0	9.9	2.9	2.2	100.0
Rajnandgaon	29.9	27.9	16.5	8.2	2.2	15.4	100.0
Ratlam	28.3	38.8	20.3	3.6	2.1	6.9	100.0
Rewa	12.0	20.1	38.5	19.2	5.9	4.3	100.0
Sagar	23.0	24.3	22.9	26.8	0.9	2.1	100.0
Sarguja	28.6	31.2	22.4	10.6	1.5	5.8	100.0
Satna	12.6	17.2	28.1	29.0	6.6	6.6	100.0
Sehore	13.2	10.3	64.9	6.4	2.0	3.3	100.0
Seoni	21.1	19.8	26.0	21.5	6.3	5.3	100.0
Shahdol	18.3	23.4	32.8	18.5	4.3	2.6	100.0
Shajapur	18.3	25.3	38.7	7.9	6.0	3.8	100.0
Shivpuri	26.9	25.2	19.8	17.0	3.5	7.6	100.0
Sidhi	19.2	22.9	28.8	17.3	4.6	7.2	100.0
Tikamgarh	31.5	33.9	14.2	15.7	3.4	1.3	100.0
Ujjain	15.9	27.9	40.6	8.5	2.2	5.0	100.0
Vidisha	19.4	14.9	42.5	18.0	2.5	2.6	100.0
West Nimar	20.2	17.3	45.8	9.2	3.1	4.4	100.0
<b>MP</b>	<b>21.6</b>	<b>25.9</b>	<b>30.7</b>	<b>14.8</b>	<b>3.6</b>	<b>3.5</b>	<b>100.0</b>

Source (Basic Data): *Human Development Report 1995*, Madhya Pradesh.

## 4.2 Population and Literacy Profile of Districts in Selected States

In this section, we examine the patterns of decadal population growth over 1981-1991, and 1991-2001, population density, and literacy rates as per information available in 2001 census. An examination of this will enable us to undertake a discussion in respect of relative position of districts vis-a-vis poverty in the state of Madhya Pradesh.

With a view to understand the characteristics of the districts in Madhya Pradesh with respect to poverty and these indicators we have examined the profile of these indicators in relation to poverty for the year 1991 and 2001. Table 4.5 gives a list of district wise literacy rates for census years 1991 and 2001 arranged in descending order according to female literacy rate. Out of the 48 districts, five districts *viz.*, Narsimhapur, Bhopal, Indore, Datia and Raisen accounted for literacy rate of above 60. Seven districts *viz.*, Jabalpur, Hoshangabad, Ujjain, Shajapur, Balaghat, Gwalior and Betul had literacy rate ranging between 55 to 60. Nine district *viz.*, Bhind, Mandsaur, Chhindwara, Ratlam, Sagar, Harda, Seoni, Satna and West Nimar had literacy in the range of 50 to 55. About 44 percent of the districts account for literacy rate of above 50 percent. The following nine districts are the lowest placed in the literacy ladder: Tikamgarh, Chhatapur, Dhar, Dindori, Rajgarh, Sidhi, Barwani, Sheopur and Jhabua. In these districts female literacy is particularly low. The literacy rate has gone up in 2001 census as compare to 1991.

Table 4.6 provides decadal growth rates of population and density of population for the districts in Madhya Pradesh. The districts are arranged in descending order according to the decadal growth of population between 1991 and 2001. The districts with highest population density are Indore and Bhopal. These also show the highest decadal growth rate of population. In the next group with decadal population growth between 27 and 30 percent are eleven districts. Many of the districts noted above in the case of female literacy also show very high population growth. For example, Sidhi, Tikamgarh, Chhatarpur, Dhar, Rajgarh, Barwani, Shivpur have all shown high growth of population.



**Table 4.6: Districts Arranged According to Decadal Population Growth Rates: Madhya Pradesh**

Districts	Decadal Growth Rate (%)		Density		Districts	Decadal Growth Rate (%)		Density	
	1981-91	1991-01	1991	2001		1981-91	1991-01	1991	2001
<b>Above 30</b>					<b>Between 21 &amp; 24</b>				
Indore	30.26	40.82	471	663	Mandsaur	23.42	23.67	173	214
Bhopal	51.05	35.91	488	663	Ujjain	23.82	23.63	227	281
Sidhi	38.67	33.28	130	174	Jhabua	42.16	23.56	167	206
<b>Between 27 &amp; 30</b>					<b>Between 18 &amp; 21</b>				
Barwani	26.30	29.87	154	199	Sagar	24.53	22.70	161	197
Sheopur	33.32	29.72	65	85	Jabalpur	19.12	22.59	339	416
Sehore	27.99	28.22	128	164	Umariya	31.83	22.58	103	127
West Nimar	23.04	27.95	149	191	Hoshangabad	25.01	22.40	132	162
Tikamgarh	27.66	27.88	186	238	Narsimhapur	20.76	21.88	153	187
Raisen	23.35	27.80	104	132	Datia	26.01	21.82	192	233
Satna	27.05	27.52	195	249	Neemuch	22.58	21.25	141	170
Chhatarpur	30.61	27.33	133	170	<b>Below 18</b>				
Dhar	29.31	27.29	168	213	Narsimhapur	20.76	21.88	153	187
Shivpuri	30.84	27.16	110	140	Datia	26.01	21.82	192	233
Guna	30.77	27.11	118	151	Neemuch	22.58	21.25	141	170
<b>Between 24 &amp; 27</b>					Katni	23.43	20.61	178	215
Rewa	28.77	26.84	246	312	Damoh	24.49	20.46	123	148
Dewas	29.99	26.39	147	186	East Nimar	24.11	19.31	133	159
Rajgarh	23.88	26.24	161	204	Shahdol	28.96	18.87	133	158
Gwalior	27.97	26.00	284	357	Betul	27.68	18.02	118	139
Vidisha	23.92	25.18	132	165	<b>Below 18</b>				
Ratlam	24.17	24.97	200	250	Chhindwara	27.21	17.86	133	156
Shajapur	22.97	24.87	167	208	Bhind	25.18	17.06	273	320
Harda	29.14	24.53	114	142	Seoni	23.60	16.49	114	133
Panna	27.40	24.17	96	120	Mandla	24.17	14.66	134	154
Morena	30.58	24.09	256	318	Dindori	24.94	13.23	68	78
					Balaghat	19.00	5.85	148	157
					<b>MP</b>	<b>27.24</b>	<b>24.34</b>	<b>158</b>	<b>196</b>

**Table 4.7: Correlation Coefficients Between Rural Poverty Estimates and Selected Variables Districts of Undivided Madhya Pradesh**

	<i>Rp1</i>	<i>Rp2</i>	<i>Scp</i>	<i>Scw</i>	<i>Rhe</i>	<i>Rhw</i>	<i>Rrv</i>	<i>Rhdec</i>	<i>Lrr</i>
Rp1	1.000								
Rp2	0.280	1.000							
Scp	-0.401	-0.509	1.000						
Scw	-0.370	-0.481	0.993	1.000					
Rhe	-0.119	-0.167	0.251	0.238	1.000				
Rhw	0.259	-0.082	0.021	0.015	0.661	1.000			
Rrv	0.080	0.199	-0.298	-0.329	-0.119	-0.066	1.000		
Rhdec	-0.062	-0.080	-0.185	-0.191	0.163	0.152	-0.112	1.000	
Lrr	0.205	0.336	-0.296	-0.348	0.144	0.153	0.313	0.079	1.000

#### Variable Definitions

- Rp1: Rural poverty estimate 1: Human Development Report 1995 (1992-97)
- Rp2: Rural poverty estimate 2: Human Development Report 1998 (1993-94)
- Scp: Share of schedule caste population in total population
- Scw: Share of schedule caste workers in all main workers
- Rhe: Rural household with access to electricity
- Rhw: Rural household with access to safe drinking water

Rrv: Rural roads per village (km.)  
Rhdec: Rural households domestic electricity connections  
Lrr: Literacy rate 1991 (Rural)

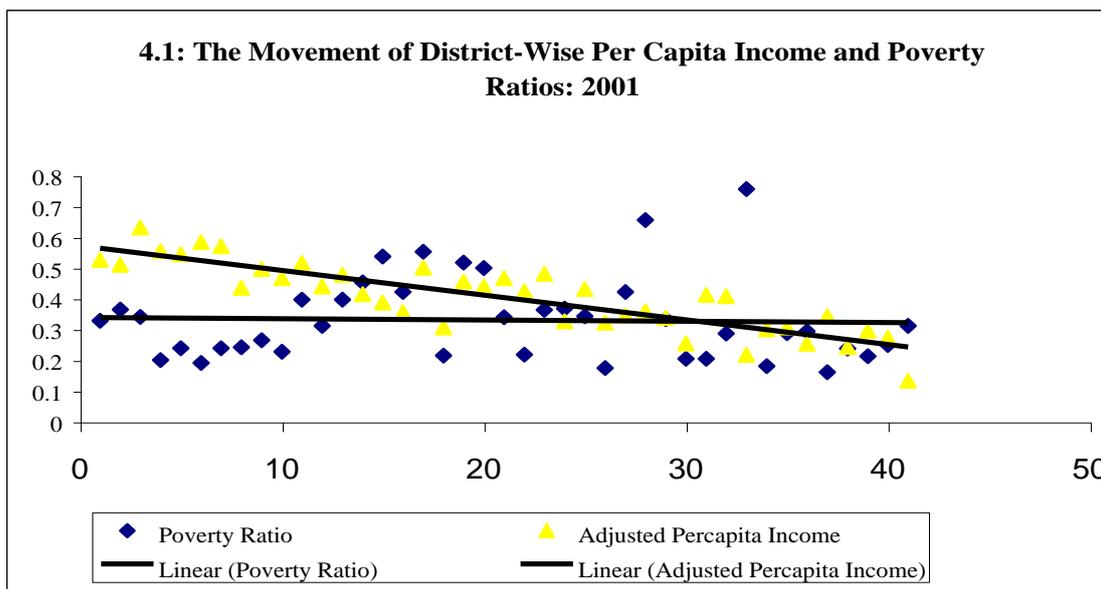
The human development index and gender development index across districts of Madhya Pradesh is given in Table 4.8. The districts are arranged in descending order of their rank in both HDI and GDI. The coefficient of variation calculated for both HDI and GDI are 0.120 and 0.0967 respectively. In other words, the disparities in the level of GDI across districts are marginally lower than the HDI.

The estimation of HDI requires per capita income as an indicator for the as it is a composite index of comprising of levels of education in human development in education, longevity or health, and in access to opportunities measured in per capita incomes. We have used the district level income data to compare it with the poverty ratios across districts in Madhya Pradesh.

**Table 4.8: Human and Gender Development Index (2001):  
District-Wise Pattern**

	<b>HDI</b>	<b>GDI</b>
Indore	0.694	0.634
Bhopal	0.663	0.633
Raisen	0.645	0.627
Ujain	0.632	0.622
Mandsaur	0.632	0.617
Ratlam	0.630	0.615
Neemuch	0.626	0.598
Gwalior	0.624	0.591
Shajapur	0.617	0.59
Dewas	0.61	0.588
Narsimhapur	0.61	0.586
Harda	0.588	0.584
Chindwara	0.586	0.581
Hosangabad	0.584	0.579
Balaghat	0.58	0.575
Mandla	0.578	0.57
Jabalpur	0.572	0.569
Damoh	0.568	0.563
Bhind	0.566	0.563
Sagar	0.565	0.558
EastNimar	0.563	0.558
Sehore	0.56	0.549
Dhar	0.559	0.548
Dindori	0.557	0.547
Sidhi	0.555	0.545
Seoni	0.55	0.543
Vidisha	0.549	0.535
Datia	0.543	0.533
Katni	0.542	0.53
Betul	0.537	0.527
Shahdol	0.525	0.517
Morena	0.52	0.512
Sheopur	0.514	0.512
Rajgarh	0.504	0.508
West Nimar	0.498	0.508
Guna	0.493	0.5
Umaria	0.492	0.488
Satna	0.483	0.486
Rewa	0.478	0.482
Shivpuri	0.473	0.476
Panna	0.47	0.476
Tikamgarh	0.468	0.462
Chhatarpur	0.449	0.45
Barwani	0.422	0.447
Jhabua	0.372	0.436
Co. Variation	0.1202	0.0967

Source: Third Human Development Report: Madhya Pradesh (2002).



### 4.3 Madhya Pradesh: New Government Initiatives

Madhya Pradesh has undertaken innovative initiatives in the fields of health as well as education. It has floated schemes which ‘guarantee’ minimum facilities in both cases.

#### a. Education Initiatives

##### i. Education Guarantee Scheme

The Madhya Pradesh Education Guarantee Scheme (EGS) seeks to provide minimum education facility without compromising quality. The government guarantees to provide this educationally viable package within a time limit to a community group that raises a corresponding demand. It also provides that if the government fails to do this, the community can invoke the guarantee.

An EGS attempts to specify a statutory framework that makes primary education an enforceable right. The Madhya Pradesh EGS model follows the well-known Maharashtra Employment Guarantee Scheme (EGS). In Maharashtra, the state is bound to provide work within a time frame if rural labour demand work. Similarly, in Madhya Pradesh, the state undertakes to provide a minimal essential educational input if a certain number of parents/children demand the right to learn.

The EGS operates where the community raises a demand for schooling facilities for its children and the number of children are at least 40 and there is no schooling facility within one km. of that habitation. In the tribal or sparsely inhabited areas the number of children could be between 25-30. The government would, on receiving the demand, guarantee to provide an educational package within an agreed time frame. The time frame could be 3 months from the demand being received at the level authorised to receive the demand. If the government fails to fulfil the guarantee then the community has the right to invoke the guarantee through a defined mechanism. The *institutional framework* selected for implementing EGS is the Panchayat system as it combines statutory authority with popular participation. The panchayats are empowered by the government to respond to the demand raised by the community. At the district level an EGS committee, chaired by the Zila Panchayat President operates and with the Collector and the district head of the Education Department represented on it. Other members could be co-opted/invited to it depending on local needs.

The gram panchayat is authorised to receive the demand from the community, presented through a group of parents. The gram panchayat submits the demand to the District EGS committee along with their recommendation of a name for the Shikshakarmi. The EGS committee clears the appointment of the teacher and allots required resources to the Gram panchayat toward the annual salary of the shikshakarmi and contingency expenditures. The teaching-learning material is supplied by the Education Department. It is the responsibility of the gram panchayat to pick up its materials from the designated place of supply. On receipt of a demand for an EGS centre from a gram panchayat, the Collector (the Secretary of the EGS Committee) registers the demand and gives an acknowledgement indicating the date of receipt and the date within which the teacher will be provided.

**ii. *Padhna Badhna Andolan***

To address the problem of adult illiteracy, Government of Madhya Pradesh has evolved a strategy moving away from the standardised national model. The Madhya Pradesh government promoted the Rajiv Gandhi Shiksha Mission to develop its alternative strategy of the Padhna Badhna Andolan. The key elements of the new strategy were the following:

- i. Non-literates would come together as Padhna Badhna Samitis.
- ii. They will choose an educated person from the locality to be their teacher/Guruji.

- iii. They would register at the nearest panchayat or Jan Shiksha Kendra (Cluster Resource Centre) their names and that of the proposed Guruji.
- iv. Government would verify names (on the status of their being non-literate) and register the Guruji.
- v. Provide the Guruji training and teaching-learning material.
- vi. The 3 Literacy Primers would be transacted by the Guruji with his Samiti and Government would come in only for the evaluation.
- vii. In addition to the 3 Literacy Primers of National Literacy Mission (NLM), a fourth Primer (Choutha Primer) was developed by the Rajiv Gandhi Mission on Rights (land rights, gender rights, forest rights, labour rights, development rights, etc.).
- viii. The government provides for external evaluation of 100 percent of the learners as against the NLM practice of sample evaluation.
- ix. Based on the number of people who cleared the examination, the Guruji would be provided a Gurudakshina of Rs. 100 per learner as a honorarium to which the community was also free to add.

Padhna Badhna Andolan received extensive response with over 2,17,000 Padhna Samitis being set up enrolling 5.8 million persons. Out of the 51.83 lakh people enrolled, 32 lakh had completed the Third Primer and took the examination 7-9 December, 2001. 29.85 lakh cleared the examination, which was conducted openly with invitations advertised in newspapers requesting the public to witness the event.

## **b. Health Initiatives**

The Madhya Pradesh government has also undertaken a number of health sector initiatives. The major ones are listed below.

### ***i. Swasth Jeevan Sewa Guarantee Yojana***

Swasth Jeevan Sewa Guarantee Yojana aims at building community capacities, and converging financial, technical, and human resources to improve delivery of health services. The main objectives of the scheme are as follows:

- i. Improving the status of rural health care through a new agenda for community health that combines action on health indicators and determinants of health like safe drinking water supply, sanitation, nutrition and health education.
- ii. Creating a village and district-level action plan for community health to work through the Gram Swasthya Samiti and District Government.

- iii. Ensuring core components of the Swasth Jeevan Sewa Guarantee Yojana within defined time frames through inter-sectoral and collective action made by the institutional arrangement that can put together funds and human resources.
- iv. Creating community-level capacity for basic health care through a Trained Birth Attendant (Dai) and Jan Swasthya Rakshak (JSR) in each village, and training of members of Gram Swasthya Samiti and supportive service providers like Aanganwadi workers and their effective linkage with the bottom tier of health delivery.
- v. Creating a system of transparent monitoring and accountability.

The scheme provides for detailing a Village Health Plan through a People's Survey on Health that reports on current status of health and determinant services, service providers and gaps. Village level Health Plans in the form of Village Health Registers are aggregated into a District Health Action Plan, which specifies a time frame to "guarantee" identified basic services of safe drinking water supply, sanitation, nutrition, immunisation, health education, trained Traditional Birth Attendant and Jan Swasthya Rakshak and ante-natal care. Village Health Registers are to be updated annually to form the basis for the preparation of the District Health Action Plan each year. The District Health Society, acting as a agency under the District Government ensures funding and other resource support by pooling resources including private sector resource support. State Government provides for a Community Health Action Fund to respond to local health needs. The main institutional arrangements are as follows.

Gram Swasthya Samiti is a Committee of 'stakeholders' constituted by the Gram Sabha under the Panchayat Raj Act. Gram Sabha determines the number of members of the Standing Committee on Health. The number of members prescribed under the Act is 12, of which fifty percent shall belong to Scheduled Castes, Scheduled Tribes and Other Backward Classes, two third of which shall be from the Scheduled Castes, Scheduled Tribes and remaining one third from other Backward Classes. The Standing Committee on Health shall have at least one-third women members. The Health Committee under the Act has a President, elected by the Members of the Committee from amongst themselves. The President is to be elected amongst the Members belonging to Scheduled Castes, Scheduled Tribes and Other Backward Classes, Other Category and from amongst women members by rotation. The term of president shall be one year.

The Act also provides that the Health Committee shall elect from amongst the members of Gram Sabha, a Secretary by two-third majority of Members of the Committee. *If there is a resident Jan Swasthya Rakshak in the village, he shall be nominated as Secretary of the Health Committee.*

A District Health Society for the implementation of the Swasth Jeevan Sewa Guarantee Yojana and the District Community Health Action Plan has also been provided for with an Advisory Board and an Implementation Committee.

### **c. Devolution as Instrument for Poverty Eradication**

Madhya Pradesh was the first state in the country to hold elections to Panchayat Raj Institutions after the Seventy-Third Amendment of the Constitution. The Constitution Amendment provided for direct election to panchayat bodies with reservation for weaker sections like scheduled tribes, scheduled castes and women. This resulted in creating an entirely new cadre of leaders at the local level. The Table 4.9 describes the main responsibilities entrusted to the Panchayat Raj Institutions.

In Madhya Pradesh, Panchayat Raj Institutions have been complemented by other grassroots organisations. Between 1994 and 1998 several areas were carved out for direct community action. In the area of natural resources management, watershed committees for development of watersheds, joint forest management committees for management of degraded forest land, fish-workers co-operatives for management of fishing tanks and pluckers' co-operatives for management of non-timber forest produce, were set up to directly manage these activities.

### **d. Forests and Poverty Eradication**

There are over 30,000 villages in the state situated on the forest fringes. These villages constitute almost 40 percent of the total villages in the state. The tribal population of the state is about 15.4 million, 90 percent of which is living on the forest fringes. These villages are greatly dependent on forests for their livelihood and have an intimate and reciprocatory relationship with forests. It is generally understood that the biotic pressure from villagers seeking fuelwood, fodder and timber, both for their needs and for generating cash, is

the main cause of degradation of the forests. Any effort of the government could not check the increasing damage to the forests.

**Table 4.9: Devolution of Powers to Panchayats in Madhya Pradesh**

<b>Sector</b>	<b>Task</b>	<b>Powers to Panchayats</b>
Education	Primary Education	<p>Setting up new schools in response to community demand, appointing teachers, arranging for space for conducting schooling and management of all such schools set up through Education Guarantee Scheme is done by Gram Panchayats.</p> <p>All new teachers are appointed by Janpad Panchayat.</p> <p>All school buildings costing below Rs. 3 lakh are constructed by gram panchayats.</p>
	Primary and Secondary School Education	Panchayat, Janpad and District level Education Committees oversee all matters of school education like location of new schools, transfer of teachers within the district and staffing of District Institutes of Educational Training.
Health	Primary Health	<p>Panchayats recruit volunteers to become rural health practitioners or Jan Swasthya Rakshaks</p> <p>Panchayats responsible for disease surveillance and reporting epidemics</p> <p>Health Committees of Gram Panchayat, Janpad Panchayat and District Panchayat supervise all aspects of primary health management.</p>
		<p>Community-level watershed management committees undertake work with panchayat support.</p>
		<p>Powers vest with gram panchayats for supervision, issues of transit pass for forest produce.</p> <p>Community-based Joint Forest Management Committees manage degraded forests under panchayat.</p> <p>Co-operatives of pluckers manage collection of non-timber forest produce under panchayat supervision.</p>
Natural Resource Management	Watershed Management	
	Forest Management	
	Management of Water Bodies	<p>The management of water bodies and their tenancy rights vest with panchayat at all the three levels. But the ownership of these water bodies has not been transferred.</p> <p>Fishing rights vest in gram panchayats.</p>
	Management of Minor Minerals	Mining royalty rights along with tenancy rights vest with gram panchayats.

Social forestry on village lands failed to take off in Madhya Pradesh because the local people were not involved. Village councils are multi-village bodies which do not inspire confidence in every constituent village; and there is no tradition of management (protection, fresh planting and punishment to offenders) of common lands. The area available as village lands was also far less than anticipated at the project stage. In the community forestry programme of a few villages in Madhya Pradesh, it was observed the Centre for Development and Instructional Technology (CENDIT) in 1985, that there was factionalism in the villages and the poor were hardly consulted about social forestry. Government officers were mainly interested in fulfilling targets, and often adopted the line of least resistance. The panchayats were not keen to take over plantations. Often, community land was handed over to the Forest Department to avoid encroachment by the poor. The practice of the panchayat auctioning grass from such plantations reduced the availability of fodder for the poor.

As deforestation was perceived to be due to fuelwood and fodder demands of the people, it was assumed by the policy makers that given government help, people would willingly invest their labour and capital in raising fuelwood and fodder trees. However, as fuel and fodder were often collected free, farmers preferred income-generating trees, and continued to collect branches, twigs, leaves and grasses from forests as before.

The New Forest Policy announced in 1988 gives higher priority to environmental stability than to earning revenue. It discourages monocultures and prefers mixed forests. Relevant paragraphs from the policy are: "The life of tribals and other poor communities living within an near forests, revolves around forests. The rights and concessions enjoyed by them should be fully protected. Their domestic requirements of fuelwood, fodder, minor forest produce, and construction timber should be the first charge on forest produce." "... As far as possible, forest based industry should raise the raw material needed for meeting its own requirements, preferably by establishment of a direct relationship between the factory and the individuals who can grow the raw material ..."

In accordance with the guidelines of Government of India, the State Government passed a resolution in December 1991 for community participation in forest management to prevent illicit felling in sensitive forest areas and to rehabilitate degraded forests. Two types of Village Committees were prescribed:

- i. Village Forest Committees to be formed for rehabilitation of degraded forests (density upto 40 percent), and
- ii. Forest Protection Committees to be formed to protect well – wooded forests (density more than 40 percent).

The State Government resolution of 1991 proved to be a milestone in the launch of Joint Forest Management (JFM) activities. JFM activities in Harda division set the wheel of JFM in motion and it was followed in many more forest areas of the state.

In order to reduce the dependence of the villagers on forests, Village Resource Development Programme/Eco-Development Programmes have been taken up as important activity of the JFM. Eco-development is based on the belief that if forests support village development - its resources, cattle, veterinary inputs, schools, health, water, roads, etc., then the people will appreciate the role of forests and help in its protection.

Eco-development is different from social forestry in one respect, that is, it is implemented in fringe areas, whereas social forestry was generally in areas remote from forest lands. However, the two share a common assumption - if resources outside forest lands become more productive, people will give up gathering from forests. There are some success stories, but these are mostly pilot experiments, and their large-scale replication is still to be tried.

By itself, poverty alleviation does not reduce dependence on open resources. However, it may facilitate it, if combined with measures like Joint Forest Management. Here too, Joint Forest Management should not mean just giving a share from forest produce to the people. Only when people are given greater security of access to the forest products that they depend on and a sense of partnership in forest management, will have a greater motivation to ensure that the forest resource is not degraded. They will then assist or undertake the protection of the resource through regular patrolling and regulation of use. This will require fulfilling several conditions, which seem to be lacking at present in Madhya Pradesh.

To make the provisions of 1991 resolution more effective, in 1995 a revised resolution was issued by the state government which included elaborate arrangements to ensure participatory micro planning for the protection and management of forests and a clear approach for an integrated Village Resource Development Programme (VRDP). VRDP is

viewed as a complementary activity to forest protection. Women's participation was ensured by offering them 50 percent membership in Committees.

As a result of the efforts made by the state government, significant progress has been made. Out of the 8301 JFM Committees in Madhya Pradesh, 4376 are Village Forest Committees (VFC), and 3925 are Forest Protection Committees (FPC). The total area under JFM is 38,48,261 hectares. Table 4.10 provides relevant details. The aim is to cover 50 percent of the 30,000 villages situated within a five kilometre periphery of forests with JFM activity by turn of the century.

Provisions for sharing wood products to the extent of 30 percent for VFC areas and free *nistar* to FPC areas have been made. Minor forest products are already free from government royalty and free for collection and trading, except for nationalised MFP (*tendu leaves, harra, salseed, and some gums*). For people residing in villages outside the five kilometre periphery of forests, forest produce is available at market rates.

The World Bank assisted Madhya Pradesh Forestry Project has undertaken forestry development through JFM in both closed and opens (degraded) forest area. Assisted Natural Regeneration (ANR) has been taken up in well-wooded areas to promote natural regeneration. In addition, VRDP is in operation in the degraded forest areas under the MP Forestry Project. Till March 1998, 146000 ha. of forest area under ANR was covered constituting approximately 800 forest protection committees. Likewise, 290000 ha. of degraded forest land is being protected by 633 village.

**Table 4.10: Forest Committees and Forest Area Under Joint Forest Management: 1998**

Forest Circle	Forest Protection Committee		Village Forest Committee		Total	
	Numbers	Area in Hectares	Numbers	Area in Hectares	Numbers	Area in Hectares
Balaghat	133	92337	43	11840	176	104177
Betul	241	119882	42	7512	283	127394
Bhopal	124	24982	148	17091	272	42073
Bilaspur	452	319151	923	308972	1375	628123
Chhindwara	181	91016	123	44089	304	135105
Chhatarpur	54	48959	42	44358	96	93317
Durg	238	129311	157	44440	395	173751
Gwalior	5	11343	21	21645	26	32988
Hoshangabad	25	217402	136	49538	387	266940
Indore	55	31178	239	210123	294	241301
Jabalpur	238	38243	136	32369	374	70612
Jagdalpur	162	84892	20	6295	182	91187
Kanker	285	198787	139	58106	424	256893
Khandwa	122	112139	226	157071	348	269210
Rewa	47	25511	176	59433	223	84944
Raipur	363	219671	363	136589	726	356260
Sagar	110	56755	150	33986	260	90741
Shahdol	191	175772	186	122595	377	298367
Sarguja	571	203277	876	189179	1447	392456
Seoni	79	29789	61	14995	140	44784
Shivpuri	23	9808	58	20464	81	30272
Ujjain	Nil		111	17366	111	17366
<b>Total</b>						

Source: Madhya Pradesh Forest Department.

## Chapter 5: POVERTY IN MADHYA PRADESH: PRIMARY SURVEY FINDINGS

Madhya Pradesh after reorganization has 45 districts, one-fourth of which were selected as the first stage units in a three- stage sampling design, the details of which are given in Paper 2 of this report. The number of sample villages (second stage units) allotted to the 11 districts are shown in Table 5.1. The field work was conducted during October-December 2003. All the villages allotted to different sample districts were surveyed. The details of the survey guidelines and concepts and definitions are given in Annexure 2 appended to this report.

The sampling design envisaged a sample size of 8 households from stratum 1 and 2 households from stratum 2 after stratifying each sample village into two strata, the first one corresponding to the poor and the second the rest. Table 1 shows the allotted number of households and the number surveyed. There has been a shortfall in the sample size in terms of households in case of stratum 1 for the districts of Jabalpur, Tikamgarh, Guna and Sagar; the marginal decrease is due to the total number of poor households in a few villages less than the allotted number.

**Table 5.1: Number of Samples Allotted and Those Surveyed**

Districts	Number of Sample Villages		Number of Sample Households			
	Allotted	Surveyed	Stratum 1		Stratum2	
			Allotted	Surveyed	Allotted	Surveyed
Dindori	10	10	80	80	20	20
Chhattarpur	20	20	160	200	40	48
Shivpuri	22	22	176	192	44	48
Jabalpur	18	18	144	140	36	36
Tikamgarh	18	18	144	138	36	38
Katni	16	16	128	136	32	34
Dhar	24	24	192	197	48	49
Ujjain	18	18	144	157	36	40
Guna	22	22	176	147	44	43
Sagar	24	24	192	189	48	48
Balaghat	20	20	160	184	40	44
Madhya Pradesh	212	212	1696	1760	424	448

On the other hand, the increase in the number of surveyed households compared to the allotted number in stratum 1 for Chhattarpur, Shivpuri, Katni, Dhar, Ujjain and Balaghat is due to formation of more than three hamlets in respect of big villages for which the sampling plan laid down selection of two hamlets leading to double the number of sample households.

The net effect of the points described above is that the sample size for Madhya Pradesh increased from the planned 1696 households to 1760 for stratum 1 and from 424 to 448 in stratum 2.

This chapter analyses the results of the field survey findings. This chapter is divided into seven sections. In Section 2, the social and demographic characteristics are analysed. The concern of economic insecurity is analysed in the Section 3 where aspects of economic opportunities, indebtedness and migration of rural poor are examined. Section 4 analyses the livelihood issues in terms of the basic necessities of the rural households. Section 5 discusses the status and access of the publicly provided services. The ground realities with respect to pro-poor fiscal intervention strategies are analysed in Section 6. The perception of poor regarding poverty and its alleviation programmes are discussed in Section 7.

## 5.1 Social and Demographic Characteristics

Taking care of the design adopted, the estimation procedure was drawn up to provide estimates of different characteristics and ratios at the state level by applying appropriate scaling up factors on the sample observations. Table 5.2 presents four selected estimated ratios for the eleven districts in the sample.

**Table 5.2: Selected Features of the Sample Districts**

Districts	% of Poor Households	Estimated Average Household Size		Estimated Females Per 1000 males		Estimated Adult Illiteracy Rate (Percent)			
		Stratum 1	Stratum 2	Stratum 1	Stratum 2	Stratum 1		Stratum 2	
						Male	Female	Male	Female
Dindori	47	4.35	5.86	857	1132	53.10	81.31	45.32	71.51
Chattarpur	33	5.08	5.40	891	867	52.78	83.38	38.78	68.66
Shivpuri	40	5.17	5.29	751	1015	61.82	88.79	47.17	79.85
Jabalpur	58	4.47	5.71	784	821	40.82	71.82	35.95	49.51
Tikamgarh	34	5.27	6.20	815	810	52.77	89.20	36.14	66.04
Katni	48	4.53	5.45	961	694	63.99	89.42	15.65	44.06
Dhar	57	4.55	4.88	783	797	45.05	74.64	20.92	46.85
Ujjain	42	4.79	5.20	807	841	39.63	64.68	14.03	33.93
Guna	30	5.33	6.57	693	864	83.31	94.33	60.44	79.48
Sagar	33	5.01	5.80	802	769	46.19	81.09	32.47	73.50
Balaghat	70	4.56	4.46	915	821	27.58	47.15	13.71	28.36

The percentage of poor households to total households varies widely from 30 in Guna to 70 in Balaghat. It is observed that for seven districts out of eleven, this percentage is 40 or above, including three above 50, a dismal picture indeed for the state.

The estimated average household size varies from 4.35 in Dindori to 5.33 in Guna in stratum 1. Except for Balaghat, the household size in stratum 2 is much higher in all the districts than in stratum 1.

Except for Katni and Balaghat, the sex ratio among the poor households is below 900. This ratio is very low for Guna (693), Shivpuri (751) and Dhar (783). In general, stratum 2 also reflects the same feature but special mention may be made about Dindori and Shivpuri where more females are reported than males.

The poor households are disadvantaged on account of fairly high male illiteracy, particularly in Guna (83 percent), Katni (64 percent) and Shivpuri (62 percent). Besides, gender inequality in the field of education is very much pronounced in stratum 1, the female illiteracy rate being very high with seven out of eleven districts reporting above 80 percent illiteracy. This regressive nature is also evidenced by female illiteracy rates in stratum 2 though in a slightly lesser form (six districts reporting above 70 percent).

## 5.2 State Results

### a. Demographic Profile

#### i. Age-Sex Distribution

About 14 percent of the population are children in the age group 0-6. Taking into account the pre adults and children (30 percent) in the age group 6-18, the aggregate in 0-18 accounts for about 44 percent of the total population in stratum 1. Females are proportionately more in the 18-45 group than in the age group of 6-18 years.

Compared to this, 40 percent of the total population in stratum 2 are in age group 0-18 and the sex wise distributions are slightly more equitable.

**Table 5.3: Percentage Distribution of Population by Sex and by Age Groups**

Age Group	Stratum 1			Stratum 2		
	Male	Female	Person	Male	Female	Person
0-6	14.02	13.73	13.88	12.68	13.31	12.97
6-18	30.81	28.47	29.75	27.84	26.45	27.20
18-45	39.54	44.43	41.76	41.55	43.15	42.28
45-60	11.99	9.83	11.01	11.63	11.60	11.61
60+	3.64	3.54	3.60	6.31	5.49	5.93
<b>All</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

**ii. Sex Ratio**

The number of females per 1000 males for the State is 837, adults reporting 861 and children 805 indicating a situation not favouring women (Table 5.4).

**Table 5.4: Sex Ratio Among Adults and Children**

	<b>Stratum 1</b>	<b>Stratum 2</b>	<b>Combined</b>
Adults	867	856	861
Children	779	829	805
Combined	828	845	837
Children per 1000 adults	774	671	716

Considering the two strata, the sex ratio of 828 in stratum 1 is less than that of stratum 2 (845). It is observed that a very low sex ratio for children is obtaining for stratum 1. This feature is contrary to that noted in respect of Chhattisgarh. The number of children per thousand adults, an index for indicating the dependency stress shows the poor households having more of responsibility in bringing up the children than the households in stratum 2.

### **5.3 Economic Opportunities, Indebtedness and Migration of Rural Poor**

Apart from eliciting demographic information, for each member of the sample household, information of economic activities was also collected, e.g., usual activity status and whether he/she is engaged in any economic activity or is a non-working income recipient. The earners were subsequently queried as to their respective occupations and incomes thereof.

**a. Activity Status and Income**

Information on the usual activity status during last 365 days preceding the date of survey for all the members of the sample households were collected. Table 5.5 shows three categories, viz., (i) employed (working), (ii) unemployed (available for work), and (iii) not on the labour force (neither willing nor available for work). Sex-wise distributions are given to probe into the status with respect to disposition of their time throughout the reference year.

In stratum 1, 42 percent of the males are employed as compared to 34 percent of the females. Unemployment rate is very high, 11 percent for males and 13 percent for females; these rates are much less in stratum 2. The proportion of the males in the category `not in the

labour force' (46 percent), ignoring strata, is commensurate with the features pointed out earlier that about 41 to 45 percent are in age group 0-18 about 4 to 6 percent in 60+ group. Considering the fact that women are by and large engaged in household chores, the proportion (53 percent) of females in stratum 1 in 'not in labour force' is not surprising even though it is higher than in stratum 2 (49 percent).

**Table 5.5: Distribution of Estimated Number of Person by Usual Activity Status by Sex and by Strata**

Usual Activity Status Code	(Percent)					
	Male		Female		Combined	
	Stratum 1	Stratum 2	Stratum 1	Stratum 2	Stratum 1	Stratum 2
Employed	42.42	49.67	34.04	31.07	38.62	41.16
Unemployed	11.41	3.67	12.82	5.05	12.04	4.30
Not in labor force	45.73	46.30	52.59	63.68	48.84	54.26
Not Specified	0.45	0.36	0.56	0.20	0.50	0.29
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

It may be interesting to note the nature of employment and the types of occupation rural people are engaged and average annual incomes accruing from their respective occupations. The percentage distributions of number of persons reporting 'paid employment' and those reporting 'self-employment' are presented in Table 5.6. In stratum 1, agricultural labourers form the bulk (86 percent) of those engaged in paid employment. The rest are distributed over a dozen other occupations in very small proportions. This shows that the scope of paid employment is limited in scope and either economic opportunities are absent or not sufficient to attract a larger number of poor people. The average annual income per agricultural worker is a meager Rs. 5046.

There are many paid- employment occupations yielding more than double the income of agricultural labourers but the fact that negligible proportions are involved in such occupations reveal that there is lack of such opportunities.

Among those self-employed among the poor households, 85 percent are small cultivators with average annual income at Rs. 7290. About 6 percent, engaged as big cultivators, have a much higher annual income at Rs. 9902. Non-household industry attracting only 2.25 percent of households yields an average annual income of only Rs. 3273.

**Table 5.6: Occupation and Income Profile**

Occupation Category	Paid Employment		Self-Employment	
	No. of Person (% Share)	Per Worker Income (In Rs.)	No. of Person (% Share)	Per Worker Income (In Rs.)
<b>Stratum 1</b>				
Agricultural labourer	85.72	5046.35	2.57	7617.05
Cultivators Small	0.00	0.00	84.88	7290.29
Cultivators Big	0.00	0.00	5.71	9902.25
Livestock & Fishermen	0.16	6005.55	0.97	5407.58
Forest based tribals	1.87	1323.97	0.67	3273.45
Mining & quarrying	0.51	10526.67	0.13	3006.07
Household Industry	0.35	6778.26	0.95	11508.37
Non Household Industry	0.78	6962.77	2.25	3219.05
Construction	1.92	7772.31	0.03	40000.00
Electricity, Water, Gas	0.10	5376.60	0.02	0.00
Retail Trade	0.32	10907.05	0.01	20000.00
Transport, Storage & Communication	0.16	11584.73	0.00	
Hotel, Restaurant, Dhabas	0.09	12462.50	0.09	8000.00
Financial service provider	0.11	6028.88	0.00	
Community, other service provider	0.41	4899.90	0.00	
Other different from above	7.51	7748.63	1.73	6035.98
<b>Total</b>	<b>100</b>	<b>5245.51</b>	<b>100</b>	<b>7337.72</b>
<b>Stratum 2</b>				
Agricultural labourer	64.82	5414.61	1.67	20846.67
Cultivators Small	0.00	0.00	46.26	18655.33
Cultivators Big	0.00	0.00	44.96	30286.57
Livestock & Fishermen	0.00	0.00	4.29	12583.90
Forest based tribals	2.16	0.00	0.00	
Mining & quarrying	0.12	144000.00	0.09	27000.00
Household Industry	0.12	12600.00	0.98	15094.72
Non Household Industry	0.43	30899.15	0.00	
Construction	0.88	8391.33	0.10	12000.00
Electricity, Water, Gas	0.00	0.00	0.00	#DIV/0!
Retail Trade	2.34	0.00	0.60	43502.49
Transport, Storage & Communication	0.13	10000.00	0.00	
Hotel, Restaurant, Dhabas	0.00	0.00	0.00	
Financial service provider	0.00		0.00	
Community, other service provider	1.09	26141.87	0.00	
Other different from above	27.59	24577.19	1.05	13028.50
<b>Total</b>	<b>99.68</b>	<b>11780.66</b>	<b>100.00</b>	<b>23716.78</b>
<b>Combined</b>				
Agricultural labourer	77.67	5055.07	1.99	14783.91
Cultivators Small	1.50	3609.60	59.99	12940.38
Cultivators Big	0.12	8724.39	31.01	28953.32
Livestock & Fishermen	0.11	6005.55	3.11	11792.51
Forest based tribals	1.96	1375.17	0.24	3273.45
Mining & quarrying	0.39	23416.93	0.10	16362.53
Household Industry	0.28	7518.87	0.97	13842.08
Non Household Industry	0.67	11702.86	0.80	3219.05
Construction	1.60	7877.37	0.07	15901.36
Electricity, Water, Gas	0.16	12022.47	0.01	18000.00
Retail Trade	0.94	29254.80	0.39	43221.09
Transport, Storage & Communication	0.15	11153.56	0.00	
Hotel, Restaurant, Dhabas	0.06	12462.50	0.03	8000.00
Financial service provider	0.08	6028.88	0.00	
Community, other service provider	0.62	16372.42	0.00	
Other different from above	13.69	18188.84	1.29	9702.90
<b>Total</b>	<b>100.00</b>	<b>5,363.68</b>	<b>100.00</b>	<b>8,169.96</b>

On an average, a self-employed person in a poor household earns Rs. 7338 annually as compared to Rs. 5246 earned by the person in paid employment. The results clearly show that for stratum 2 households, self-employment is much more viable proposition than those in stratum 1. Average income of Rs. 23716 for stratum 2 in self-employment is more than three times that of the self-employed in stratum 1.

### b. Village Industries

Viewed in the light of the usual activity status of the households in the rural sector, it would be interesting to analyse the types of village industries available in villages classified by the size of the village determined by the number of households. Table 5.7 presents the relative proportions of the number of establishments in these industries in terms of percentages for each size of the village. It may be noted that animal husbandry includes also poultry and piggery. Agro-based industries and mills include food processing, papad making, and oil mills. 76 percent of the establishments belong to animal husbandry and 8 percent to agro-based industries and mills. With respect to the size of the village, the same feature of animal husbandry claiming the maximum proportion of establishments is noticed over different sizes. No systematic pattern is observed for any type of industry with the size of the village. The proportion of establishments of each of blacksmiths, carpenters or basket weaving hovers around 4 percent whether the village is big or small.

**Table 5.7: Size of Village and the Type of Village Industries**

Size of Village by Number of Households	(Percent)						
	Blacksmiths	Carpentry	Basket Making	Animal Husbandry	Agro-Based Industries and Mills	Others	Total
Upto 49	0.88	2.32	0.82	91.22	4.75	0.00	100
50-100	5.49	5.81	11.84	49.90	14.97	11.98	100
101-150	8.20	10.19	2.39	57.92	14.00	7.31	100
151-200	5.97	4.05	2.19	69.80	10.20	7.79	100
201-250	2.50	1.69	2.41	86.49	6.91	0.00	100
251 & Above	2.52	2.73	4.07	83.47	6.03	1.18	100
Not Specified	36.36	18.18	36.36	0.00	9.09	0.00	100
<b>Total</b>	<b>4.10</b>	<b>4.29</b>	<b>4.21</b>	<b>76.47</b>	<b>8.22</b>	<b>2.72</b>	<b>100</b>

### c. Out-Migration

Lack of opportunities, uncertainties in both paid and self-employment and the poverty in general to accept whatever employment is available outside the village are some of the 'push' factors for the rural folk. Table 5.8 gives the reasons for out-migration as well as the places they migrate to, culled for the combined population of poor and the rest.

**Table 5.8: Reasons for Out-Migration**

	(Percent)
<b>Share of HH Reporting Migration</b>	2.68
<b>Distribution of HH Member Migrating for</b>	
Regular salaried job	18.46
Work in urban informal sector	19.24
Education	3.35
Marriage	4.47
Casual work in Agriculture	22.04
Others	32.44
<b>Total</b>	<b>100.00</b>
<b>Distribution of HH Member Migrating to</b>	
Nearby Town	21.1
Nearby City	49.7
Nearby Villages	3.4
Others	25.8
<b>Total</b>	<b>100.00</b>

In Madhya Pradesh, only 2.68 percent of the households reported migration of their members to places outside the villages, as compared to 10.43 percent in Chhattisgarh. The reasons for migration are, however, varied. 22 percent left for casual work in agriculture, 19 percent for work in urban informal sector and 18 percent went for regular salaried jobs. For 32 percent of the households reporting out-migration, the reasons were not specified.

While no details were given as to the destination for 25.8 percent, nearby cities attracted about half of the migrants with 21 percent going to nearby towns.

#### **d. Income Distribution and Incidence of Indebtedness**

In order to obtain income of a household, information was sought for the various sources of income through a structured set of items. The annual income from paid employment was obtained for each earner in the household. The annual income from self-employment was obtained by the value of output after discounting the portion given to landlord as wages or given to labour as wages was further corrected for the input cost. To the aggregate of income from paid and self-employment was added the income from rent, interest, dividend and income from pensions, scholarships, stipends etc to arrive at the annual income of a household.

Table 5.9 gives the percentage distributions of households and the share of indebted households by per capita income class (obtained by dividing the annual income by the household size).

**Table 5.9: Distribution of Households According to Per Capita Income Classes and Indebtedness**

Per Capita Income Class	(Percent)					
	Stratum 1		Stratum 2		Combined	
	Distribution of Households	Share of Indebted Households	Distribution of Households	Share of Indebted Households	Distribution of Households	Share of Indebted Households
Less than Rs. 1,500	2.46	26.18	1.33	0.01	1.68	0.01
Rs. 1,500 - 2,500	28.05	26.77	5.57	24.10	16.51	26.30
Rs. 2,500 - 3,500	35.81	23.11	21.21	17.12	28.31	20.81
Rs. 3,500 - 4,500	20.43	16.96	14.82	16.18	17.55	16.62
Rs. 4,500 - 5,500	7.16	21.87	14.11	16.23	10.73	18.06
Rs. 5,500 - 6,500	1.80	22.26	9.48	11.58	5.75	13.21
Rs. 6,500 - 8,000	2.53	28.20	8.71	12.83	5.71	16.14
Rs. 8,000 – 10,000	1.03	26.01	7.10	4.42	4.15	7.04
Rs. 10,000 – 12,500	0.34	31.20	7.54	17.72	4.04	18.27
Rs. 12,500 – 15,000	0.18	20.48	3.43	22.70	1.85	22.60
More than Rs. 15,000	0.09	6.82	6.97	11.47	3.63	11.41
Not Specified	0.10	-	0.12	-	0.11	-
<b>Total</b>	<b>100</b>	<b>22.99</b>	<b>100</b>	<b>15.29</b>	<b>100</b>	<b>19.04</b>
<b>Average PCI</b>	<b>3,041</b>		<b>6,015</b>		<b>4,672</b>	

A heavily skewed income distribution comes to notice for the poor households with 30 percent of households having per capita income of less than Rs. 2500 per year, 66 percent below Rs. 3500 and 86 percent below Rs. 4500. In other words, every three out of ten households subsist on a per capita monthly income of less than Rs. 208, two out of three households survive anyhow on per capita monthly income less than Rs. 292. Merging the lower small income ranges, 87 percent of the poor households have per capita income less than Rs. 4500 that is, Rs. 375 monthly. At the other end, only 0.70 percent has per capita annual income of Rs. 10000 or more.

In view of paltry incomes, it is not surprising to note that the incidence of indebtedness, as defined by the percentage of households taking loan, is 23 percent. The share of indebted households is 26 to 27 percent at the lower end but increases marginally to 28 to 31 percent in some of the income groups after Rs. 6500.

As against 0.70 percent in stratum 1, it is observed that in stratum 2, 18 percent earn Rs. 10000 or more. However, in stratum 2 about 43 percent have to survive on annual per capita income of Rs. 4500. Of the total households on an average, 15 percent are indebted; over the income groups, in general, this ratio is less than that in stratum 1. It will be interesting to ascertain the incidence of the debt on various income groups. For this purpose, per household amount of outstanding debt is computed and given in Table 5.10.

**Table 5.10: The Per Household Amount of Outstanding Debt Across Income Classes**

Per Capita Income Class	(Rupees)		
	Per Household Debt		
	Stratum 1	Stratum 2	Combined
Less than Rs. 1,000	2,000		2,000
Rs. 1,000 - 1,500	2,959	10,000	4,586
Rs. 1,500 - 2,500	3,706	4,293	3,799
Rs. 2,500 - 3,500	2,828	5,587	3,701
Rs. 3,500 - 4,500	2,602	2,643	2,619
Rs. 4,500 - 5,500	3,943	13,195	9,557
Rs. 5,500 - 6,500	2,931	8,613	7,151
Rs. 6,500 - 8,000	5,052	20,319	14,563
Rs. 8,000 – 10,000	5,075	28,143	17,800
Rs. 10,000 – 12,500	1,777	6,093	5,792
Rs. 12,500 – 15,000	7,000	124,936	119,833
More than Rs. 15,000	-	21,864	21,700
<b>Total</b>	<b>3,258</b>	<b>14,939</b>	<b>8,075</b>

Table 5.11 shows that the per household amount of debt ranges from Rs. 1777 to Rs. 7000 over the income groups, the amount between Rs. 2000 to Rs. 3943 upto per capita income less than Rs. 6500 and thereafter increasing to Rs. 5075 upto per capita income less than Rs. 10000.

**Table 5.11: Distribution of Households Across Source and Purpose of Borrowing**

	Distribution of Households	The Share of Agricultural Loan	Loans for Other Purposes	Total
<b>Stratum 1</b>				
Government	0.87	85.57	14.43	100
Development Corporation	0.81	100.00	-	100
Banks	6.03	30.12	69.88	100
Cooperative Society	2.72	28.68	71.32	100
Village Moneylenders	51.97	32.46	67.54	100
Private Banks	1.06	91.96	8.04	100
Relatives/Neighbours	36.53	24.06	75.94	100
<b>Total</b>	<b>100.00</b>	<b>33.67</b>	<b>66.33</b>	<b>100</b>
<b>Stratum 2</b>				
Government	0.29			100
Development Corporation	1.87	100.00		100
Banks	14.85	64.01	35.99	100
Cooperative Society	12.37	91.63	8.37	100
Village Moneylenders	43.62	55.07	44.93	100
Private Banks	0.51			100
Relatives/Neighbours	26.49	55.31	44.69	100
<b>Total</b>	<b>100.00</b>	<b>78.22</b>	<b>21.78</b>	<b>100</b>
<b>Combined</b>				
Government	0.63	85.57	14.43	100
Development Corporation	1.25	100	-	100
Banks	9.68	60.22	39.78	100
Cooperative Society	6.72	90.11	9.89	100
Village Moneylenders	48.51	44.39	55.61	100
Private Banks	0.83	87.49	12.51	100
Relatives/Neighbours	32.37	37.50	62.50	100
<b>Total</b>	<b>100</b>	<b>70.41</b>	<b>29.59</b>	<b>100</b>

The average amount of per household outstanding debt is Rs. 3258 in stratum 1 compared to a very high Rs. 14939 for stratum 2. Over the income ranges, the amount in stratum 2 is much higher than in stratum 1.

**e. Source and Purpose of Borrowing**

The households in either stratum borrow from whatever sources that are available in the countryside. 52 percent of the poor households borrow from the village moneylenders for purposes, which are mostly (68 percent) other than agricultural. Next in order, come relatives/neighbours who become the source for funds for 36 percent of the number of indebted households. In this case too, 76 percent of the loans taken are for purposes other than agricultural. It is observed that loans from government, Development Corporations and Private Banks are mostly for agricultural purposes.

Taking all the sources together, one-third of the loans are for agricultural purposes and the remaining two-third for other purposes in stratum 1 against 78 percent and 22 percent respectively in stratum 2.

**5.4 Livelihood Issues: Access to Food and other Basic Necessities**

The major reason of poverty in rural areas has been lack of employment and income. This has led to non-availability of basic necessities including food and drinking water. A picture of stark poverty emerges from Table 5.12 where we have compiled some key features of stratum 1, the most vulnerable sections of rural society, in Madhya Pradesh. The average household size in this stratum is 4.75 while the per capita annual income is Rs 3041.32. The latter is slightly greater than the per capita annual expenditure, which stands at Rs.3007. The percentage of expenditure spent on food is as high as 71.02 percent. About 14 percent of the households are unable to provide food for themselves throughout the year. The reason behind this phenomenon lies in the fact that only 63.53 percent of the households possess a blue ration card (BPL) indicating the significantly inadequate coverage of the vulnerable sections of the society under the regime of Targeted PDS. While 89.92 percent of the households have access to PDS, an equally high proportion of households (83.90 percent) depend on the market for food purchases.

**Table 5.12: Stratum 1: The Key Characteristics**

	(Percent)
Average Household Size	4.75
Per Capita Annual Income	3041.32
Per Capita Annual Expenditure	3007.10
Average share of food to total expenditure	71.02
Percentage of Household Accessing food from the PDS	89.92
Percentage of Household Accessing food from the Market	83.90
Percentage of Household holding blue ration card	63.53
Percentage of Households below official poverty line	84.69
Percentage of households electrified	19.49
Percentage of Households having drinking water facilities within premises	3.20
Percentage of Households getting food throughout the year	86.12

According to the updated poverty line, 84.69 percent of households in this stratum can be classified as poor. The percentage of households having water facilities within premises (3.20 percent) and that electrified (19.49 percent) also reflects the striking absence of basic facilities for the rural poor.

Given the status of the most vulnerable group, *viz.*, stratum 1 in Table 5.12, we move on to discuss the livelihood issues in greater detail in a comparative framework between stratum and stratum 2. As evident from Table 5.13, the average size of the households in stratum 1 is lower at 4.75 than that of stratum 2 at 5.55. However, in the lower tail of the MPCE class, average household size is much larger in both the strata compared to the higher end of the MPCE class. This also implies larger dependency ratio of households in the lower end of the MPCE class, as presumably per household earning members in the lower end are not significantly higher than the upper end of the MPCE class.

The distribution of households across MPCE class reveals that 84.79 percent of the households in Madhya Pradesh remains below the updated poverty line, which falls within the MPCE class 300-355. However, in stratum 2, the percentage of households falling below poverty line is 44.86 percent. The share of food expenditure in total expenditure remains as high as 71 percent for the households below the updated poverty line in case of stratum 1 and 66 percent in stratum 2.

**Table 5.13: Average Size, Distribution and Expenditure According to MPCE Classes of Households**

<b>MPCE</b>	<b>Average Household Size</b>	<b>% Distribution of Households</b>	<b>% Distribution of Total Expenditure</b>	<b>Share of Food to Total Expenditure</b>
<b>Stratum 1</b>				
Less than Rs. 190	5.68	21.28	15.55	69.99
Rs. 190 - 210	5.42	10.52	9.59	66.28
Rs. 210 - 235	5.09	12.92	12.20	64.98
Rs. 235 - 265	4.84	11.02	11.15	67.98
Rs. 265 - 300	4.55	13.37	14.42	63.68
Rs. 300 - 355	4.21	15.58	17.87	95.39
Rs. 355 - 455	3.76	10.40	12.91	59.59
Rs. 455 - 560	2.84	2.29	2.70	92.04
Rs. 560 - 650	2.89	1.22	1.75	45.60
Rs. 650 - 750	1.96	0.23	0.27	47.94
Rs. 750 - 1,000	1.74	0.70	0.83	61.13
More than Rs. 1,000	1.99	0.37	0.75	30.88
Not Specified		0.10	-	
<b>Total</b>	<b>4.75</b>	<b>100</b>	<b>100</b>	<b>71.02</b>
<b>Stratum 2</b>				
Less than Rs. 190	7.51	6.94	3.87	77.13
Rs. 190 - 210	5.00	1.76	0.80	64.70
Rs. 210 - 235	6.67	7.74	5.12	68.17
Rs. 235 - 265	7.09	5.36	4.29	63.57
Rs. 265 - 300	6.90	6.82	5.90	60.82
Rs. 300 - 355	5.53	16.24	13.27	62.38
Rs. 355 - 455	5.17	22.23	20.58	73.86
Rs. 455 - 560	4.38	12.63	12.74	52.38
Rs. 560 - 650	4.86	7.12	9.37	49.26
Rs. 650 - 750	4.09	4.73	6.04	47.17
Rs. 750 - 1,000	4.69	4.56	8.24	38.32
More than Rs. 1,000	3.57	3.75	9.79	25.14
Not Specified		0.12	-	
<b>Total</b>	<b>5.5</b>	<b>100</b>	<b>100</b>	<b>56.59</b>
<b>Combined</b>				
Less than Rs. 190	6.15	13.92	7.79	72.34
Rs. 190 - 210	5.36	6.02	3.75	66.05
Rs. 210 - 235	5.70	10.26	7.50	66.42
Rs. 235 - 265	5.61	8.11	6.60	66.07
Rs. 265 - 300	5.37	10.00	8.77	62.40
Rs. 300 - 355	4.90	15.92	14.82	75.76
Rs. 355 - 455	4.74	16.48	18.00	70.42
Rs. 455 - 560	4.15	7.60	9.36	56.22
Rs. 560 - 650	4.59	4.25	6.81	48.94
Rs. 650 - 750	4.00	2.54	4.10	47.19
Rs. 750 - 1,000	4.32	2.68	5.75	39.43
More than Rs. 1,000	3.43	2.11	6.75	25.35
Not Specified	-	0.11	-	
<b>Total</b>	<b>5.12</b>	<b>100.00</b>	<b>100.00</b>	<b>61.44</b>

In order to examine the spread and coverage of PDS, we have examined the percentage of households accessing PDS vis-à-vis markets in both the strata. Also to find out the coverage of targeted PDS, which is based on the principle that poor is not a homogeneous

group and appropriate fiscal intervention is required to support the most vulnerable groups among the poor, the scheme of coloured ration card was introduced by various states including Madhya Pradesh. The colour of the ration card differentiates various categories within poor. Table 5.14 shows that 90 percent of the households in stratum 1 and 65 percent of the households in stratum 2 access PDS. When it comes to the question of accessing market, 96 percent of households in stratum 2 and 84 percent in stratum 1 depend on market. The distribution of households according to the colour of ration cards shown in Table 5.15 reveals that the coverage is not total even in the case of stratum 1, which is 95 percent. However, in the higher end of the MPCE class in stratum 1, the coverage is 100 percent. It can also be seen from the table that 64 percent of the households possess blue ration card in stratum 1 and 24 percent of the households possess pink ration card in stratum 2. In stratum 2, the PDS coverage is at 70 percent, which is much lower than that of stratum 1.

**Table 5.14: Percentage of Households Accessing PDS and Market as Per MPCE Class**

MPCE	(Percent)					
	Stratum 1	Stratum 2	Combined	Stratum 1	Stratum 2	Combined
Less than Rs. 190	91.08	68.48	85.29	72.37	93.86	77.88
Rs. 190 – 210	89.36	39.11	81.81	80.74	88.22	81.86
Rs. 210 – 235	90.27	72.57	83.42	80.19	98.54	87.30
Rs. 235 – 265	86.23	56.13	76.02	87.28	100.00	91.59
Rs. 265 – 300	93.55	71.17	85.72	93.18	100.00	95.57
Rs. 300 – 355	89.24	70.58	79.46	88.73	96.64	92.87
Rs. 355 – 455	87.84	61.03	69.26	90.72	94.19	93.13
Rs. 455 – 560	91.84	65.93	69.73	88.39	96.09	94.96
Rs. 560 – 650	94.51	57.77	62.89	96.65	97.21	97.13
Rs. 650 – 750	100.00	57.74	59.63	100.00	91.32	91.71
Rs. 750 - 1,000	67.01	75.96	74.83	100.00	96.77	97.18
More than Rs. 1,000	100.00	50.33	54.61	21.21	89.32	83.46
Not Specified	100.00	100.00	100.00	100.00	100.00	100.00
<b>Total</b>	<b>89.92</b>	<b>64.59</b>	<b>76.91</b>	<b>83.90</b>	<b>95.76</b>	<b>89.99</b>

As is well known, another method of government intervention in the provision of basic necessities is fuel. Although in rural India, the provision of subsidized fuel is maintained through kerosene, the other subsidies on fuel like subsidized LPG remains out of reach of the rural poor and thus they remain excluded from these benefits. It can be seen from Table 5.16 that 99 percent of the households in stratum 1 use kerosene, and 94 percent, in stratum 2. The corresponding shares of expenditure are 59.5 and 23.5 percent of the total expenditure on fuel respectively. Another major use as per type of fuel is wood. However, it should be noted that the value of wood is derived on the basis of the market value of wood. Given this limitation regarding the valuation for wood, per household monthly expenditure

on fuel according to the type of fuel used is given in Table 5.16. It can be seen from Table 5.17 that per household monthly expenditure on fuel is Rs. 183 in stratum 2 which is almost 2.5 times higher than that of stratum 1.

**Table 5.15: Distribution of Households According to the Colour of Ration Cards**

MPCE	Blue	Yellow	White	Green	Pink	(Percent)	
						Not Specified	Total
<b>Stratum 1</b>							
Less than Rs. 190	62.45	21.56	1.97	7.87	0.62	2.47	98
Rs. 190 – 210	64.09	20.15	3.74	3.83	2.93	3.44	97
Rs. 210 – 235	64.81	18.41	5.42	8.16	0.90	1.82	98
Rs. 235 – 265	63.01	16.47	4.26	5.59	0.05	7.99	92
Rs. 265 – 300	58.58	19.94	1.62	9.42	0.85	5.21	95
Rs. 300 – 355	67.43	15.15	1.71	6.41	0.97	5.74	94
Rs. 355 – 455	63.78	15.01	5.08	4.14	0.65	9.20	91
Rs. 455 – 560	68.54	23.35	-	0.85	0.23	0.75	99
Rs. 560 – 650	74.84	17.52	-	-	4.27	-	100
Rs. 650 – 750	63.17	-	-	36.83	-	-	100
Rs. 750 - 1,000	20.01	13.14	13.66	17.63	-	2.55	97
More than Rs. 1,000	92.54	5.24	-	-	2.22	-	100
Not Specified							-
<b>Total</b>	<b>63.53</b>	<b>18.35</b>	<b>3.09</b>	<b>6.67</b>	<b>0.96</b>	<b>4.59</b>	<b>95</b>
<b>Stratum 2</b>							
Less than Rs. 190	7.41	6.90	20.87	9.62	3.86	48.02	52
Rs. 190 – 210	37.89	3.20	20.12	-	2.54	28.12	72
Rs. 210 – 235	10.69	10.04	26.97	2.36	13.23	27.03	73
Rs. 235 – 265	23.95	-	37.21	4.36	1.44	23.47	77
Rs. 265 – 300	27.03	6.66	25.01	7.98	12.36	16.60	83
Rs. 300 – 355	26.45	1.54	36.98	3.95	10.17	16.30	84
Rs. 355 – 455	4.94	2.70	51.91	5.00	6.44	26.29	74
Rs. 455 – 560	7.02	3.05	29.93	-	20.11	32.27	68
Rs. 560 – 650	5.40	0.68	33.83	7.70	3.20	46.93	53
Rs. 650 – 750	1.79	2.02	38.62	8.68	13.86	35.03	65
Rs. 750 - 1,000	5.33	0.98	48.89	20.69	11.43	5.00	95
More than Rs. 1,000	10.63	9.43	15.27	-	23.71	30.28	70
Not Specified	100.00	-	-	-	-	-	100
<b>Total</b>	<b>12.65</b>	<b>3.55</b>	<b>35.96</b>	<b>5.28</b>	<b>10.17</b>	<b>27.24</b>	<b>73</b>

**Table 5.16: Percentage of Households According to the Type of Fuel Use and the Corresponding Share of Expenditure**

Type of Fuel	Share of Households		Share of Expenditure	
	Stratum 1	Stratum 2	Stratum 1	Stratum 2
Kerosene	98.94	93.86	59.52	23.45
Cow Dung	3.44	5.60	0.62	0.54
Wood	27.09	30.04	17.71	12.90
Twigs, Dry leaves	2.07	3.75	0.66	0.84
Electricity	18.85	52.00	20.50	41.08
Diesel	0.23	4.49	0.34	11.50
Gas	0.28	10.99	0.56	9.40
Other	0.51	1.37	0.11	0.29

**Table 5.17: Per Household Monthly Expenditure on Fuel According to Type of Fuel**

Type of Fuel	Per Capita Expenditure	
	Stratum 1	Stratum 2
Kerosene	43.31	42.91
Cow Dung	0.45	1.00
Wood	12.89	23.60
Twigs, Dry leaves	0.48	1.53
Electricity	14.92	75.15
Diesel	0.25	21.04
Gas	0.40	17.20
Other	0.08	0.53
<b>Total</b>	<b>72.78</b>	<b>182.96</b>

The percentage of households electrified and the type of connection given in Table 5.18 reveal that in stratum 1 and stratum 2, the percentage of electrified households in total households are 20 and 23 percent respectively. Though the percentage of households electrified in stratum 2 is more than that of stratum 1, a very low share of electrified households indicates that the spread of rural electrification is quite thin with a poor coverage. When we look at the type of connection in the ‘legal’ and ‘illegal’ category, it becomes evident that almost 82 percent of the connections are legal, though the share of legal connection is lower in stratum 1 than in stratum 2.

**Table 5.18: Percentage of Households Electrified and the Type of Connection**

	% of Houses Electrified	Type of Connection		
		Legal	Illegal	Total
Stratum 1	19.49	77.44	22.56	100
Stratum 2	23.11	85.49	14.51	100
Combined	21.18	81.56	18.44	100

Another important aspect of the access issue is the provision of water supply at village level. Water availability in rural India should be judged both in terms of the provision of water for daily use especially the provision of safe drinking water, and also that of irrigation facilities. With regard to the question of safe drinking water, we have examined the source of drinking water and distance from dwelling, spread of publicly provided water supply system and a time use survey with respect to the collection of water.

The sharp contrast with respect to the availability of water between strata is evident from the Table 5.19. The percentage of households having safe drinking water facilities within premises in stratum 1 is only 3.20 percent when the same ratio is as high as 17 percent in case of stratum 2. However, in stratum 1, households having drinking water facilities within 100 meters of the premises are 67 percent in stratum 1 and 48 percent in stratum 2. In both strata taken together, more than 7 percent of the total households access water between half to more than 1-km. distance. The table indicates clearly the predominant use of public handpumps across distance from dwelling among various sources of drinking water.

**Table 5.19: Source of Drinking Water and Distance from Dwelling**

	(Percent)				
	Within Premises	Less than 100 Mtrs.	Between 100 to 500 Mtrs.	Between Half to 1 Km.	More than 1 Km.
<b>Percentage of Total Households: Stratum 1</b>					
Own well	1.23	1.37	0.92	0.13	-
Own tap	1.80	-	0.04	-	-
Own handpump	0.04	0.18	0.11	-	-
Public well	-	6.71	5.49	0.80	0.24
Public tap	-	2.84	1.97	-	-
Public handpump	-	55.23	18.03	1.76	0.31
Tank	-	0.01	0.01	-	-
Others	0.13	0.07	0.08	0.29	-
<b>Total</b>	<b>3.20</b>	<b>66.42</b>	<b>26.66</b>	<b>2.98</b>	<b>0.55</b>
<b>Percentage of Total Households: Stratum 2</b>					
Own well	7.82	1.39	2.29	0.09	0.23
Own tap	4.87	0.22	-	-	-
Own handpump	2.24	1.30	-	-	-
Public well	1.75	6.57	6.59	0.49	-
Public tap	0.18	1.60	2.21	-	-
Public handpump	-	34.96	19.71	3.37	0.15
Tank	-	0.13	0.13	-	-
Others	-	1.48	-	0.23	-
<b>Total</b>	<b>16.86</b>	<b>47.65</b>	<b>30.93</b>	<b>4.17</b>	<b>0.38</b>

**Table 5.20: Spread of Public Water Sources According to Distance**

	(Percent)					Total
	Within Premises	Less than 100 Mtrs.	Between 100 to 500 Mtrs.	Between Half to 1 Km.	More than 1 Km.	
Public well		52.52	42.21	4.46	0.81	100
Public tap		52.28	47.72	-	-	100
Public handpump		67.37	28.40	3.88	0.34	100
<b>Total</b>		<b>64.10</b>	<b>31.72</b>	<b>3.78</b>	<b>0.40</b>	<b>100</b>

The spread of public water sources according to distance shows that more than 64 percent of the total public water supply sources are less than 100 meters away from the premises of rural households and 31.72 percent of the public water supply system is between

100 to 500 metres reflecting reasonably good coverage of households to have access to the public water supply system. However, how effectively the public water supply system works is an issue that requires deeper probing. The time use survey conducted on the time spent in accessing water shows that 80 percent of the households in stratum 1 spend less than one hour time in fetching water when the same ratio goes down to 72 percent in stratum 2.

**Table 5.21: Distribution of Households by Time Spent on Collection of Water**

						(Percent)
	Less than 1 hour	Between 1 to 2 hours	Between 2 to 4 hours	More than 4 hours	Not Reported	Total
Stratum 1	80.22	14.26	2.08	2.11	1.33	100
Stratum 2	72.22	18.81	3.41	1.70	3.85	100

## 5.5 Public Service Delivery: The Status and Access

In the last section, we have discussed the public service delivery like PDS and water supply. This section focuses on other important public services like the provision of education, especially primary education, and health care services. Table 5.22 provides the status of education among adults and children in male and female categories across strata. Educational status is classified into three categories, *viz.*, 'can read and write', 'read only' and 'can't read and write'. As can be seen from the table, across gender, literacy rate among the adults is much higher in stratum 2 compared to stratum 1. In stratum 1, more than 47 percent of the adult males fall in the 'can't read and write' category and the same ratio is 33 percent in stratum 2. The differences in the adult female literacy achievement across strata show that compared to males, the disparities in differences are much higher in case of female with 24.61 percent literate in the category of 'can read and write' in stratum 1 and 38.21 percent in stratum 2.

In case of children's educational status also, one would find that there are disparities across gender but not to a significant extent across strata. However, the disparities are much lower in case of children compared to adults. The percentage of children in stratum 1, who fall in the category of 'can read and write', is 80.46 percent, with male children at 82 percent and female children at 79 percent. In the case of stratum 2, these ratios are 80.88, 85.05 and 75.74 percent respectively.

**Table 5.22: Adult and Children Education Status: By Sex and Stratum**

	(Percent)		
<b>Adults</b>	<b>Stratum 1</b>	<b>Stratum 2</b>	<b>Combined</b>
<b>Adult Education Status: By Sex and Stratum</b>			
<b>Male</b>			
Can Read and Write	50.95	65.85	59.38
Read Only	1.87	1.08	1.42
Can't Read and Write	47.19	33.07	39.20
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>
<b>Female</b>			
Can Read and Write	24.64	38.21	32.28
Read Only	2.85	2.15	2.46
Can't Read and Write	72.51	59.64	65.26
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100.00</b>
<b>Persons</b>			
Can Read and Write	38.78	53.14	46.88
Read Only	2.32	1.57	1.90
Can't Read and Write	58.90	45.29	51.22
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>
<b>Children's Education Status: By Sex and Stratum</b>			
<b>Children</b>	<b>Stratum 1</b>	<b>Stratum 2</b>	<b>Combined</b>
<b>Male</b>			
Can Read and Write	81.98	85.05	83.59
Read Only	2.72	0.79	1.71
Can't Read and Write	15.30	14.16	14.70
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>
<b>Female</b>			
Can Read and Write	78.51	75.74	77.03
Read Only	3.90	5.22	4.60
Can't Read and Write	17.59	19.04	18.36
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>
<b>Persons</b>			
Can Read and Write	80.46	80.88	80.68
Read Only	3.23	2.77	2.99
Can't Read and Write	16.30	16.35	16.33
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

The distribution of children not attending schools by sex, reasons and strata are given in Table 5.23. Shortage of finance is the principal reason for children not able to continue education across strata. However, among the list of reasons, the reason that 80 percent of the children are not able to continue education in stratum 1 is lack of finance. The same ratio is 56 percent in stratum 2. The other major reason in stratum 2 for children not able to continue education is the pressure to have to earn for the family. Also around 6 percent of the students in stratum 1 do not go to the schools due to lack of interest in education.

**Table 5.23: Distribution of Children not Attending School by Sex, Reason and Strata**

Reasons	(Percent)								
	Stratum 1			Stratum 2			Combined		
	Male	Female	Persons	Male	Female	Persons	Male	Female	Persons
Shortage of Finance	80.96	78.31	79.70	57.32	52.62	55.36	68.98	66.87	68.03
School is too far	2.82	4.81	3.77	9.22	12.16	10.44	6.06	8.09	6.97
Poor quality in affordable school	0.69	-	0.36	-	-	-	0.34	-	0.19
Discontinued after marriage	0.11	0.72	0.40	-	-	-	0.05	0.40	0.21
Have to do household work	0.50	1.20	0.83	2.11	-	1.23	1.31	0.66	1.02
Have to earn for family	1.82	6.12	3.87	23.21	33.65	27.56	12.66	18.38	15.22
No interest	5.24	-	2.74	-	1.57	0.65	2.58	0.70	1.74
Not specified	7.87	8.84	8.33	8.14	-	4.75	8.00	4.90	6.62
<b>Total</b>	<b>100</b>								

In order to examine whether the distance of school from the place of residence is a significant factor in terms of regular attendance to the school, we have examined the relationship between distance and attendance. It can be seen from the Table 5.24, that there is no clear relationship between the two. If we take the attendance in the last two classes of attendance, i.e., '0-80 to 1' and 'equal to 1' in stratum 1, it explains 62 percent of the attendance when the school is less than 1 km away. At the same time, it also explains 70 percent of the attendance when the school distance is between 2 to 5 km. In other words, school distance does not matter when it comes to the question of attending the school. A similar pattern is also observed in the case of Chhattisgarh. However, it needs to be emphasised that this finding is not an argument to have lower school density in rural Madhya Pradesh.

Regarding the reasons for adults not continuing education, the shortage of finance again comes out to be a significant factor in stratum 1 compared to stratum 2 (Table 5.25). Apart from this, the pressure of supporting the family income through earning also comes out to be a very important explanatory factor. No interest in education also remains a major problem in imparting adult educational programmes at the village level.

The distribution of adults by sex and highest level of education achieved, shown in Table 5.26, reveals that they are not a homogeneous group having wide differences across the level of education achieved and current enrolment as per the level and category of education. As can be seen from the table, the major share of the literate adults fall in the category of less than class 5 to class 12 category in both the strata. However, when we look at the retention

rate according to each of these categories of education, it reveals that 73.48 percent of the non-professional graduates among males are continuing education and 49.04 percent among females. In other words, the pattern of currently enrolled pupils shows a dismal retention rate across educational status except for the non-professional graduates.

**Table 5.24: Distribution of Children by Attending School by Distance and Strata**

Attendance Last Week	Less Than 1 Km.	1-2 Km.	2-5 Km.	More Than 5 Km.
<b>Stratum 1</b>				
Less than 0.20	2.59	0.89	0.00	0.00
0.20 to 0.40	0.88	1.16	0.00	0.00
0.40 to 0.60	4.30	4.30	3.16	7.02
0.60 to 0.80	30.33	33.40	37.29	27.04
0.80 to 1.00	27.66	23.59	30.61	38.41
Equal to 1.00	34.24	36.65	28.94	27.53
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>Stratum 2</b>				
Less than 0.20	1.97	0.00	0.00	0.60
0.20 to 0.40	0.42	1.64	2.15	0.00
0.40 to 0.60	2.03	0.00	2.48	1.02
0.60 to 0.80	27.55	33.58	34.29	39.03
0.80 to 1.00	28.14	35.85	41.92	38.29
Equal to 1.00	39.88	28.93	19.16	21.05
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>Combined</b>				
Less than 0.20	2.26	0.56	0.00	0.42
0.20 to 0.40	0.64	1.34	1.44	0.00
0.40 to 0.60	3.09	2.68	2.70	2.83
0.60 to 0.80	28.84	33.47	35.29	35.42
0.80 to 1.00	27.92	28.21	38.16	38.33
Equal to 1.00	37.26	33.74	22.41	23.01
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

**Table 5.25: Distribution of Number of Adults not Attending School by Sex, Reason and Strata**

Reasons	(Percent)								
	Stratum 1			Stratum 2			Combined		
	Male	Female	Persons	Male	Female	Persons	Male	Female	Persons
Shortage of Finance	33.24	29.39	31.46	14.81	14.18	14.52	22.96	20.88	22.00
School is too far	0.96	2.29	1.57	1.88	1.29	1.61	1.47	1.73	1.59
Poor quality in affordable school	0.32	0.14	0.24	0.51	0.53	0.52	0.42	0.36	0.39
Discontinued after marriage	1.97	4.25	3.02	3.56	9.11	6.13	2.86	6.97	4.76
Have to do household work	6.91	34.70	19.72	7.93	45.43	25.28	7.48	40.70	22.83
Have to earn for family	39.52	11.74	26.71	46.01	6.75	27.84	43.14	8.94	27.35
No interest	12.48	14.42	13.37	19.88	18.92	19.44	16.61	16.94	16.76
Others	3.41	1.40	2.48	3.93	2.26	3.16	3.70	1.88	2.86
Not specified	1.18	1.68	1.41	1.49	1.54	1.52	1.36	1.60	1.47
<b>Total</b>	<b>100</b>								

**Table 5.26: Distribution of Number of Adults by Sex by Highest Level of Education Achieved**

Educational Status	(Percent)					
	Male		Female		Persons	
	Literacy Status	Currently Enrolled (%)	Literacy Status	Currently Enrolled (%)	Literacy Status	Currently Enrolled (%)
Less than class 5	16.19	0.95	16.30	0.24	16.24	0.62
Class 6 to 8	18.37	1.67	12.56	1.19	15.69	1.49
Class 9 to 10	12.70	8.17	4.19	7.05	8.77	7.92
Class 10 to 12	5.68	6.82	1.88	5.40	3.92	6.51
Professional graduate	1.25	-	0.17	-	0.75	-
Non Professional graduate	0.52	73.48	0.09	49.04	0.32	70.49
Post graduate	0.72	0.37	0.02	-	0.39	0.36
Prof. Cert/diploma	0.39	-	-	-	0.21	-
Others	0.13	-	0.54	-	0.32	-
Not specified	44.05	0.40	64.26	0.26	53.38	0.32
<b>Total</b>	<b>100</b>	<b>2.45</b>	<b>100</b>	<b>0.79</b>	<b>100</b>	<b>1.69</b>

The primary survey investigated the benefit incidence of government programmes in education by stratum in scholarship, free books, midday-meal schemes and others. In case of stratum 1, the percentage of school going children receiving benefit exceeds 100 percent. In other words, this implies enjoyment of multiple benefits obtained by a significant number of students. In case of stratum 2, the percentage of children receiving benefits is 85.41 percent. It is also to be noted that distribution of the nature of benefits reveals that the mid-day meal scheme is the most predominant form of benefit received by the school going children followed by free books and scholarships. The benefit in the form of free uniform is only 3 percent and negligible in stratum 1 and stratum 2 respectively. The distribution of expenditure across benefit also reveals that the major share of expenditure is on mid day meal schemes.

The distribution of benefit across strata reveals that more than 65 percent of the total benefit goes to the children belong to stratum 1 and the rest goes to stratum 2 (Table 5.28). The per capita expenditure benefit across strata reveals that per capita expenditure benefit is higher in stratum 1 than in stratum 2 (Table 5.27) indicating progressive benefit distribution.

**Table 5.27: Benefit Incidence of Government Programme in Education:  
State Wise Estimates By Stratum**

Type of Benefits	Stratum 1		Stratum 2		Combined	
	No. Benefiting (Percentage Share)	Expenditure Dist. Across Benefits	No. Benefiting (Percentage Share)	Expenditure Dist. Across Benefits	No. Benefiting (Percentage Share)	Expenditure Dist. Across Benefits
Scholarship	20.36	28.54	19.11	25.75	19.88	27.57
Free Books	36.66	21.51	37.49	26.89	36.98	23.38
Free Uniform	3.09	1.00	3.68	0.37	3.32	0.78
Midday Meal	34.73	47.60	31.77	46.49	33.58	47.21
Others	5.16	1.36	7.95	0.50	6.24	1.06
Total	100	100	100	100	100	100
As % to School Going Children	151.22		85.41		116.51	
Per Capita Expenditure Benefit		122.38		103.33		115.01
Benefit Excl. MM as % to School Going Children	98.71		17.68		76.80	

**Table 5.28: Expenditure Benefit Across Stratum**

Type of Benefits	Stratum 1	Stratum 2	Total
Scholarship	67.57	32.43	100
Free Books	60.05	39.95	100
Free Uniform	83.40	16.60	100
Midday Meal	65.81	34.19	100
Others	83.60	16.40	100
Total	65.27	34.73	100

### a. Health

The provision of public health services and its access have significant benefit spillovers in terms of improvement in human development and human poverty index. As we are dealing with the broader concept of poverty including not only the calorie deprivation but also deprivation of opportunities in terms of basic necessities like health and education, we have examined in detail the provision of health services in rural Madhya Pradesh vis-à-vis private health care facilities. Issues examined in this perspective are the pattern of health service seeking behaviour, the cost of consultation as per the use of type of health services, health expenditure across MPCE class and the status of antenatal care services in rural Madhya Pradesh.

Before we discuss the survey findings it should be mentioned that Madhya Pradesh has a rural health infrastructure with 8835 sub health centres, 1194 primary health centres, 229 community health centres and 36 districts hospitals. The Third Human Development Report of Madhya Pradesh has reported the gap in the rural health infrastructure where an additional 1689 sub health centres, 497 primary health centres, 199 community health centre

and 9 more district hospitals are to be added to meet the demand for the provision of public health services in rural Madhya Pradesh<sup>12</sup>.

Given these supply-side bottlenecks in the provision of public health facilities, the survey enquired about the health service seeking behaviour of households based on the nature of consultation with various health service providers during the last one year. It can be seen from Table 5.29 that more than 75 percent of the rural households seek medical help from primary health centres, followed by private doctors, quacks and health workers. However, there is a large proportion of households who seek the service of the category called ‘others’ in both the strata, which among other providers include mobile dispensary, maternity centre, indigenous practitioners, faith healers, and chemists.

**Table 5.29: Households by Type of Health Service Seeking Behaviour**

	<b>Stratum 1</b>	<b>Stratum 2</b>
Health Worker	13.92	13.49
PHC	75.38	72.49
Private Doctor	31.69	45.28
Jhola chhap quack	20.31	23.64
Others	57.35	42.58
Not specified	1.35	2.52

Note: This is as a percentage of total households.

The spread of average consultation cost in stratum 1 for these health service providers is presented in Table 5.30. The modal value of average consultation fee is relatively higher in stratum 2 than in stratum 1 with respect to private doctors. For the quacks, 27 percent pay less than Rs. 10 in stratum 1 and 8 percent in stratum 2. It is also to be noted that around 57 percent of the households pay less than Rs. 10 in stratum 1 for health workers. However, in the same category, the share is much lower at around 19 percent in stratum 2.

Table 5.31 reveals the distribution of households reporting illness across MPCE class, corresponding health expenditure across medicine, doctors and others<sup>13</sup>, the per household health expenditure and the share of health expenditure in total expenditure of households. If we look at the MPCE class wise distribution of households reporting illness, it becomes

<sup>12</sup> Third Human Development Report Madhya Pradesh (2002), pp.70-71.

<sup>13</sup> Other medical expenditure comprises of hospital charges, expenditure on account of X-ray and various other diagnostic tests.

evident that more than 98 percent of the households below the updated poverty line reported illness during the last one year in stratum 1 and 97 percent in stratum 2. At the higher end of the MPCE classes in both the strata, the reporting is 100 percent. When we look at the structure of health expenditure, the bulk of the expenditure (more than two third of the total health expenditure) goes to medicine followed by others and doctors in both the strata. It is also to be noted that per household health expenditure increases across MPCE class in both the strata. The average per household annual health expenditure in stratum 1 is Rs. 879 compared to Rs. 1475 in stratum 2. When we look at the share of health expenditure in total expenditure, it is much higher at more than 6 percent in stratum 1 and 5 percent in stratum 2.

**Table 5.30: Distribution of Households as Per Average Consultation Cost and Type of Health Service**

	< Rs. 10	Rs. 10-19	Rs. 20-29	Rs. 30-49	'Rs. 50+	Total
<b>Stratum 1</b>						
Health Worker	56.91	10.00	13.39	14.57	5.13	100.00
PHC	36.34	21.55	25.56	5.77	10.78	100.00
Private Doctor	31.34	22.17	14.13	14.10	18.26	100.00
Jhola chhap quack	27.40	27.03	34.30	7.03	4.25	100.00
Others	44.48	17.78	22.85	6.23	8.65	100.00
Not specified	34.60	7.34	29.85	1.14	27.06	100.00
	< Rs. 10	Rs. 10-19	Rs. 20-29	Rs. 30-49	'Rs. 50+	Total
<b>Stratum 2</b>						
Health Worker	18.82	10.06	45.49	15.41	10.22	100.00
PHC	21.32	15.73	37.55	10.07	15.33	100.00
Private Doctor	18.92	18.09	33.81	15.18	14.00	100.00
Jhola chhap quack	7.77	11.95	62.99	11.57	5.72	100.00
Others	23.44	25.58	29.70	6.21	15.06	100.00
Not specified	1.36	-	30.62	41.55	26.47	100.00
	< Rs. 10	Rs. 10-19	Rs. 20-29	Rs. 30-49	'Rs. 50+	Total
<b>Combined</b>						
Health Worker	37.50	10.03	29.75	15.00	7.72	100.00
PHC	28.70	18.59	31.66	7.96	13.10	100.00
Private Doctor	23.81	19.70	26.06	14.75	15.68	100.00
Jhola chhap quack	16.66	18.78	49.99	9.51	5.05	100.00
Others	35.28	21.19	25.84	6.23	11.46	100.00
Not specified	13.20	2.62	30.35	27.15	26.68	100.00

**Table 5.31: Distribution of Households and Health Expenditure Across MPCE Classes**

MPCE	% of Households Reporting Illness in Total	Distribution of Households Reporting Illness	Structure of Health Expenditure				Per Household Health Expenditure Reported in Rs.	% to Total Expenditure
			Medicines	Doctors	Others	Total		
<b>Stratum 1</b>								
Less than Rs. 190	97.39	21.12	69.03	14.08	16.88	100.0	494.16	4.61
Rs. 190 – 210	98.09	10.52	66.87	16.15	16.99	100.0	705.58	5.32
Rs. 210 – 235	99.94	13.16	67.97	14.73	17.29	100.0	708.54	5.25
Rs. 235 – 265	98.00	11.01	67.46	13.31	19.23	100.0	781.29	5.30
Rs. 265 – 300	98.12	13.37	64.74	14.01	21.25	100.0	855.69	5.45
Rs. 300 – 355	98.97	15.72	63.76	11.22	25.02	100.0	1,084.79	6.56
Rs. 355 – 455	97.19	10.30	55.71	22.87	21.42	100.0	1,271.33	6.97
Rs. 455 – 560	100.00	2.34	63.38	11.65	24.97	100.0	1,594.52	9.48
Rs. 560 – 650	100.00	1.24	66.94	9.89	23.18	100.0	4,255.05	20.68
Rs. 650 – 750	100.00	0.24	38.60	9.78	51.62	100.0	898.40	5.50
Rs. 750 - 1,000	70.72	0.50	63.38	11.44	25.18	100.0	1,756.07	7.31
More than Rs. 1,000	100.00	0.38	65.36	3.74	30.90	100.0	1,035.62	3.62
Not Specified	100.00	0.10	62.50	37.50	-	100.0	800.00	
<b>Total</b>	<b>98.11</b>	<b>100.00</b>	<b>64.50</b>	<b>14.58</b>	<b>20.92</b>	<b>100.0</b>	<b>879.54</b>	<b>6.04</b>
<b>Stratum 2</b>								
Less than Rs. 190	100.00	7.10	59.18	9.14	31.68	100.0	1,030.75	6.92
Rs. 190 – 210	100.00	1.80	60.15	21.40	18.45	100.0	444.00	3.67
Rs. 210 – 235	97.89	7.74	63.28	8.17	28.55	100.0	1,335.49	7.40
Rs. 235 – 265	97.79	5.36	73.86	10.44	15.70	100.0	1,464.50	6.69
Rs. 265 – 300	96.69	6.74	69.59	14.28	16.13	100.0	1,313.44	5.49
Rs. 300 – 355	97.89	16.26	73.52	13.18	13.30	100.0	1,231.17	5.52
Rs. 355 – 455	96.73	21.99	74.24	11.23	14.54	100.0	1,316.68	5.15
Rs. 455 – 560	96.97	12.52	63.33	13.31	23.36	100.0	1,239.17	4.46
Rs. 560 – 650	100.00	7.29	69.60	13.37	17.03	100.0	2,264.14	6.44
Rs. 650 – 750	100.00	4.83	74.38	13.18	12.45	100.0	1,753.33	5.13
Rs. 750 - 1,000	94.62	4.41	56.41	16.16	27.44	100.0	2,982.20	5.84
More than Rs. 1,000	100.00	3.83	64.81	14.37	20.82	100.0	2,504.24	3.59
Not Specified	100.00	0.12	86.67	-	13.33	100.0	1,500.00	
<b>Total</b>	<b>97.79</b>	<b>100.00</b>	<b>68.41</b>	<b>12.57</b>	<b>19.02</b>	<b>100.0</b>	<b>1,475.57</b>	<b>5.40</b>

Another area of health services, where there is active government intervention is the reproductive and child health services (RCH). The RCH programme in general and ante-natal care services in particular is said to have salutary effect on family planning (Mishra, *et. al.* (1998), Pandey, *et. al.* (2002). Another thrust area of RCH programme is to encourage deliveries under the supervision of trained health professional (Pandey, *et. al.* 2004). The national population policy also specified achieving 80 percent institutional deliveries and 100 percent deliveries by trained health professionals by 2010 as its socioeconomic goal. The survey probed into the status of RCH programme by examining the status of anti-natal care services and type of assistance sought during deliveries.

During last pregnancy, the clinical consultation of currently married women as per the number of visits shown in Table 5.32 brings out the fact that the distribution in both in stratum 1 and stratum 2 are concentrated around two and three visits respectively. The

corresponding shares in stratum 1 are at 50.42 and 24.98 percent respectively. The distribution of the type of consultation providers reveals that in the single consultation class, it is mostly the untrained and trained dai whose services were sought (Table 5.33). In case of two consultation class, the number of women visiting trained dai constituted more than 53 percent in stratum 1 and 48 percent in stratum 2. If we consider ‘other’ as a category in this, the share goes up further.

**Table 5.32: Percentage Distribution of Currently Married Women During Last Pregnancy by Number of Visits**

No. of Visit	Frequency Stratum 1	Frequency Stratum 2	Frequency Combined
1	7.01	16.28	11.91
2	50.42	25.41	37.21
3	24.98	29.84	27.55
4	7.08	19.93	13.87
5 or more	10.51	8.55	9.47
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>

**Table 5.33: Percentage of Currently Married Women Seeking Different Types of Consultation During Last Pregnancy by Each Category of Number of Visits**

No. of Visit	Doctor	Nurse	Trained dai	Untrained dai	Others	NS	Total
<b>Stratum 1</b>							
1	2.40	0.00	30.22	53.59	9.07	4.72	100.00
2	5.53	9.83	53.33	24.74	2.06	4.50	100.00
3	2.73	5.80	66.08	10.52	0.00	14.86	100.00
4	0.00	0.00	60.25	32.77	0.00	6.98	100.00
5 or more	36.04	14.74	28.95	5.97	0.00	14.30	100.00
<b>Total</b>	<b>7.43</b>	<b>7.95</b>	<b>52.82</b>	<b>21.81</b>	<b>1.68</b>	<b>8.31</b>	<b>100.00</b>
<b>Stratum 2</b>							
1	21.81	0.00	39.02	39.17	0.00	0.00	100.00
2	0.00	6.98	48.20	44.82	0.00	0.00	100.00
3	0.00	19.59	21.95	42.47	0.00	15.98	100.00
4	0.00	22.56	12.30	65.14	0.00	0.00	100.00
5 or more	0.00	0.00	100.00	0.00	0.00	0.00	100.00
<b>Total</b>	<b>3.55</b>	<b>12.11</b>	<b>36.15</b>	<b>43.42</b>	<b>0.00</b>	<b>4.77</b>	<b>100.00</b>
<b>Combined</b>							
1	16.42	0.00	36.58	43.18	2.52	1.31	100.00
2	3.54	8.80	51.48	31.99	1.32	2.88	100.00
3	1.17	13.69	40.83	28.81	0.00	15.50	100.00
4	0.00	17.13	23.84	57.35	0.00	1.68	100.00
5 or more	18.86	7.71	62.83	3.12	0.00	7.48	100.00
<b>Total</b>	<b>5.38</b>	<b>10.15</b>	<b>44.01</b>	<b>33.23</b>	<b>0.79</b>	<b>6.44</b>	<b>100.00</b>

Note: NS - Not Specified.

It can further be inferred that in the class of 5 or more visits, the nature of consultation is mostly with trained professionals like nurses and doctors. However, when we look at the aggregate, 22 percent of currently married women sought the help of untrained dai in stratum 1 and the same ratio is even higher in stratum 2. Based on National Family Health Survey 2 data, Roy, Kulkarni and Vaidehi (2004), while analysing the pattern of utilisation of Ante-natal care services and the delivery status (safe/unsafe) across socioeconomic groups, found extreme inequality in these states with regard to utilisation of these services.

#### **b. Connectivity and the Rural Poor**

The impact of rural connectivity primarily in terms of road and other means has an important bearing on poverty. The empirical research in this context in various developing countries revealed that better connectivity, especially road connectivity, has positive influence on the reduction of poverty. With this objective in mind, the survey examined the status of connectivity in rural Madhya Pradesh. It can be seen from Table 5.34 that with respect to road connectivity, in Madhya Pradesh around 62 percent of the total villages remain connected with the rest of the state throughout the year. However, 28 percent of the villages remain cut off from the rest of the state in certain seasons of the year.

**Table 5.34: Village Road Connectivity**

	(Percent)
Throughout the year	61.39
During certain seasons	28.24
Not specified	10.38
<b>Total</b>	<b>100</b>

In terms of other infrastructure, mainly publicly provided, the study examined the status of the rural villages in Madhya Pradesh. In terms of infrastructural facilities, the state represents a dismal status. As can be seen from Table 5.35 that for more than 64 percent of the villages, the bus stand is more than 2 km away from the place of residence. Similar distance is observed in the case of other facilities like ration shop, pucca road, post office, commercial banks etc. In respect of the distance in terms of primary and maternity health centre, on an average, 80 percent of the villages report location beyond 2 kms. The secondary and higher educational institutions also remain distantly located for more than 85 percent of the villages.

**Table 5.35: Distribution Villages According to Various Infrastructure Facilities by Distance**

Facilities	(Percent)					Total
	< 0.5 Km.	0.5-1 Km.	1-2 Km.	> 2 Km.	Not Specified	
Bus Stand	25.74	3.31	3.84	64.30	2.81	100
Ration shop	37.06	5.46	3.97	52.51	1.00	100
Pucca Road	30.25	3.83	5.27	60.18	0.47	100
Highway	9.60	2.12	0.58	84.36	3.34	100
Railway Station	2.43	1.15	0.23	94.10	2.10	100
Post Office	16.67	3.12	4.16	75.19	0.86	100
Commercial Bank	5.89	0.81	1.96	89.51	1.83	100
Primary Health Centre	15.19	3.06	5.16	76.12	0.47	100
Maternity Health Centre	4.16	1.93	2.15	90.86	0.88	100
Sub-divisional Hospital	4.36	1.13	1.02	88.21	5.27	100
Divisional Hospital	0.00	0.60	0.00	95.05	4.35	100
Medical College	0.00	0.00	0.76	96.41	2.83	100
Irrigation Canal	4.78	2.78	0.27	36.88	55.29	100
Sr. Sec. College	4.71	2.07	1.98	84.99	6.26	100
Polytechnic	0.92	0.76	0.29	57.52	40.51	100
Vocational degree college	0.64	0.00	0.00	93.41	5.94	100
Degree college	0.64	0.76	0.00	94.72	3.87	100
University headquarters	0.00	0.00	2.21	94.74	3.05	100
Dist. Head quarter	0.64	0.00	0.00	96.01	3.35	100
<b>Total</b>	<b>8.62</b>	<b>1.73</b>	<b>1.78</b>	<b>80.27</b>	<b>7.60</b>	<b>100</b>

The cost of travel across MPCE class reveals that cost of travel is an increasing function of MPCE class across strata. The share of travel expenditure in total expenditure is more than 5 percent in both the strata. However, when we look at the per household average monthly travel expenditure, it is Rs. 66 in stratum 1 and Rs. 118 in stratum 2. In regard to various means of connectivity, stark differences emerge between strata, where stratum 2 has better access to various modern means of connectivity than stratum 1. The percentage of households using various means of connectivity brings out the fact that maximum number of households has access to radio, which is around 39 percent in both the strata. However, it is to be noted that in stratum 2, 39 percent of the households have access to television. The total use exceeding 100 percent indicate that there has been multiple use of these means of connectivity by single households. The use of newspapers in rural Madhya Pradesh is dismally low in stratum 1 at around 5 percent, and in stratum 2, at more than 14 percent.

**Table 5.36: Cost of Travel Across MPCE Class**

(In Rs.)

MPCE	Stratum 1		Stratum 2		Combined	
	Per Household Cost of Travel	% to Total Expenditure	Per Household Cost of Travel	% to Total Expenditure	Per Household Cost of Travel	% to Total Expenditure
Less than Rs. 190	58.22	6.69	84.56	6.82	64.97	6.73
Rs. 190 – 210	50.91	4.69	57.72	5.72	51.93	4.84
Rs. 210 – 235	52.93	4.71	50.87	3.45	52.13	4.14
Rs. 235 – 265	57.01	4.73	89.79	5.03	68.14	4.86
Rs. 265 – 300	54.22	4.22	110.70	5.75	73.99	4.90
Rs. 300 – 355	75.23	5.51	70.86	3.89	72.94	4.55
Rs. 355 – 455	72.18	4.89	83.49	4.05	80.01	4.25
Rs. 455 – 560	66.63	4.75	126.81	5.65	117.98	5.56
Rs. 560 – 650	64.61	3.77	154.80	5.28	142.23	5.15
Rs. 650 – 750	49.11	3.61	104.61	3.68	102.12	3.67
Rs. 750 – 1,000	60.31	4.26	314.90	7.83	282.55	7.65
More than Rs. 1,000	442.19	18.55	516.66	8.89	510.25	9.25
Not Specified	50.00		-		21.73	
<b>Total</b>	<b>61.89</b>	<b>5.20</b>	<b>118.97</b>	<b>5.34</b>	<b>91.20</b>	<b>5.30</b>

**Table 5.37: Percentage of Households Reporting Use of Means of Connectivity**

	(Percent)		
	Stratum 1	Stratum 2	Combined
Post Office	22.03	25.98	24.06
Telephone booth	21.19	40.75	31.23
Television	18.50	39.87	29.47
Radio	38.95	38.20	38.56
Newspaper	4.81	14.29	9.68
Internet	0.06	-	0.03
<b>Total</b>	<b>105.53</b>	<b>159.09</b>	<b>133.03</b>

## 5.6 Pro-Poor Fiscal Intervention: The Ground Realities

As it has been mentioned in the report earlier that there has been various pro-poor direct fiscal interventions made by the government in the form direct income support, subsidies, employment generation schemes and schemes for other basic necessities across states. These schemes are in the form of various centrally sponsored schemes or state schemes. Most of these schemes are generally implemented through the district development agencies or Panchayats. The survey asked about the functioning of some of these important schemes at village level (Table 5.38). The information gathered through the village level questionnaire provides us with detailed information on the functioning of these schemes. As can be seen from the table, various forms in which the village community participates in these schemes are through the formation of people's groups, mobilising labour time of people, community monetary contribution, capacity building and others. However, it should be noted that, the percentage of panchayats not participating in these schemes is much higher

in the state of Madhya Pradesh compared to neighbouring state like Chhattisgarh. In respect of one of the most common schemes like *Anganbadi*, 47 percent of the panchayats are not participating in Madhya Pradesh.

**Table 5.38: Role of Panchayat in Implementation of Various Government Schemes**

	Initiating	Formation of People's Group	Mobilising Labour Time of People	Community Monetary Contribution	Capacity Building	Others	(Percent)	
							Not Participating	Total
Swarna Jayanti Rozgar Yojana	8.74	5.85	8.37	0.00	0.00	1.66	75.38	100
Jawahar Gram Samridhi Yojana	15.41	5.38	7.87	1.10	2.13	1.60	66.51	100
Sampurna Gramin Rozgar Yojana	7.95	3.53	6.01	0.00	1.38	0.00	81.14	100
Pradhan Mantri Gramodhaya Yojana	3.42	2.62	2.24	0.00	0.63	0.59	90.50	100
Pradhan Mantri Gram Sadak Yojana	4.01	2.15	3.33	0.45	1.27	0.76	88.03	100
PM Rural Drinking Water Project	3.24	3.21	0.77	1.40	0.89	0.30	90.18	100
Anganwadi	19.42	4.52	0.00	4.20	0.71	24.47	46.69	100
Balika Samridhi	9.46	2.89	0.00	7.30	0.64	14.36	65.35	100
Bal Poshahar	9.15	3.67	0.96	7.61	0.00	12.70	65.90	100
Widow Pension	26.11	4.00	0.00	0.00	0.51	16.47	52.91	100
Kisan(old age) pension	13.23	3.41	0.00	9.35	0.00	16.94	57.06	100
Others	2.51	1.37	0.93	1.62	0.64	7.13	85.80	100

When we look at the percentage of households benefited through the government schemes, it is only around 9 percent in stratum 1 and more than 3 percent in stratum 2. Among the benefits, cash benefit is the most dominating one. In stratum 1, more than 81 percent of the total benefit was in the form of cash benefit, followed by benefits given for the improvement of living condition and temporary employment. From the nature of benefits which is dominated by cash, it becomes evident that these are transitory in nature, which does not have permanent influence in raising rural income and thereby reduction in poverty. Restructuring and rationalising these streams of benefits to help improve the village social and economic infrastructure and raise the income opportunities would make a more permanent dent on poverty.

**Table 5.39: Households Benefiting from Government Schemes and Nature of Benefits**

	(Percent)	
	Stratum 1	Stratum 2
% of households Benefiting	8.93	3.42
Nature of Benefit (in %)		
Temporary Employment	29.01	18.1
Regular Employment	4.36	0.0
Improvement in living Condition	40.11	27.4
Cash Benefit	81.47	78.0
Food Grains	2.74	0.0
Augment Infrastructure	1.77	12.2
Others	0.00	0.00

The distribution of households reporting to have received government benefits across MPCE class is presented in Table 5.40. MPCE classwise distribution of benefits reflects a progressive pattern of distribution. Out of total households in stratum 1 reporting benefits received from the government, 85 percents of the households fall below the updated poverty line which falls in MPCE class upto Rs. 355. However, in case of stratum 2, the distribution criterion is relatively less progressive, where in only little more than 30 percent of the total households below the poverty line receive the benefits. As already mentioned the percentage of households receiving benefits in stratum 2 is much less compared to stratum 1 and the distribution criteria being regressive, the vulnerable groups within stratum 2 remain out of the net of fiscal benefits given by the government.

**Table 5.40: Distribution of Households Reporting Benefit and Its Nature by MPCE Class**

MPCE	Distribution of Households Reporting	Distribution of Benefits	Distribution of Households Reporting	Distribution of Benefits
	Stratum 1		Stratum 2	
Less than Rs. 190	24.31	28.34	3.19	3.76
Rs. 190 – 210	8.92	7.77	0.00	0.00
Rs. 210 – 235	16.05	15.84	20.69	17.41
Rs. 235 – 265	6.78	7.23	0.00	0.00
Rs. 265 – 300	17.77	16.18	8.65	5.10
Rs. 300 – 355	11.66	10.78	0.00	0.00
Rs. 355 – 455	7.35	6.75	8.46	9.71
Rs. 455 – 560	5.42	5.08	9.35	5.51
Rs. 560 – 650	0.00	0.00	18.52	21.83
Rs. 650 – 750	0.00	0.00	0.00	0
Rs. 750 - 1,000	0.00	0.00	26.64	31.40
More than Rs. 1,000	1.74	2.03	4.49	5.29
Not Specified	0.00	0.00	0.00	0
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

#### **a. Sensitivity of Public Representatives**

Apart from the direct fiscal interventions, the sensitivity of public representatives towards their constituency should have a profound influence on rural development. Though it is extremely difficult to judge the sensitivity of public representatives vis-à-vis their respective constituencies, as a crude measure we have examined their frequency of visits and also the nature of development activities initiated through MP and MLA local area development funds. It can be seen from Table 5.41, more than 31 percent of the visits fall in the category of more than one year in the case of visits of MP implying that 69 percent of villages were not visited by there MPs even once in a year. In case of MLA's visit, more than 42 percent of the visits fall within the category of more than one year. What is most striking

is that in both case both of MPs and MLAs, a large chunk of the rural population failed to specify anything about the visits of their representatives to their villages.

**Table 5.41: Frequency of Visits of Public Representatives to Rural Areas**

	(Percent)
<b>Frequency of Visits by Member of Parliament</b>	
Once in a Month	1.79
Once in Six Month	2.37
Once in a Year	4.15
More than one year	31.50
Not Able to Specify	60.20
<b>Total</b>	<b>100</b>
<b>Frequency of Visits by Member of Legislative Assembly</b>	
Once in a Month	1.86
Once in Six Month	5.43
Once in a Year	8.55
More than one year	42.89
Not Able to Specify	41.26
<b>Total</b>	<b>100</b>

The nature of development schemes run by the public representatives, broadly classified, in Table 5.42, reveals that these are in the nature of raising the village infrastructure by the provision of public water supply, village roads, community hall etc. As can be seen from table, more than 75 percent of the villages could not report the nature of any development schemes run by their respective representatives either by the MPs or MLAs. Among the other schemes reported, these are mostly concentrated in the construction of rural roads (12.05 percent), followed by public hand pumps (6.25 percent) and community halls (4.04 percent).

**Table 5.42: The Nature of Developmental Schemes Run by Public Representatives**

	(Percent)
Hand Pumps	6.25
Village Roads	12.05
Community Halls	4.04
Others	2.23
No Scheme reported	75.44
<b>Total</b>	<b>100</b>

In the multi-tier system of governance in India, local bodies, i.e. village panchayats also provide various public services in their jurisdiction. It can be seen from the Table 5.43 that like most other states, in Madhya Pradesh also, the Panchayat services are confined to various civic services in the form of maintenance and provision of public water supply system, provision of additional facilities in the form of setting up of hand pumps, running of

schools, maintenance and construction of roads and bridges. In fact the major share of expenditure of Panchayats goes for creating additional facilities in the form of roads and bridges. In the case of health services, they conduct vaccination programmes, and look after the running of village hospitals (primary health centre). The average expenditure of each Panchayats in running these functions works out to about Rs. 67000 per year.

**Table 5.43: Various Public Services Performed by the Panchayats**

	(Percent)		
	Percentage of Villages Reporting	% Distribution of Expenditure	Per Village Expenditure
Street Lighting	12.04	2.89	47977.1
Vaccination Programmes	27.88	0.57	4095.7
Running of village hospitals	6.37	1.22	38405.5
Setting up of hand pumps	43.77	7.30	33337.6
Maintenance of pumps/wells/ponds	53.16	24.56	92374.5
Village Sanitation	28.99	1.48	10196.0
Running of schools	21.48	1.07	9990.1
Construction of roads & puliyas	38.80	39.13	201630.1
Maintenance of roads & bridges	22.77	3.78	33199.2
Construction of irrigation water channels	6.57	0.94	28528.4
Dispute resolution	14.93	0.95	12748.0
Others	21.47	16.11	150108.3
<b>Total</b>		<b>100</b>	<b>67046.7</b>

As is well known in the context of fiscal literature in India, the finances of Panchayats are weak because of the absence of own resources. Their heavy dependence on centre and states for resource requirement is also evident from the survey. According to the size class of panchayats, if we look at the structure of funds according to various sources, viz., centre, states, own resources and others, it becomes evident that across size class, the panchayats' own revenues in total resources of the panchayats constitutes only 8 percent. The direct resource transfers from the centre constitutes around 49 percent of the total resources, and the rest comes from the state government.

**Table 5.44: Size of Panchayats and Sources of Funds**

Size of Panchayat by Number of Members	% of Villages	(Percent)				
		Structure of Revenue Resources by Sources				
		Centre	States	Own	Others	Total
1-5	4.45	45.23	46.58	2.47	5.72	100
6-10	14.73	40.99	40.01	14.64	4.35	100
11-15	42.94	51.53	41.16	2.75	4.56	100
16-20	34.17	49.66	35.55	11.63	3.16	100
21-25	3.71	43.96	44.51	11.52	0.00	100
26-30	0					
> 30	0					
Not Specified	0					
<b>Total</b>	<b>100</b>	<b>48.82</b>	<b>39.53</b>	<b>8.03</b>	<b>3.61</b>	<b>100</b>

## 5.7 Poverty Alleviation Strategies: Perception of Poor

The survey asked open-ended questions with regard to perception of the poor of poverty, the reasons for poverty and the poverty alleviation strategies they think are important. These questions across households bring out certain important findings. Across states, it has been emphasized that lack of employment schemes is the main reason for the persistence of poverty, lack of education is also considered as one of the main constraints. Almost 37 percent of the rural households consider lack of education as one of the main constraints. Relatively less importance is given to the factors like lack of land possession and lack of wealth. Undernourishment is also considered as a significant factor, and is itself is a function of poverty.

**Table 5.45: Perception of Poverty: The Perspective of Rural Households**

	(Percent)		
<b>Perception</b>	<b>Stratum 1</b>	<b>Stratum 2</b>	<b>Combined</b>
Lack of Employment	39.86	34.06	38.05
Lack of Land Possession	4.44	5.72	4.84
Undernourishment	3.49	15.40	7.22
Lack of Housing	6.91	4.17	6.05
Lack of Wealth	1.44	-	0.99
Lack of Education	36.59	30.76	34.76
Others	7.26	9.89	8.09
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>

The most helpful government schemes suggested by the rural poor in alleviating poverty are employment schemes, followed by health facilities, provision of irrigation facilities in both the strata. Direct government intervention to remove poverty is also emphasised by both the strata.

**Table 5.46: Most Helpful Government Schemes and Services: Perception of Poor**

	(Percent)		
	<b>Stratum 1</b>	<b>Stratum 2</b>	<b>Combined</b>
Employment Scheme	59.54	36.35	47.56
Food for Work Programme	0.30	1.42	0.88
Health Facilities	5.34	13.45	9.53
Provision of Electricity	0.06	1.53	0.82
Provision of Irrigation Facilities	3.12	5.67	4.44
Provision of Communication Facilities	1.00	5.18	3.16
Provision of Housing Facilities	3.86	0.88	2.32
Drought Relief Work	0.35	0.59	0.48
Public Distribution System	0.16	-	0.08
Removal of Poverty	4.26	6.58	5.46
Education	0.95	1.45	1.21
Others	21.07	26.89	24.08
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>

## Chapter 6: CONCLUSIONS

Madhya Pradesh in its present form was constituted in November 2000, consisting of 45 districts divided into six regions. In terms of real per capita income Madhya Pradesh has the fourth lowest position among fifteen major states. The growth of real per capita income is only 2.7 percent per annum. Madhya Pradesh is a predominantly agricultural economy with the share of the manufacturing sector languishing at 16 percent of aggregate GSDP.

Like other low income states, the state finances of Madhya Pradesh show large and growing fiscal imbalance. This is the result of the much faster growth of revenue expenditure relative to revenue receipts, the resultant gap being met by increased borrowing. On one hand, revenue deficit has increased along with an increase in its share in fiscal deficit. On the other hand, capital expenditure relative to GSDP has fallen from 3.27 percent in 1987-88 to as low as 0.99 percent in 1999-00. The poor fiscal situation of the state along with increasing fiscal stress has progressively reduced the capacity of the state to undertake poverty alleviation programmes and to adequately provide counterpart funds for the centrally sponsored schemes for their full utilisation.

The main findings from the primary survey are summarised below.

### **Demographic Features and Economic Activities**

- i. The number of females per 1000 males, that is, the sex ratio, in rural Madhya Pradesh is unfavourable to women. The age-sex distributions for the poor (stratum 1) brings out a higher proportion of males in the 0-18 age group than females, a feature that is absent in the rest of the households (stratum 2). Further, a significantly lower sex ratio among children in stratum 1 compared to stratum 2 is disturbing, a reminder to a possible gender bias at birth among the poor.
- ii. Gender inequality in the field of education is also very much pronounced in stratum 1, female illiteracy rate being very high (7 out of 11 sample districts reporting a rate of more than 80 percent). The poor in Madhya Pradesh exhibit a high illiteracy rate for males too, though not as much as in the case of females.
- iii. Unemployment rate among poor is very high at 11 percent for males and 13 percent for females compared to 4 and 5 percent respectively for stratum 2. The poor seem to be a deprived lot despite Government Employment Generation programmes. Since 86 percent of earners in the paid-employment category are agricultural labourers with a small average annual income of Rs. 5046 in the face of other occupations yielding more than double this income, creation of

economic opportunities should be in any scheme for alleviation of poverty. Again, 85 percent of the self-employed earners among the poor are small cultivators with an average annual income of Rs. 7290 but his counterpart in stratum 2 earns Rs. 18655.

- iv. Every three out of ten poor households subsist on a per capita monthly income of Rs. 208 only and every two households out of three survive on per capita income of less than Rs. 292. The outstanding debt ranging from Rs. 2000 to Rs. 4000 for the poorest of the poor must be weighing heavily for the 26 to 27 percent of the indebted households. The main sources of borrowing are the village moneylenders or relatives/neighbours and the purpose of loan mostly other than agricultural. The depth of the micro-credit facilities needs to be increased so as to reach the poor households. The survey findings point towards a very small proportion opting for government loans.

### **Livelihood Issues**

- i. The consumption pattern of the poor indicates that 71 percent of the total consumer expenditure is accounted for by food alone. 14 percent of the households are unable to provide food for themselves throughout the year. Inadequate coverage of the vulnerable sections under the regime of targeted PDS could be the reason why 84 percent of these households depend on the market for food purchase. The distribution of poor households by MPCE shows that 85 percent are below the updated poverty line. This along with the fact that a larger dependency ratio in terms of a higher average household size characterizes the lower end of the MPCE and only 90 percent access PDS indicate stark poverty. As regards other basic facilities, only 3.2 percent of the households have water facilities within premises and the percentage of households electrified is 19.49 percent. Spread of rural electrification is quite thin. As regards access to water, the survey reveals that there is a predominant use of public hand pumps across distance from the dwelling; 64 percent of the households have to cover less than 100 metres. The time use survey shows that 80 percent of the households spend less than one hour in collection of water.
- ii. The provision of subsidized fuel through kerosene is a successful measure in the sense that 99 percent of the poor households use this fuel, accounting for 59 percent of the total expenditure on fuel. In all, the per capita monthly expenditure on fuel in stratum 2 is 2.5 times higher than in stratum 1.

### **Public Service Delivery**

- i. Literacy level in stratum 2 is much higher for both adult males and females than in stratum 1. However, gender inequality is sharply in focus with females way behind. Gender disparity among children is much less but not among strata. 80 percent of the children in stratum 1 are not able to continue their studies because of shortage of finance against 56 percent in stratum 2. The important reason for adults not able to continue education is the pressure to have to earn for the family. No clear relationship could be established between attendance in the school and the distance from the dwelling. For the adults, 'no interest' seems to be another major problem for adult literacy programmes at the village level.

- ii. The benefit incidence of government programmes in education shows the percentage of school going children receiving benefit to be more than 100 percent that is, enjoyment of multiple benefits. Mid-day meal scheme is the most predominant form of benefit received followed by free books and scholarship. The poor households were in receipt of 65 percent of the total amount of benefit. The per capita expenditure benefit is also higher in stratum 1 than in stratum 2.
- iii. In regard to health services, three-fourths of the households seek the services of the PHCs, a little less than one-third, private doctors, and one-fifth, the quacks, among others. The very fact that other providers including chemists, indigenous practitioners, faith healers etc, in tandem are consulted gives the message that the reliance on PHCs is not total for either of the strata. The modal value of average consultation fee for the poor is less than Rs. 10 for all types of providers except quacks for whom surprisingly the modal value is around Rs. 25.
- iv. Roughly 5 to 5.5 percent of total expenditure goes towards expenditure on health with medicine alone claiming 65 to 69 percent. This shows that in any scheme of alleviation of poverty, if the PHCs are furnished with pharmacies to dispense if not the whole gamut, the popular brands of medicines at subsidized rates, it would go a long way to somewhat improve the lot of the poor. Since trained dais and untrained dais supply the antenatal consultation services for pregnant women, it would be appropriate to induct them in maternity centres under the charge of doctors and nurses to check maternal and infant mortality, the main aim of the RCH programme.
- v. Supply side infrastructural bottlenecks should be removed to achieve better connectivity as the survey points out that almost all the facilities including medical, educational, banking, transport are located more than 2 km away for a substantial proportion of villages surveyed. Radio seems to be the most used means of connectivity. Newspaper is used only by five percent of the households.

### **Pro-Poor Fiscal Intervention**

- i. Most of the centrally sponsored schemes are supposed to be implemented through district development agencies or panchayats. A high proportion, ranging from 47 percent to 90 percent of the Panchayats, are not even participating in such schemes. Only 9 percent of the households in stratum 1 are benefited by the schemes, mostly via cash benefits. It appears though that out of the poor households getting benefits, 85 percent are below poverty line.
- ii. In order to adjudge the sensitivity of elected public representatives towards their constituencies, a measure by way of the frequency of their visits was examined. While a large chunk of households failed to specify anything about their visits, the survey revealed more than in 69 percent of villages the concerned MP did not visit even once in a year. This percentage was 58 in the case of MLAs. The nature of schemes run by them pertains to provision of public water supply, village roads, community halls etc. For 75 percent of the villages, the respondent couldn't specify the nature of schemes run by either MLA or MP.

- iii. The Panchayat services are confined to various civic services e.g., water supply, running of schools, roads and bridges, the last claiming the bulk of expenditure. The average expenditure of running the services by the panchayats works out to be Rs. 67000 per year. The finances of the Panchayats are weak, depending as they do on the Centre and the States, their own resources amounting to only 8 percent.

#### **Poverty Alleviation Strategies: Perception of Poor**

- i. The households emphasised that lack of employment schemes is the main reason for persistence of poverty, followed by lack of education. Relatively less importance is given to lack of possession of land or lack of wealth. The most helpful government schemes in the perception of the rural poor households are the employment schemes followed by creation of health facilities, and provision of irrigation facilities. Direct governmental intervention to remove poverty is also emphasized by households as required in both the strata.

In conclusion, in Madhya Pradesh, discrimination against women is rampant and pervasive as evidenced by the adverse sex ratio and extremely low adult female literacy rate. One redeeming feature is that the literacy rates for male and female children are higher among the poor households, although for the female children it is lower. However, there are children not likely to continue studies due to lack of finance. Credit markets and instruments need to acquire greater depth in the rural areas. The MP/MLA funds are not making any visible impression. The participation of panchayats is very limited in the case of many of the centrally sponsored schemes. The preferred mode for poverty alleviation in terms of the perception of the poor is employment generation followed by opportunities of education. In paper 1, it was estimated that in a year in which agriculture does not show buoyant growth, about 78 days of additional employment should be created in rural areas per poor households through the poverty alleviation schemes. This will cater to transient poverty. For uprooting chronic poverty, greater budgetary support is needed for health and education, and more effective facility for accessing low cost credit.

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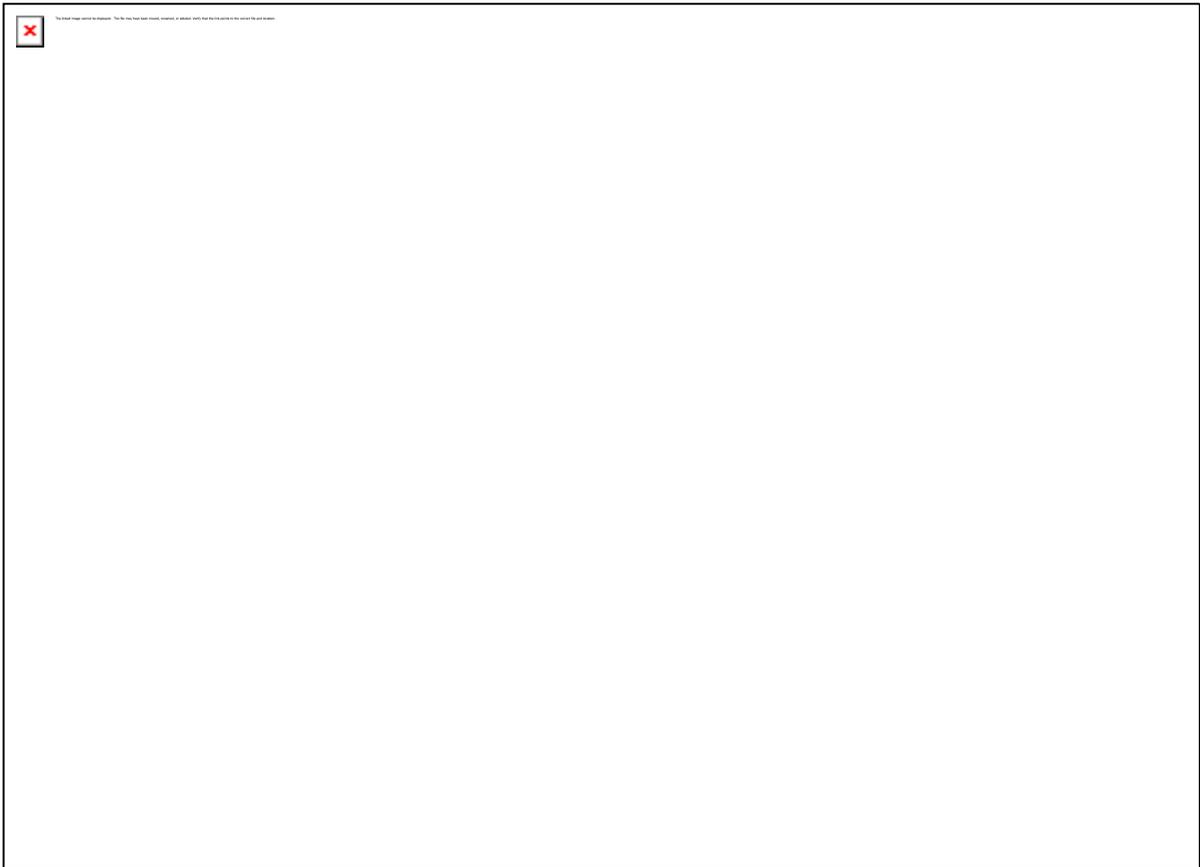
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**Table A1: District Map of Madhya Pradesh**



Source: Office of the Registrar General, India, New Delhi.

**Table B1: District-Wise Result of the Below Poverty Line Census**

**Madhya Pradesh**

Districts	Region	Rural Population 1991	Rural Below Poverty Line Households	Poverty Ratio	Cumulative Number of the Poor	Cumulative Share of the Poor	Share of District Poor in Total Region	Random Number Drawn
Bhopal	C	268750	19351	39.6	19351	0.043	0.043	
Damoh	C	734634	68061	51.0	87412	0.195	0.152	
Raisen	C	738061	76786	57.2	164198	0.367	0.172	
Sagar	C	1165105	166395	78.5	330593	0.739	0.372	0.382
Sehore	C	689140	48766	38.9	379359	0.848	0.109	
Vidisha	C	776085	67803	48.1	447162	1.000	0.152	0.880
<b>Total</b>		<b>4371775</b>	<b>447162</b>				<b>1.00</b>	
Dewas	MP	765552	73038	52.5	73038	0.078	0.078	
Dhar	MP	1187091	155710	72.1	228748	0.244	0.166	
Badwani	MP				228748	0.244	0.000	
Indore	MP	561789	57651	56.4	286399	0.305	0.061	
Jhabua	MP	1031639	141040	75.2	427439	0.455	0.150	0.421
Mandsaur	MP	1196412	120381	55.3	547820	0.584	0.128	
Neemach	MP				547820	0.584	0.000	
Rajgarh	MP	825506	94603	63.0	642423	0.684	0.101	
Ratlam	MP	661640	75196	62.5	717619	0.764	0.080	
Shajapur	MP	849793	117149	75.8	834768	0.889	0.125	0.823
Ujjain	MP	835524	103988	68.5	938756	1.000	0.111	0.932
<b>Total</b>		<b>7914946</b>	<b>938756</b>				<b>1.00</b>	
Bhind	N	963482	45776	26.1	45776	0.126	0.126	
Datia	N	307751	27424	49.0	73200	0.201	0.075	
Guna	N	1054005	76175	39.7	149375	0.410	0.209	
Gwalior	N	580951	34476	32.6	183851	0.505	0.095	
Morena	N	1356909	95884	38.9	279735	0.768	0.263	0.660
Shivpuri	N	959876	84585	48.5	364320	1.000	0.232	0.997
Sheopur	N							
<b>Total</b>		<b>5222974</b>	<b>364320</b>				<b>1.00</b>	

Table B1 (Contd.)

**Madhya Pradesh**

Districts	Region	Rural Population 1991	Rural Below Poverty Line Households	Poverty Ratio	Cumulative Number of the Poor	Cumulative Share of the Poor	Share of District Poor in Total Region	Random Number Drawn
Balaghat	SC	1232984	153562	68.5	153562	0.179	0.179	0.108
Chhindwara	SC	1201000	99857	45.7	253419	0.295	0.116	
Jabalpur	SC	1440780	220147	84.0	473566	0.550	0.256	0.317
Mandla	SC	1192288	137005	63.2	610571	0.710	0.159	
Narsimhpur	SC	667788	115342	95.0	725913	0.844	0.134	
Seoni	SC	905187	134348	81.6	860261	1.000	0.156	
<b>Total</b>		<b>6640027</b>	<b>860261</b>				<b>1.000</b>	
Betul	SW	959636	100959	57.9	100959	0.209	0.209	
East Nimar	SW	1038672	119271	63.2	220230	0.456	0.247	0.434
Hoshangabad	SW	918614	90402	54.1	310632	0.644	0.187	
Harda	SW				310632	0.644	0.000	
West Nimar	SW	1721080	172009	55.0	482641	1.000	0.356	
<b>Total</b>		<b>4638002</b>	<b>482641</b>				<b>1.000</b>	
Chattarpur	V	935471	50607	29.8	50607	0.067	0.067	
Panna	V	594545	52001	48.0	102608	0.137	0.069	
Rewa	V	1313437	149905	62.8	252513	0.336	0.200	
Satna	V	1173570	118363	55.5	370876	0.494	0.158	0.379
Katni	V				370876	0.494	0.000	
Umaria	V				370876	0.494	0.000	
Shahdol	V	1374923	146817	58.7	517693	0.689	0.195	0.554
Dindori	V				517693	0.689	0.000	
Sidhi	V	1283161	150633	64.6	668326	0.890	0.201	
Tikamgarh	V	781650	82885	58.3	751211	1.000	0.110	
<b>Total</b>		<b>7456757</b>	<b>751211</b>				<b>1.000</b>	
<b>Total Madhya Pradesh</b>		<b>36244481</b>	<b>3844351</b>					

**Table C1: District-Wise Information About Focus States Based on  
1981 and 1991 Census**

<b>Madhya Pradesh</b>		<b>Population</b>		<b>Households</b>	<b>Urban</b>	<b>Rural</b>
<b>Districts</b>		<b>('000 Nos.)</b>		<b>('000 Nos.)</b>	<b>('000 Nos.)</b>	<b>('000 Nos.)</b>
		<b>1981</b>	<b>1991</b>	<b>1991</b>	<b>1991</b>	<b>1991</b>
1.	Badwani					
2.	Balaghat	1147.81	1365.87	259.25	24.97	234.28
3.	Betul	925.39	1181.5	201.53	42.05	159.47
4.	Bhind	973.82	1219			
5.	Bhopal	894.74	1351.48	247.91	201.12	46.8
6.	Chhatarpur	886.66	1158.08	196.01	38.76	157.25
7.	Chhindwara	1233.13	1568.7	282.29	67.42	214.88
8.	Damoh	721.45	898.12	968.74	29.31	139.43
9.	Datia	865.93	396.32	62.94	14.63	48.31
10.	Dewas	795.31	1033.81	173.37	48.28	125.08
11.	Dhar	1057.47	1367.41	229.62	32.84	196.78
12.	Dindori					
13.	East Nimar	1153.58	1431.66	242.42	63.18	179.24
14.	Guna	1001.99	1310.32	211.5	43.44	168.06
15.	Gwalior	1107.88	1412.61	224.3	137.5	86.8
16.	Harda					
17.	Hoshangabad	1003.94	1267.21	223.02	63.99	159.03
18.	Indore	1409.47	1835.91	318.89	224.81	94.08
19.	Jabalpur	2198.74	2649.96	498.18	220.67	277.51
20.	Jhabua	795.17	1130.4	179.06	18.06	160.99
21.	Katni					
22.	Mandla	1037.39	1291.26	249.34	19.21	230.13
23.	Mandsaur	1263.4	1555.21	271.33	62.03	209.3
24.	Morena	1303.21	1710.57	247.11	53.59	193.52
25.	Narsimhapur	650.45	785.5	137.01	20.82	116.2
26.	Neemach					
27.	Panna	539.98	687.95	128.35	16.65	111.7
28.	Raisen	710.54	876.46	152.1	25.78	126.31
29.	Rajgarh	1443.2	1722.29	80.7	36.58	44.11
30.	Ratlam	782.73	971.89	171.69	54.32	117.38
31.	Rewa	1207.58	1554.99	264.16	42.98	221.18
32.	Sagar	1323.13	1647.74	283.05	78.78	204.28
33.	Satna	1153.39	1465.38	258.82	53.77	205.05
34.	Sehore	657.38	841.36	139.5	26.29	113.21
35.	Seoni	809.71	1000.83	183.32	17.61	165.72
36.	Shahdol	1345.12	1743.87	334.32	72.3	262.02
37.	Shajapur	840.25	1033.25	174.31	30.92	143.39
38.	Sheopur					
39.	Shivpuri	865.93	1132.98	188.48	28.68	159.8
40.	Sidhi	990.47	1373.43	242.89	20.32	222.57
41.	Tikamgarh	736.98	940.83	155.01	25.45	129.56
42.	Ujjain	1117	1383.09	236.14	94.91	141.24
43.	Umaria					
44.	Vidisha	783.1	970.39	167.59	34.53	133.06
45.	West Nimar	1630.94	2028.14	325.99	53.16	272.82
<b>Total Madhya Pradesh</b>		<b>39364.4</b>	<b>49295.77</b>	<b>8910.24</b>	<b>2139.71</b>	<b>5970.54</b>

Source: Centre for Monitoring Indian Economy, October, 2000.

**Table D1: District-Wise Population and Decadal Growth Rates 2001**

<b>Madhya Pradesh</b>					
<b>Districts</b>	<b>Population 2001</b>			<b>Decadal Growth Rate (%)</b>	
	<b>Persons</b>	<b>Male</b>	<b>Female</b>	<b>1981 to 1991</b>	<b>1991 to 2001</b>
<b>Madhya Pradesh</b>	<b>91841791</b>	<b>60385018</b>	<b>31456773</b>	<b>27.24</b>	<b>24.34</b>
1. Sheopur	559715	295630	264085	33.32	29.72
2. Morena	1587264	871243	716021	30.58	24.09
3. Bhind	1426951	780122	646829	25.18	17.06
4. Gwalior	1629881	882258	747623	27.97	26.00
5. Datia	627818	337842	289976	26.01	21.82
6. Shivpuri	1440666	775473	665193	30.84	27.16
7. Guna	1665503	883433	782070	30.77	27.11
8. Tikamgarh	1203160	637842	565318	27.66	27.88
9. Chhatarpur	1474533	788745	685788	30.61	27.33
10. Panna	854235	447923	406312	27.40	24.17
11. Sagar	2021783	1073032	948751	24.53	22.70
12. Damoh	1081909	568704	513205	24.49	20.46
13. Satna	1868648	970114	898534	27.05	27.52
14. Rewa	1972333	1017402	954931	28.77	26.84
15. Umaria	515851	264998	250853	31.83	22.58
16. Shahdol	1572748	803416	769332	28.96	18.87
17. Sidhi	1830553	947276	883277	38.67	33.28
18. Neemuch	725457	371972	353485	22.58	21.25
19. Mandsaur	1183369	604942	578427	23.42	23.67
20. Ratlam	1214536	620119	594417	24.17	24.97
21. Ujjain	1709885	881509	828376	23.82	23.63
22. Shajapur	1290230	669419	620811	22.97	24.87
23. Dewas	1306617	676414	630203	29.99	26.39
24. Jhabua	1396677	701742	694935	42.16	23.56
25. Dhar	1740577	890853	849724	29.31	27.29
26. Indore	2585321	1352849	1232472	30.26	40.82
27. West Nimar	1529954	785212	744742	23.04	27.95
28. Barwani	1081039	547837	533202	26.30	29.87
29. East Nimar	1708170	882371	825799	24.11	19.31
30. Rajgarh	1253246	648850	604396	23.88	26.24
31. Vidisha	1214759	647632	567127	23.92	25.18
32. Bhopal	1836784	968964	867820	51.05	35.91
33. Sehore	1078769	565387	513382	27.99	28.22
34. Raisen	1120159	595730	524429	23.35	27.80
35. Betul	1394421	709525	684896	27.68	18.02
36. Harda	474174	247129	227045	29.14	24.53
37. Hoshangabad	1085011	571796	513215	25.01	22.40
38. Katni	1063689	548077	515612	23.43	20.61
39. Jabalpur	2167469	1134870	1032599	19.12	22.59
40. Narsimhapur	957399	501407	455992	20.76	21.88
41. Dindori	579312	290572	288740	24.94	13.23
42. Mandla	893908	446487	447421	24.17	14.66
43. Chhindwara	1848882	946582	902300	27.21	17.86
44. Seoni	1165893	588135	577758	23.60	16.49
45. Balaghat	1445760	714938	730822	19.00	5.85

Source: Provisional Population Tables (2001) - District-Wise Data.

**Table D2: District-Wise Density, Sex Ratio and Child Population 2001**

<b>Madhya Pradesh</b>							
<b>Districts</b>	<b>Sex Ratio</b>		<b>Density</b>		<b>Child Population in the Age Group 0-6</b>		
	<b>1991</b>	<b>2001</b>	<b>1991</b>	<b>2001</b>	<b>Persons</b>	<b>Male</b>	<b>Female</b>
<b>Madhya Pradesh</b>	<b>912</b>	<b>920</b>	<b>158</b>	<b>196</b>	<b>1.1E+07</b>	<b>5483852</b>	<b>5116944</b>
1. Sheopur	880	893	65	85	110469	57202	53267
2. Morena	808	822	256	318	290670	158897	131773
3. Bhind	816	829	273	320	247881	135553	112328
4. Gwalior	831	847	284	357	248337	134299	114038
5. Datia	847	858	192	233	106833	56982	49851
6. Shivpuri	849	858	110	140	276520	144863	131657
7. Guna	875	885	118	151	320800	166278	154522
8. Tikamgarh	871	886	186	238	223003	116238	106765
9. Chhatarpur	856	869	133	170	228966	148218	80748
10. Panna	897	907	96	120	167421	86673	80748
11. Sagar	881	884	161	197	364967	189146	175821
12. Damoh	905	902	123	148	191638	98335	93303
13. Satna	918	926	195	249	338527	175428	163099
14. Rewa	932	939	246	312	367825	190983	176842
15. Umaria	942	947	103	127	95643	48788	46855
16. Shahdol	940	958	133	158	264989	134505	130484
17. Sidhi	922	932	130	174	373889	191719	182170
18. Neemuch	943	950	141	170	114370	59323	55047
19. Mandsaur	947	956	173	214	193750	99573	94177
20. Ratlam	948	959	200	250	213248	108793	104455
21. Ujjain	929	940	227	281	276442	142995	133447
22. Shajapur	918	927	167	208	231765	119691	112074
23. Dewas	924	932	147	186	228631	118195	110436
24. Jhabua	977	990	167	206	314541	159649	154892
25. Dhar	951	954	168	213	334269	172222	162047
26. Indore	906	911	471	663	366526	191608	174918
27. West Nimar	941	948	149	191	287618	146158	141460
28. Barwani	964	973	154	199	240538	122132	118406
29. East Nimar	938	936	133	159	302400	155547	146853
30. Rajgarh	923	931	161	204	229273	117960	111313
31. Vidisha	874	876	132	165	229353	118071	111282
32. Bhopal	889	896	488	663	282284	146186	136098
33. Sehore	898	908	128	164	204334	105625	98709
34. Raisen	879	880	104	132	208148	107112	101036
35. Betul	966	965	118	139	230225	116965	113260
36. Harda	914	919	114	142	84952	44104	40848
37. Hoshangabad	892	898	132	162	172326	89423	82903
38. Katni	939	941	178	215	186455	95565	90890
39. Jabalpur	903	910	339	416	301227	156498	144729
40. Narsimhapur	913	909	153	187	150158	78333	71825
41. Dindori	985	994	68	78	95513	48017	47496
42. Mandla	990	1002	134	154	143700	72368	71332
43. Chhindwara	953	953	133	156	292830	149277	143553
44. Seoni	974	982	114	133	193281	97636	95645
45. Balaghat	1002	1022	148	157	218596	110719	107877

Source: Provisional Population Tables (2001) – District-Wise Data.

**Table D3: District-Wise Literacy Rates 1991 and 2001**

<b>Madhya Pradesh</b>									
<b>Districts</b>	<b>Literates</b>			<b>Literacy Rate (%)</b>					
	<b>2001</b>			<b>1991</b>			<b>2001</b>		
	<b>Persons</b>	<b>Male</b>	<b>Female</b>	<b>Persons</b>	<b>Male</b>	<b>Female</b>	<b>Persons</b>	<b>Male</b>	<b>Female</b>
<b>Madhya Pradesh</b>	<b>31906109</b>	<b>19932013</b>	<b>11974096</b>	<b>44.67</b>	<b>58.54</b>	<b>29.35</b>	<b>64.09</b>	<b>76.74</b>	<b>50.29</b>
1. Sheopur	209385	148278	61107	27.55	40.73	12.27	46.61	62.19	28.99
2. Morena	849820	576309	273511	45.93	63.53	23.79	65.58	80.97	46.81
3. Bhind	839687	541802	297885	49.23	66.20	28.20	71.22	84.06	55.73
4. Gwalior	964234	604587	359647	58.36	70.87	43.08	69.79	80.83	56.67
5. Datia	382989	232957	150032	45.19	62.50	24.45	73.51	82.94	62.48
6. Shivpuri	693228	471584	221644	33.03	47.50	15.64	59.55	74.78	41.54
7. Guna	805920	535722	270198	34.58	48.86	17.99	59.93	74.70	43.06
8. Tikamgarh	546945	359046	187899	34.78	47.52	19.96	55.80	68.83	40.98
9. Chhatarpur	635943	419619	216324	35.20	46.87	21.32	53.44	65.50	39.38
10. Panna	423150	267387	155763	33.68	46.29	19.41	61.61	74.02	47.84
11. Sagar	1128023	706797	421226	53.44	67.02	37.78	68.08	79.96	54.50
12. Damoh	552533	353031	199502	46.27	60.49	30.46	62.06	75.05	47.51
13. Satna	996436	618459	377977	44.65	60.03	27.80	65.12	77.82	51.40
14. Rewa	1000012	627819	372193	44.38	60.67	26.88	62.33	75.97	47.83
15. Umaria	253200	160239	92961	32.63	46.85	17.43	60.26	74.11	45.57
16. Shahdol	755303	465252	290051	35.45	48.93	20.93	57.76	69.55	45.40
17. Sidhi	769407	514018	255389	29.15	43.23	13.61	52.82	68.03	36.43
18. Neemuch	406193	259612	146581	50.27	69.34	30.04	66.47	83.04	49.12
19. Mandsaur	699186	433462	265724	47.66	66.98	27.24	70.65	85.77	54.87
20. Ratlam	677400	409592	267808	44.15	58.36	29.13	67.65	80.10	54.66
21. Ujjain	1020307	618139	402168	49.06	64.25	32.64	71.18	83.70	57.87
22. Shajapur	752942	460030	292912	39.20	56.99	19.77	71.14	83.68	57.58
23. Dewas	657999	424632	233367	44.08	61.15	25.57	61.04	76.07	44.90
24. Jhabua	399010	261288	137722	19.01	26.29	11.52	36.87	48.20	25.50
25. Dhar	741182	475600	265582	34.54	47.62	20.71	52.70	66.18	38.62
26. Indore	1660100	983693	676407	66.32	77.99	53.35	74.82	84.17	63.96
27. West Nimar	787810	480791	307019	41.23	55.43	26.09	63.41	75.23	50.89
28. Barwani	347540	217490	130050	28.08	36.77	19.01	41.35	51.09	31.35
29. East Nimar	867506	538477	329029	45.49	58.53	31.53	61.71	74.09	48.46
30. Rajgarh	553410	369133	184277	31.81	46.73	15.62	54.05	69.53	37.37
31. Vidisha	611927	395638	216289	44.08	58.04	27.81	62.10	74.71	47.45
32. Bhopal	1167150	679308	487842	64.27	73.14	54.17	75.08	82.56	66.67
33. Sehore	558115	359260	198855	40.43	56.90	21.99	63.83	78.14	47.95
34. Raisen	663621	401569	262052	40.76	54.02	25.47	72.76	82.18	61.89
35. Betul	778512	458125	320387	45.89	57.42	33.90	66.87	77.31	56.05
36. Harda	260066	159265	100801	48.84	62.54	33.76	66.82	78.45	54.14
37. Hoshangabad	642131	392448	249683	54.11	67.19	39.29	70.36	81.36	58.02
38. Katni	567421	361460	205961	47.81	63.97	30.53	64.68	79.88	48.48
39. Jabalpur	1422240	894197	528043	64.60	75.64	52.23	76.21	91.40	59.47
40. Narsimhapur	632373	367206	265167	55.65	68.44	41.59	78.34	86.79	69.02
41. Dindori	263614	170774	92840	37.74	55.05	20.21	54.49	70.41	38.48
42. Mandla	448979	278274	170705	37.02	50.45	23.48	59.85	74.38	45.39
43. Chhindwara	1027515	611572	415943	44.90	56.65	32.52	66.03	76.70	54.82
44. Seoni	640752	380126	260626	44.49	57.50	31.14	65.88	77.50	54.06
45. Balaghat	844438	487446	356992	53.23	67.63	38.95	68.81	80.67	57.31

Source: Provisional Population Tables (2001) – District-Wise Data.

**Table E1: Employment, Literacy and Gender Ratio of Scheduled Castes in Madhya Pradesh**

(Percent)

Districts	Population of SC to Total			SC of All Main Workers			Urbanisation Rate in SCs
	All	Rural	Urban	All	Rural	Urban	
Balaghat	8.3	8.2	9.1	8.4	8.3	9.6	10.4
Bastar	5.9	5.5	10.3	5.5	5.2	11.6	12.5
Betul	10.8	9.6	16.1	9.9	9.2	14.9	27.7
Bhind	21.3	22.2	18.1	21.6	22.3	18.9	17.5
Bhopal	13.8	21.7	11.8	14.9	23.2	12.3	68.5
Bilaspur	18.1	19.1	13.2	18.6	19.2	14.1	12.4
Chhatarpur	23.7	25.1	17.8	25.5	26.5	20.1	14.5
Chhindwara	12.2	11.4	14.9	11.2	10.7	14.1	28.3
Damoh	20.1	20.1	19.8	23.0	22.9	23.3	17.9
Datia	24.7	27.2	15.9	26.8	29.1	16.8	14.4
Dewas	18.2	19.6	14.2	20.1	21.5	15.0	20.2
Dhar	6.9	6.9	7.5	7.2	7.1	8.2	14.2
Durg	12.8	13.5	11.4	12.8	13.1	11.6	31.5
East Nimar	11.4	12.3	9.1	12.3	13.0	9.8	22.1
Guna	18.1	18.8	15.1	19.3	20.0	15.9	16.3
Gwalior	20.4	23.8	18.1	21.2	24.5	18.5	51.9
Hoshangabad	16.3	16.8	14.8	17.1	17.8	14.8	24.9
Indore	16.7	19.8	15.3	17.4	20.7	15.5	63.6
Jabalpur	12.8	12.5	13.2	13.0	13.1	12.7	46.9
Jhabua	3.1	2.8	5.9	2.8	2.6	5.9	16.8
Mandla	5.2	5.0	8.2	4.4	4.2	7.9	12.1
Mandsaur	15.9	17.4	10.9	17.5	18.7	11.7	15.9
Morena	19.9	19.9	20.0	20.0	19.9	20.4	20.6
Narsimhapur	16.6	17.1	13.6	18.1	18.5	14.6	12.2
Panna	20.4	21.0	16.6	22.8	23.1	19.7	10.6
Raigarh	11.4	11.1	13.7	11.9	11.7	14.4	11.4
Raipur	14.4	15.1	11.8	14.7	15.0	12.9	16.2
Raisen	16.6	17.6	11.1	18.7	19.8	12.2	10.6
Rajgarh	18.0	18.7	14.5	19.5	20.1	16.1	13.6
Rajnandgaon	10.3	9.6	13.7	9.9	9.3	15.2	21.0
Ratlam	13.7	15.2	10.6	15.6	16.9	11.5	24.6
Rewa	14.8	15.4	11.5	18.5	18.9	15.2	11.8
Sagar	21.1	21.5	20.1	23.7	23.8	23.4	27.9
Sarguja	5.5	5.1	8.6	5.4	5.2	8.1	18.8
Satna	17.8	18.2	16.3	20.9	21.1	19.5	18.0
Sehore	20.3	21.7	13.8	22.6	23.8	15.0	12.2
Seoni	10.8	10.8	10.4	10.1	10.1	10.9	9.1
Shahdol	7.7	7.2	9.6	7.4	6.9	9.8	26.2
Shajapur	22.3	24.6	11.7	26.1	28.0	13.6	9.2
Shivpuri	19.4	19.9	16.5	20.2	20.6	16.7	13.0
Sidhi	11.4	11.5	9.2	12.3	12.5	8.9	5.2
Tikamgarh	22.8	23.4	19.5	23.7	24.2	20.5	14.5
Ujjain	24.6	30.3	15.8	27.7	32.9	16.2	25.5
Vidisha	20.3	21.7	14.9	23.4	24.9	16.2	14.7
West Nimar	9.8	9.8	9.8	10.9	10.8	11.8	15.1
<b>Madhya Pradesh</b>	<b>14.5</b>	<b>14.8</b>	<b>13.7</b>	<b>15.0</b>	<b>15.1</b>	<b>14.4</b>	<b>21.9</b>

Source: Census of Madhya Pradesh, 1991, Primary Census Abstract.

**Table E2: Employment, Literacy and Gender Ratio of Scheduled Castes in Madhya Pradesh**

Districts	(Percent)		
	Literacy		
	All	Rural	Urban
Balaghat	62.8	61.7	72.3
Bastar	27.8	25.6	43
Betul	53.3	47.3	68.9
Bhind	38.6	37.3	45
Bhopal	43.7	24.5	54.2
Bilaspur	39.6	37.6	53.9
Chhatarpur	21.3	18.5	37.8
Chhindwara	50.5	44.7	64.7
Damoh	32.9	28	55.4
Datia	33.1	31	45.4
Dewas	30.3	26	47.5
Dhar	32.3	29.2	51.1
Durg	49.5	45.5	58.2
East Nimar	35	33.3	40.9
Guna	23	19.1	43.4
Gwalior	44.2	34.3	53.2
Hoshangabad	42	34.7	63.5
Indore	49	32.9	58
Jabalpur	47.2	36.2	59.3
Jhabua	23.6	18	50.6
Mandla	51.5	48.1	75.4
Mandsaur	35.1	31.4	54.7
Morena	32	29.9	40
Narsimhapur	44	41.5	61.5
Panna	18.6	16.8	33
Raigarh	34.1	32.4	47.2
Raipur	37.4	36.1	44.2
Raisen	25.6	22.3	53.6
Rajgarh	20	17	39.2
Rajnandgaon	44	39.3	61.2
Ratlam	32.2	23.7	58
Rewa	21.8	20.3	32.7
Sagar	41.1	34.1	59
Sarguja	25.2	19.6	49.2
Satna	25.9	24.1	34.4
Sehore	27.2	24.1	49.4
Seoni	50.3	48.5	68
Shahdol	28.4	22.5	45.1
Shajapur	22.9	20.9	42
Shivpuri	23.8	20.6	44.9
Sidhi	14.6	13.4	35.8
Tikamgarh	27.8	25.3	42.9
Ujjain	29.6	21.3	53.6
Vidisha	28	24.3	49.3
West Nimar	32.4	30.1	45.4
<b>Madhya Pradesh</b>	<b>35.1</b>	<b>30.2</b>	<b>52.3</b>

Source: Census of Madhya Pradesh, 1991, Primary Census Abstract.

**Table E3: Estimates for Poverty (Head Count Ratio) in Districts of Madhya Pradesh: 1993-94**

(Percent)

Districts	NSS Region	Regional Poverty		Estimated Poverty from NSS		
		Head Count Ratio		Estimates Head Count Ratio (HCR)		
		Rural	Urban	Rural	Urban	Total
Balaghat	South Central	33.2	49.2	43.3	63.5	45.3
Bastar	Chhattisgarh	25.7	42.2	24.0	39.5	25.2
Betul	South Western	55.1	55.9	66.9	60.2	65.6
Bhind	North	10.1	43.3	12.8	51.5	21.5
Bhopal	Central	34.0	51.5	25.2	39.0	36.5
Bilaspur	Chhattisgarh	25.7	42.2	31.6	41.0	33.3
Chhatarpur	Vindhya	22.8	48.9	17.3	52.5	24.9
Chhindwara	South Central	33.2	49.2	23.1	56.9	31.2
Damoh	Central	34.0	51.5	49.3	78.8	55.3
Datia	North	10.1	43.3	9.5	42.8	17.5
Dewas	Malwa Plateau	15.2	44.0	17.1	48.3	26.5
Dhar	Malwa Plateau	15.2	44.0	18.0	46.4	21.8
Durg	Chhattisgarh	25.7	42.2	21.6	39.5	28.2
East Nimar	South Western	55.1	55.9	48.5	53.7	50.0
Guna	North	10.1	43.3	9.2	48.4	18.1
Gwalior	North	10.1	43.3	7.7	35.0	24.2
Hoshangabad	South Western	55.1	55.9	34.5	52.8	39.7
Indore	Malwa Plateau	15.2	44.0	11.3	41.5	32.8
Jabalpur	South Central	33.2	49.2	39.3	45.6	42.2
Jhabua	Malwa Plateau	15.2	44.0	30.2	41.6	31.2
Mandla	South Central	33.2	49.2	53.9	50.9	53.7
Mandsaur	Malwa Plateau	15.2	44.0	11.5	61.9	23.9
Morena	North	10.1	43.3	11.0	49.3	20.5
Narsimhapur	South Central	33.2	49.2	18.9	43.6	22.8
Panna	Vindhya	22.8	48.9	18.3	51.1	23.8
Raigarh	Chhattisgarh	25.7	42.2	26.3	49.0	28.5
Raipur	Chhattisgarh	25.7	42.2	21.5	43.6	26.2
Raisen	Central	34.0	51.5	28.0	59.1	34.1
Rajgarh	Malwa Plateau	15.2	44.0	21.5	59.6	28.7
Rajnandgaon	Chhattisgarh	25.7	42.2	24.4	48.4	28.6
Ratlam	Malwa Plateau	15.2	44.0	12.4	33.1	19.1
Rewa	Vindhya	22.8	48.9	25.9	47.5	29.4
Sagar	Central	34.0	51.5	44.7	68.1	51.7
Sarguja	Chhattisgarh	25.7	42.2	35.6	41.7	36.5
Satna	Vindhya	22.8	48.9	23.4	48.5	28.8
Sehore	Central	34.0	51.5	28.7	54.3	34.0
Seoni	South Central	33.2	49.2	35.3	49.0	36.8
Shahdol	Vindhya	22.8	48.9	28.6	49.7	33.4
Shajapur	Malwa Plateau	15.2	44.0	14.0	52.0	21.3
Shivpuri	North	10.1	43.3	10.0	46.9	16.1
Sidhi	Vindhya	22.8	48.9	36.1	38.7	36.4
Tikamgarh	Vindhya	22.8	48.9	13.6	52.3	21.3
Ujjain	Malwa Plateau	15.2	44.0	11.2	33.1	20.1
Vidisha	Central	34.0	51.5	29.2	52.6	34.3
West Nimar	South Western	55.1	55.9	78.6	58.9	75.6

Source: *Human Development Report, Madhya Pradesh (1998)*, Government of Madhya Pradesh and "Counting the Poor", Amaresh Dubey, Subhashish Gangopadhyay, Sarvekhana Analytical Report No. 1, Government of India.

MPHDRO-Sanket.

**Table E4: Household with Access to Electricity, Safe Drinking Water and Toilet Facilities: 1991**

Districts	(Percent)					
	All the Three Facilities			None of the Three Facilities		
	Total	Rural	Urban	Total	Rural	Urban
Balaghat	3.59	1.36	25.39	40.82	43.23	17.33
Bastar	4.45	1.46	39.63	39.71	42.53	6.58
Betul	10.29	2.12	41.62	23.99	28.97	4.91
Bhind	9.08	1.30	37.73	45.81	53.55	17.29
Bhopal	53.07	2.16	65.12	4.45	15.92	1.73
Bilaspur	9.06	3.24	37.34	34.80	39.35	12.69
Chhatarpur	4.90	0.55	23.95	55.51	62.26	25.97
Chhindwara	10.49	3.36	33.15	18.40	21.77	7.67
Damoh	6.64	1.87	29.51	43.69	50.74	9.90
Datia	12.69	1.84	48.27	24.18	27.78	12.34
Dewas	15.80	3.16	49.31	15.25	18.70	6.09
Dhar	12.60	6.61	51.27	15.30	17.01	4.31
Durg	16.18	1.23	39.62	18.44	24.54	8.87
East Nimar	14.97	3.64	47.91	14.95	18.85	3.60
Guna	9.51	1.58	41.42	29.08	33.69	10.53
Gwalior	35.16	1.94	57.66	15.79	32.06	4.77
Hoshangabad	16.12	3.21	48.83	17.74	23.24	3.80
Indore	41.44	8.49	56.46	2.55	3.42	2.16
Jabalpur	21.39	1.53	46.38	19.74	31.29	5.20
Jhabua	7.51	2.26	56.36	28.20	30.71	4.79
Mandla	4.04	1.12	40.11	47.38	50.30	9.89
Mandsaur	6.37	2.15	35.01	25.17	26.68	8.49
Morena	9.40	1.05	40.39	32.32	38.03	11.11
Narsimhapur	13.03	6.83	48.77	9.58	10.69	3.17
Panna	3.97	0.80	25.97	59.63	64.44	86.15
Raigarh	2.66	0.47	35.14	47.85	51.39	11.41
Raipur	7.24	1.07	33.50	29.79	35.05	7.39
Raisen	12.58	5.61	47.13	26.72	31.32	3.91
Rajgarh	7.06	0.85	37.48	29.85	33.50	11.98
Rajnandgaon	4.48	0.43	26.14	31.61	35.53	10.67
Ratlam	22.64	3.44	65.30	9.44	13.40	0.66
Rewa	5.38	0.52	31.28	53.69	59.52	22.53
Sagar	11.95	1.80	39.07	35.12	44.03	11.30
Sarguja	5.51	1.04	36.29	60.49	67.75	10.57
Satna	6.92	1.13	29.74	46.88	53.09	22.43
Sehore	12.05	2.98	51.44	22.47	25.99	7.21
Seoni	5.57	1.83	42.37	30.94	33.38	6.94
Shahdol	7.50	1.87	28.00	52.73	62.40	17.45
Shajapur	9.98	2.41	45.40	19.78	22.63	6.45
Shivpuri	8.09	1.90	43.30	29.18	32.73	8.98
Sidhi	6.13	2.62	43.97	56.52	60.16	17.21
Tikamgarh	4.23	0.41	24.25	56.20	60.39	34.28
Ujjain	27.77	3.09	65.29	9.00	13.97	1.43
Vidisha	12.03	1.82	52.90	38.91	46.86	7.10
West Nimar	9.51	3.30	42.87	20.51	23.55	4.18
<b>Madhya Pradesh</b>	<b>11.97</b>	<b>2.10</b>	<b>44.72</b>	<b>31.19</b>	<b>38.16</b>	<b>8.07</b>

Source: Census of India, 1991, Madhya Pradesh, Housing and Amenities (A Database on Housing and Amenities for Districts, Cities and Towns).

**Table E5: Household with Access to Electricity, Safe Drinking Water and Toilet Facilities: 1991**

Districts	(Percent)								
	Electricity			Safe Drinking Water			Toilet		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Balaghat	29.31	25.39	67.52	39.89	38.73	51.20	7.09	3.32	43.84
Bastar	24.33	21.40	58.83	50.97	48.05	85.35	6.46	3.05	46.52
Betul	46.81	39.61	74.42	59.65	53.57	82.94	13.1	3.68	49.33
Bhind	34.90	28.99	56.67	36.91	26.62	74.82	11.6	2.91	43.42
Bhopal	78.62	48.39	85.66	89.13	72.85	92.98	58.3	3.70	71.20
Bilaspur	30.31	24.72	57.50	53.59	48.79	76.93	12.5	6.00	44.05
Chhatarpur	31.72	24.31	64.19	22.75	18.59	40.97	8.66	1.74	39.00
Chhindwara	66.32	62.36	78.91	56.87	53.32	68.16	14.1	4.46	44.88
Damoh	36.14	29.22	62.29	38.39	32.52	66.50	10.1	3.02	43.81
Datia	52.22	48.12	65.67	57.12	51.07	76.97	16.4	3.34	59.34
Dewas	64.99	60.24	77.58	65.12	59.10	81.09	20.3	5.78	58.63
Dhar	59.22	56.51	76.74	72.97	70.53	88.69	14.4	7.81	56.74
Durg	42.24	30.74	60.27	71.19	63.02	84.00	19.3	3.32	44.43
East Nimar	60.02	55.06	74.45	68.87	61.35	90.77	17.9	5.63	53.75
Guna	43.42	36.59	70.93	54.05	48.64	75.83	11.8	2.60	48.70
Gwalior	69.58	51.74	81.67	66.44	38.04	85.68	40.5	4.36	64.92
Hoshangabad	53.20	45.50	72.70	59.41	49.88	83.54	23.1	8.71	59.36
Indore	75.61	61.51	82.04	88.99	90.09	88.49	48.4	11.46	65.25
Jabalpur	50.36	28.35	78.05	67.02	56.76	79.92	26.80	2.65	57.19
Jhabua	32.87	27.97	78.48	64.20	61.58	88.51	8.79	2.97	62.97
Mandla	30.58	27.16	72.84	38.45	35.55	74.34	5.45	1.99	48.23
Mandsaur	61.51	56.17	79.74	50.04	46.59	76.60	13.4	3.63	46.98
Morena	48.97	43.07	70.86	43.60	34.73	76.48	11.1	1.92	45.17
Narsimhapur	46.25	41.59	73.09	84.30	83.08	91.31	14.7	8.03	53.31
Panna	20.83	15.55	57.57	27.97	24.68	50.87	6.19	1.66	37.69
Raigarh	26.22	23.24	56.90	40.20	36.73	75.89	3.89	1.14	32.25
Raipur	36.66	30.73	61.88	53.90	47.50	81.11	10.7	3.48	41.64
Raisen	45.42	40.06	72.01	57.75	51.90	86.76	16.6	8.53	56.44
Rajgarh	34.22	28.15	63.93	56.98	53.77	72.71	9.99	1.85	49.88
Rajnandgaon	37.39	33.55	57.86	51.91	47.19	77.09	6.17	1.13	33.11
Ratlam	60.42	50.61	82.23	83.08	77.50	95.49	25.5	4.88	71.44
Rewa	28.97	22.15	65.41	27.54	22.61	53.86	7.63	1.57	39.96
Sagar	47.29	37.47	73.54	43.08	33.37	69.02	15.60	3.07	49.06
Sarguja	21.95	13.63	79.23	27.66	21.83	67.77	7.72	2.14	46.12
Satna	37.51	31.23	62.25	30.53	23.76	57.17	9.27	1.93	38.18
Sehore	53.33	47.86	77.08	55.88	50.71	78.28	16.60	5.87	63.19
Seoni	46.29	43.46	74.14	46.53	43.54	75.97	7.73	2.87	55.65
Shahdol	34.43	25.40	67.38	26.85	18.23	58.28	10.50	2.84	38.47
Shajapur	54.75	51.31	70.86	62.14	57.22	85.13	12.7	4.09	52.74
Shivpuri	44.12	39.13	72.51	55.07	50.99	78.28	9.93	2.62	51.58
Sidhi	28.81	24.94	70.57	29.38	25.71	68.92	6.86	3.01	43.36
Tikamgarh	29.98	25.37	54.16	25.04	21.33	44.50	6.21	1.09	33.05
Ujjain	63.29	49.32	84.52	81.82	75.24	91.84	31.7	4.74	72.61
Vidisha	37.60	28.83	72.71	46.09	36.41	84.82	15	3.23	62.27
West Nimar	53.51	49.91	72.89	66.91	63.18	86.97	11.6	4.34	50.31
<b>Madhya Pradesh</b>	<b>43.30</b>	<b>34.49</b>	<b>75.5</b>	<b>53.4</b>	<b>45.6</b>	<b>79.5</b>	<b>15.1</b>	<b>3.64</b>	<b>53.00</b>

Source: Census of India, 1991, Madhya Pradesh, Housing and Amenities (A Database on Housing and Amenities for Districts, Cities and Towns).

**Table E6: Electricity Consumers, and Consumption:  
Rural and Urban: 1995-96**

(Percent)

Districts	Households with Domestic Connections: Estimates for 1995-96		
	Total	Rural	Urban*
Balaghat	39.0	27.3	140.4
Bastar	25.3	22.5	56.0
Betul	32.8	25.8	55.2
Bhind	24.9	17.3	48.9
Bhopal	54.7	35.8	58.4
Bilaspur	36.8	27.9	72.7
Chhatarpur	19.1	14.1	37.6
Chhindwara	57.0	40.7	104.3
Damoh	38.1	27.6	81.1
Datia	49.0	45.3	60.9
Dewas	52.1	42.0	71.4
Dhar	43.1	31.5	110.6
Durg	47.7	44.9	51.2
East Nimar	35.0	27.8	57.3
Guna	55.6	36.9	66.9
Gwalior	53.2	40.5	82.9
Hoshangabad	70.7	12.6	92.8
Indore	52.4	32.7	76.8
Jabalpur	32.3	25.6	91.1
Jhabua	52.7	38.3	93.7
Mandla	56.9	45.6	115.3
Mandsaur	29.1	24.7	79.2
Morena	58.2	44.2	102.2
Narsimhapur	28.9	22.7	45.3
Panna	47.5	35.7	110.6
Raigarh	23.2	17.8	48.9
Raipur	29.9	23.4	91.3
Raisen	48.7	35.8	97.9
Rajgarh	44.5	39.8	59.3
Rajnandgaon	37.2	26.8	79.2
Ratlam	46.9	39.6	79.5
Rewa	63.2	42.6	106.5
Sagar	25.7	12.9	85.7
Sarguja	43.6	24.7	91.2
Satna	16.2	13.7	30.4
Sehore	34.5	19.2	85.1
Seoni	53.7	47.8	73.4
Shahdol	49.8	42.6	108.7
Shajapur	27.7	24.6	37.4
Shivpuri	42.3	31.6	86.6
Sidhi	28.9	22.4	61.4
Tikamgarh	17.9	11.0	52.8
Ujjain	29.1	15.9	84.3
Vidisha	58.3	41.8	83.1
West Nimar	35.9	29.5	59.8
<b>Madhya Pradesh</b>	<b>41.2</b>	<b>29.4</b>	<b>75.5</b>

Source: Madhya Pradesh Vidyut Mandal Nigam, 1995-96, Vidyut Vikas ki Sankhyaki.

Note: \* Where figures exceed 100 percent, it shows either actual households in excess of estimated households, or more than one connection for many households.

**Table E7: Employment, Literacy and Gender Ratio of Scheduled Tribes in Madhya Pradesh**

(Percent)

Districts	Population of ST to Total		
	All	Rural	Urban
Balaghat	21.9	23.2	9.6
Bastar	67.4	71.2	17.7
Betul	37.5	44.6	6.6
Bhind	1.0	0.8	1.5
Bhopal	3.0	4.3	2.7
Bilaspur	23.0	26.3	6.9
Chhatarpur	3.8	4.5	0.8
Chhindwara	34.5	42.1	9.0
Damoh	12.4	14.8	1.6
Datia	1.7	1.9	0.9
Dewas	15.0	18.5	5.1
Dhar	53.5	59.4	14.0
Durg	12.4	16.1	5.8
East Nimar	26.8	36.1	2.2
Guna	12.0	14.0	3.7
Gwalior	2.9	5.2	1.3
Hoshangabad	17.4	22.2	4.5
Indore	5.5	12.1	2.6
Jabalpur	17.9	28.0	5.8
Jhabua	85.7	91.1	28.0
Mandla	23.3	28.8	4.9
Mandsaur	60.8	64.9	12.3
Morena	4.8	5.7	1.8
Narsimhapur	5.6	6.8	0.7
Panna	12.9	14.4	4.5
Raigarh	14.9	16.4	4.9
Raipur	47.7	51.2	14.6
Raisen	18.3	21.6	4.8
Rajgarh	14.4	16.4	3.9
Rajnandgaon	3.3	3.7	1.4
Ratlam	25.2	28.8	5.5
Rewa	23.3	32.7	3.1
Sagar	12.4	13.6	6.1
Sarguja	8.5	11.3	1.5
Satna	53.7	59.2	13.2
Sehore	13.8	16.0	4.7
Seoni	10.2	11.5	4.0
Shahdol	37.0	40.2	6.3
Shajapur	46.3	54.3	16.6
Shivpuri	2.4	2.7	0.9
Sidhi	11.3	12.8	2.9
Tikamgarh	30.4	32.0	8.0
Ujjain	4.1	4.6	1.8
Vidisha	2.1	2.6	1.4
West Nimar	4.4	5.2	1.1
<b>Madhya Pradesh</b>	<b>46.2</b>	<b>53.0</b>	<b>8.1</b>

Source: Census of Madhya Pradesh, 1991, Primary Census Abstract.

**Table E8: Employment, Literacy and Gender Ratio of Scheduled Castes in Madhya Pradesh**

Districts	(Percent)		
	Worker Participation Rate		
	Total	Rural	Urban
Balaghat	49	51	32
Bastar	51	54	36
Betul	42	48	25
Bhind	28	29	26
Bhopal	35	46	30
Bilaspur	45	47	33
Chhatarpur	44	46	35
Chhindwara	39	44	26
Damoh	47	48	38
Datia	40	42	31
Dewas	45	48	33
Dhar	47	48	36
Durg	44	50	31
East Nimar	46	51	31
Guna	39	41	30
Gwalior	33	38	28
Hoshangabad	39	43	28
Indore	36	45	31
Jabalpur	37	46	27
Jhabua	50	54	32
Mandla	44	46	29
Mandsaur	51	54	35
Morena	32	33	36
Narsimhapur	43	45	32
Panna	46	47	38
Raigarh	49	51	32
Raipur	48	50	35
Raisen	42	43	33
Rajgarh	49	52	33
Rajnandgaon	51	54	38
Ratlam	31	57	34
Rewa	46	47	40
Sagar	44	46	39
Sarguja	45	50	25
Satna	46	48	39
Sehore	46	48	32
Seoni	47	48	29
Shahdol	41	45	30
Shajapur	51	52	37
Shivpuri	44	46	29
Sidhi	45	46	30
Tikamgarh	44	46	32
Ujjain	45	50	30
Vidisha	44	46	31
West Nimar	48	50	38
<b>Madhya Pradesh</b>	<b>43</b>	<b>47</b>	<b>31</b>

Source: Census of Madhya Pradesh, 1991, Primary Census Abstract.

**Table E9: Road Network in Madhya Pradesh**

Districts	(Km.)	
	Road Length Per 100 Sq. Km.	Rural Roads Per Village
Balaghat	52.0	2.7
Bastar	21.4	1.4
Betul	23.1	1.3
Bhind	31.3	1.5
Bhopal	17.2	0.8
Bilaspur	51.7	2.2
Chhatarpur	26.1	2.0
Chhindwara	23.7	1.2
Damoh	32.4	1.8
Datia	27.8	1.3
Dewas	16.9	1.0
Dhar	27.5	1.5
Durg	70.3	3.0
East Nimar	34.8	2.2
Guna	10.8	0.6
Gwalior	31.8	2.2
Hoshangabad	25.7	1.4
Indore	58.2	3.0
Jabalpur	37.5	1.5
Jhabua	44.6	2.2
Mandla	35.5	1.5
Mandsaur	24.3	1.4
Morena	17.5	1.6
Narsimhapur	26.1	1.1
Panna	16.8	1.0
Raigarh	33.8	1.6
Raipur	69.2	2.7
Raisen	7.2	0.4
Rajgarh	15.4	0.5
Rajnandgaon	44.4	1.6
Ratlam	19.5	0.9
Rewa	49.6	1.3
Sagar	17.7	0.8
Sarguja	23.0	1.7
Satna	51.2	2.0
Sehore	11.1	0.7
Seoni	33.3	1.3
Shahdol	27.7	1.9
Shajapur	26.2	1.5
Shivpuri	12.3	0.8
Sidhi	50.0	2.4
Tikamgarh	40.4	2.1
Ujjain	15.4	0.8
Vidisha	10.1	0.5
West Nimar	48.5	2.6
<b>Madhya Pradesh</b>	<b>31.3</b>	<b>1.6</b>

Source: Sadak Sankhyaki, Madhya Pradesh, 1996.

**Table E10: Forest Cover in Madhya Pradesh**

Districts	Per Capita Forest Area (Sq. Km.)	
	1981 Census	1991 Census
Balaghat	0.350	0.300
Bastar	1.180	0.950
Betul	0.430	0.340
Bhind	0.008	0.006
Bhopal	0.050	0.030
Bilaspur	0.270	0.210
Chhatarpur	0.220	0.170
Chhindwara	0.350	0.280
Damoh	0.430	0.340
Datia	0.090	0.070
Dewas	0.360	0.240
Dhar	0.130	0.100
Durg	0.090	0.070
East Nimar	0.410	0.330
Guna	0.430	0.320
Gwalior	0.120	0.100
Hoshangabad	0.340	0.270
Indore	0.060	0.050
Jabalpur	0.110	0.080
Jhabua	0.240	0.170
Mandla	0.730	0.520
Mandsaur	0.180	0.150
Morena	0.380	0.290
Narsimhapur	0.210	0.160
Panna	0.750	0.590
Raigarh	0.490	0.350
Raipur	0.230	0.180
Raisen	0.480	0.380
Rajgarh	0.040	0.030
Rajnandgaon	0.250	0.200
Ratlam	0.150	0.130
Rewa	0.080	0.070
Sagar	0.210	0.170
Sarguja	0.740	0.580
Satna	0.190	0.150
Sehore	0.260	0.210
Seoni	0.340	0.280
Shahdol	0.410	0.320
Shajapur	0.008	0.006
Shivpuri	0.380	0.290
Sidhi	0.440	0.320
Tikamgarh	0.100	0.080
Ujjain	0.004	0.002
Vidisha	0.150	0.120
West Nimar	0.310	0.240
<b>Madhya Pradesh</b>	<b>0.300</b>	<b>0.230</b>

Source: Environment Planning and Co-ordination Organisation (ECPO), Madhya Pradesh, 1996, Third Environmental Status Report of Madhya Pradesh

**Table E11: Selected Information on Urban Slums and Towns**

Districts	Slums			
	Name of Town(s)	Percent of Population of Town Residing in Slums	Area of Slums (Sq. Km.)	Density of Population in Slums (Persons/Sq. Km.)
Balaghat	Balaghat	27.93	3.80	3643
Bastar	Jagdapur	10.09	0.27	19174
Betul	--	--	--	--
Bhind	Bhind	28.52	7.45	2852
Bhopal	Bhopal	6.22	0.57	73268
Bilaspur	Bilaspur, Korba	21.09	6.28	3534
Chhatarpur	Chhatarpur	13.90	5.75	1256
Chhindwara	Chhindwara	25.52	0.17	112841
Damoh	--	--	--	--
Datia				
Dewas	Dewas	28.63	5.61	4260
Dhar	--	--	--	--
Durg	Durg, Dallirajahara	16.71	11.15	2547
East Nimar	East Nimar, Burhanpur	7.58	4.35	8417
Guna	Guna	43.15	13.90	1394
Gwalior	Gwalior	11.09	0.96	62292
Hoshangabad	Itarsi	13.28	1.00	8302
Indore	Indore, Mhow	13.05	19.42	6095
Jabalpur	Jabalpur, Murwara	37.88	11.43	22932
Jhabua	--	--	--	--
Mandla	--	--	--	--
Mandsaur	Mandsaur, Neemuch	14.13	0.58	34960
Morena	Morena	18.03	5.95	2118
Narsimhapur	--	--	--	--
Panna	--	--	--	--
Raigarh	Raigarh	30.93	3.32	6340
Raipur	Raipur, Dhamtari	4.78	9.60	1961
Raisen	--	--	--	--
Rajgarh	Rajgarh	30.93	3.32	6340
Rajnandgaon	Rajnandgaon	9.11	0.34	23156
Ratlam	Ratlam	5.35	0.62	12282
Rewa	Rewa	19.40	14.60	1338
Sagar	Sagar	15.27	5.85	4188
Sarguja	--	--	--	--
Satna	Satna	5.34	3.00	1611
Sehore	Sehore	1.34	0.50	1400
Seoni	Seoni	8.30	2.00	2242
Shahdol	--	--	--	--
Shajapur	--	--	--	--
Shivpuri	Shivpuri	11.16	2.08	4062
Sidhi	--	--	--	--
Tikamgarh	--	--	--	--
Ujjain	Ujjain, Nagda	17.06	5.99	9544
Vidisha	Vidisha	5.95	2.30	1696
West Nimar	West Nimar	10.62	3.10	1806
<b>Madhya Pradesh</b>			<b>155.26</b>	

Source: Environment Planning and Co-ordination Organisation (ECPO), Madhya Pradesh, 1996, Third Environmental Status Report of Madhya Pradesh.

### Annexure 1: List of Blocks and Gram Panchayats in Madhya Pradesh

	Districts	Name of Block	Population of Block
1.	Sheopur 559715 (264085)	Sheopurkalan	1,66,085
		Vijaypur	1,32,538
		Krahal	69,567
2.	Morena 1587264 (716021)	Morena	2,04,820
		Ambah	1,55,831
		Porsa	1,44,172
		Jaura	1,59,358
		Pahargarh	1,10,585
		Sabalgarh	1,15,461
		Kelaras	1,06,566
3.	Bhind 1426951 (646829)	Bhind	1,61,506
		Ater	1,79,637
		Mehgaon	2,10,570
		Lahar	1,43,777
		Mihona (Raun)	95,798
		Gohad	1,76,574
4.	Gwalior 1629881 (747623)	Murar	1,05,149
		Ghatigaon	1,06,417
		Dabra	1,46,136
		Bhitarwar	1,32,526
5.	Shivpuri 1440666 (665193)	Shivpuri	1,10,279
		Kolaras	87,216
		Karera	1,37,205
		Narvar	1,28,483
		Pohri	1,35,374
		Pichhor	1,18,414
		Khaniyadhana	1,42,040
		Badarvas	1,04,111
6.	Guna 1665503 (782070)	Guna	1,34,314
		Bamori	1,04,048
		Chachauda	1,39,955
		Radhogarh	1,40,047
		Aaraun	76,520
		Ashoknagar	1,38,983
		Ishagarh	1,10,719
		Mungavli	1,33,574
		Chanderi	88,115
7.	Datia 627818 (289976)	Datia	1,62,084
		Sevda	1,45,268
		Bhander	1,02,643
8.	Dewas 1306617 (630203)	Dewas	1,56,244
		Sonkachh	98,262
		Tonkkhurd	98,074
		Kannod	1,29,425
		Khategaon	1,28,952
		Bagli	1,71,567
9.	Ratlam 1214536 (594417)	Ratlam	1,96,109
		Salana	87,524
		Bajna	88,463
		Javra	1,29,241
		Piploda	91,856
		Aalot	1,23,648
10.	Shajapur 1290230	Shajapur	1,47,336
		Moman Badodiya	1,42,740
		Agar	81,275
		Badod	83,316
		Susner	80,071

**Annexure 1 (Contd.)**

	<b>Districts</b>	<b>Name of Block</b>	<b>Population of Block</b>
		Nalkhera	68,143
		Shujalpur	1,00,669
		Kalapipal	1,46,812
11.	Mandsaur 1183369 (578427)	Mandsaur	2,14,977
		Sitamau	1,88,847
		Malhargarh	1,27,607
		Jaura	1,59,358
		Pahargarh	1,10,585
		Sabalgarh	1,15,461
		Kelaras	1,06,566
12.	Neemach 725457 (353485)	Neemach	1,26,660
		Javad	1,48,699
		Manasa	1,59,638
13.	Ujjain 1709885 (828376)	Ujjain	1,07,375
		Ghatiya	90,828
		Badnagar	1,60,151
		Khachraud	1,69,858
		Mahidpur	1,49,846
		Tarana	1,59,709
14.	Indore 2585321 (1232472)	Indore	1,77,600
		Mahoo	1,39,930
		Sanver	1,35,596
		Depalpur	1,33,683
15.	Dhar 1740577 (849724)	Dhar	71,573
		Nalchha	1,25,429
		Tirla	56,163
		Badnavar	1,38,978
		Sardarpur	1,68,050
		Manavar	95,953
		Dharamपुरi	88,690
		Gandhwani	96,145
		Bakaner (Umervan)	89,256
		Kukshi	58,694
		Nisarpur	60,900
		Bagh	74,189
		Dahi	77,893
16.	Jhabua 1396677 (694935)	Jhabua	1,03,465
		Rama	83,713
		Ranapur	77,637
		Alirajpur	84,247
		Sondva	1,06,450
		Kathivada	72,317
		Jovat	60,580
		Udayagarh	58,757
		Bhavra	63,672
		Petlavad	1,26,559
		Thandla	97,353
		Meghnagar	98,116
17.	Khargaun (West Nimar) 1529954 (744742)	Khargaun	87,093
		Gogaon	78,639
		Segaon	55,150
		Bhikangaon	1,11,376
		Jhirnaya	1,12,519
		Maheshwar	1,49,068
		Badwaha	1,88,723
		Kashravad	1,39,889

**Annexure 1 (Contd.)**

	<b>Districts</b>	<b>Name of Block</b>	<b>Population of Block</b>
18.	Badwani 1081039 (533202)	Badwani	86,095
		Pati	62,761
		Thhakri	91,923
		Rajpur	1,19,358
		Pansemal	68,636
		Sendhava	1,56,004
		Nivali	62,024
19.	Khandwa (East Nimar) 1708170 (825799)	Khandwa	98,253
		Punasa	1,11,296
		Chhegaon Makhan	1,00,206
		Pandhana	1,40,692
		Burhanpur	1,54,300
		Nepanagar	1,54,001
		Harsood	67,754
		Baldi	55,284
		Khaalwa	1,00,939
20.	Bhopal 1836784 (867820)	Fanda	1,23,248
		Bersiya	1,47,371
21.	Sehore 1078769 (513382)	Sehore	1,98,287
		Ichhavar	93867
		Aashtha	1,94,362
		Budhani	82,339
		Nasrullaganj	1,11,318
22.	Raisen 1120159 (524429)	Sanchi	1,20,552
		Obedullaganj	1,26,382
		Begamganj	80,216
		Garetganj	82,552
		Silvani	99,618
		Bareli	1,47,726
		Udayapur	1,05,318
23.	Rajgarh 1253246 (604396)	Rajgarh	1,55,479
		Khilchipur	1,23,217
		Jeerapur	1,28,461
		Narsinghgarh	2,26,364
		Byavra	1,81,135
		Sarangpur	1,78,100
24.	Vidisha 1214759 (567127)	Vidisha	1,18,237
		Gyaspur	87,221
		Basauda	1,40,050
		Nateran	1,23,697
		Kurwai	1,02,533
		Sironj	1,25,644
		Lateri	77,793
25.	Betul 1394421 (684896)	Betul	1,22,361
		Chicholi	56,686
		Ghodadongari	97,573
		Shahpur	72,658
		Multai	1,13,460
		Prabhat Pattanam	1,09,184
		Amla	1,11,241
		Bhensdehi	84,040
		Aathner	79,132
		Bhimpur	90,092

**Annexure 1 (Contd.)**

	<b>Districts</b>	<b>Name of Block</b>	<b>Population of Block</b>
26.	Hoshangabad 1085011 (513215)	Hoshangabad	81,083
		Babai	85,809
		Kesla	98,884
		Sohagpur	83,323
		Vankhedi	83,238
		Pipriya	80,194
		Sivnani Malva	1,18,205
27.	Harda 474174 (227045)	Khirkiya	96,790
		Harda	1,52,409
		Timarni	85,402
28.	Sagar 2021783 (948751)	Sagar	1,80,616
		Rahatgarh	1,18,039
		Jaisinagar	97,872
		Rahli	1,36,095
		Devri	1,00,080
		Kesli	83,208
		Banda	1,21,459
		Shahgarh	76,522
		Khurai	1,00,307
		Malthon	1,01,637
		Bina	94,679
29.	Damoh 1081909 (513205)	Damoh	1,48,641
		Pathariya	1,06,499
		Jabera	1,19,444
		Tendukheda	98,425
		Hata	85,402
		Patera	88,739
		Batiyagarh	97,076
30.	Panna 854235 (406312)	Panna	1,14,740
		Gunaur	1,32,925
		Pavai	1,27,353
		Shahnagar	1,23,896
		Ajaygarh	1,03,901
31.	Chhatarpur 1474633 (685788)	Chhatarpur	1,44,080
		Rajnagar	1,69,373
		Naugaon	1,30,676
		Laundi	1,13,453
		Gaurihar	1,24,335
		Bijavar	95,094
		Badamalhara	1,21,669
		Baksvaha	45,183
32.	Tikamgarh 1203160 (565318)	Tikamgarh	1,21,735
		Baldevgarh	1,36,183
		Nivadi	1,26,378
		Prathavipur	1,02,885
		Jatara	1,66,313
		Palera	1,27,298
33.	Jabalpur 2167469 (1032599)	Panagar	1,47,199
		Kundam	92,438
		Bargi (Jabalpur)	1,82,495
		Sihora	99,934
		Majhauri	1,16,594
		Patan	95,934
		Shahpura	1,27,589

**Annexure 1 (Contd.)**

	<b>Districts</b>	<b>Name of Block</b>	<b>Population of Block</b>
34.	Katni 1063689 (515612)	Bahoriband	1,36,125
		Dhimarkheda	1,26,026
		Rithi	85,672
		Katni	88,254
		Badwara	1,23,833
		Vijayaraghavgarh	1,24,535
35.	Narasimhapur 957399 (455992)	Narasimhapur	1,12,140
		Gotegaon	1,26,576
		Kareli	94,469
		Saikheda	93,396
		Chavarpatha	1,31,853
36.	Chhindwara 1848882 (902300)	Chhindwara	1,24,030
		Tamiya	76,180
		Prasiya	1,80,407
		Mohkhed	1,25,552
		Jaamai	1,73,788
		Saunsar	1,02,261
		Padhurna	1,19,789
		Bichhua	64,835
		Amarvada	1,01,520
		Chaurai	1,31,323
		Hararai	82,695
37.	Seoni 1165893 (577758)	Seoni	1,81,342
		Barghat	1,45,938
		Kurai	85,992
		Kevlari	1,18,209
		Lakhnadaun	1,33,507
		Chhapara	86,389
		Kahanapas (Ghansore)	1,01,240
		Dhanora	58,914
38.	Mandla 893908 (447421)	Mandla	1,19,051
		Mohgaon	56,250
		Ghughari	67,241
		Nainpur	1,00,764
		Bichhiya	1,12,771
		Mavai	61,698
		Niwas	53,876
		Narayanganj Bijadandi	59,844 51,944
39.	Dindori 579312 (288740)	Dindori	94,565
		Amarpur	50,384
		Karanjiya	53,997
		Samnapur	54,459
		Bjag	58,053
		Mehadvani	56,175
		Shahpura	86,847
40.	Balaghat 1445760 (730822)	Balaghat	1,43,533
		Lanji	1,47,309
		Kirnapur	1,42,801
		Bahar	68,073
		Paraswada	81,782
		Birsa	1,24,942
		Varasivni	1,25,843
		Kherlanji	1,28,690
		Lalbarra	1,36,547
		Katangi	1,40,850

**Annexure 1 (Contd.)**

	<b>Districts</b>	<b>Name of Block</b>	<b>Population of Block</b>
41.	Rewa 1972333 (954931)	Rewa	1,68,049
		Raipur Karchuliyan	1,64,951
		Maoganj	1,09,916
		Hanumna	1,52,732
		Naigarhi	1,05,541
		Tyaonthar	1,45,267
		Java	1,43,662
		Sirmaur	1,78,140
		Gangave	1,49,914
42.	Shahdol 1572748 (769332)	Pushprajgarh	1,68,039
		Sohagpur	1,32,459
		Anuppur	1,11,656
		Kotma	41,288
		Jaithari	37,688
		Pali (Gohparoo)	78,597
		Budhar	1,63,536
		Byohari	1,29,094
		Jaisimhanagar	1,26,292
43.	Umaria 515851 (250853)	Umaria (Karkeli)	1,52,942
		Manpur	1,43,326
		Pali	56,066
44.	Sidhi 1830553 (883277)	Sidhi	1,37,804
		Singhaval	1,57,188
		Kusmi	51,148
		Majhauri	1,02,135
		Rampur Naikin	1,72,394
		Devsar	1,74,711
		Chitrangi	1,93,848
		Baidhan	2,93,668
45.	Satna 1868648 (898534)	Satna (Suhaval)	1,39,644
		Chitrakoot (Majhgavan)	1,69,950
		Rampur Baghelan	1,92,618
		Nagod	1,43,449
		Uchehara	1,11,917
		Amarpatan	1,33,192
		Ramnagar	1,16,488
		Mehtar	2,02,832

## **Annexure 2: Guidelines for Field Workers**

### **Surveys of Rural Households and Urban Slum Households**

- 1. Introduction**
- 2. Concepts and Definitions**
- 3. Some Important Steps**
- 4. Instructions for Survey of Villages**
- 5. Instructions for Rural Household Questionnaire**
- 6. Instructions for Urban Slum Survey**

**April 2003**  
**NIPFP- Cida Project**  
**INDIA: FISCAL REFORMS FOR POVERTY REDUCTION**  
**New Delhi**

## **1. Introduction**

This survey in a general sense is all about the poor. Their activities, occupations, income accruing from different sources and expenditure on food and other necessities are to be investigated. The objectives of the survey however, are concerned not merely with their level of living but also with the situation prevailing in respect of their education, health, water, sanitation, law and personal security, awareness of the political system and lastly and importantly the benefits they have received from the various Government schemes.

### **Usefulness of Survey Results**

The results would throw light on the conditions under which the poor carry on their daily existence, the constraints they are subject to, their expectations from the government and their perception of poverty. Poverty- reduction programmes have been launched by the government since long. Insufficiencies if any, of the government measures including those by the local panchayats to uplift the lot of the poor would be revealed. The adequacy or otherwise of the on-going government schemes will be studied in the light of which reforms could be formulated and placed before the planners.

### **Need for Sample Survey**

It is obvious that each and every poor household cannot be contacted for data collection because of the cost involved, enormous time it would take and the difficulties of organization. A fraction of the population is therefore, surveyed for collection of desired information. There are definite rules for selection of the sample. The results of an arbitrarily selected sample cannot be generalized. It is to be noted therefore, that arbitrary or subjective criteria are not used in sample selection. A sample survey carried out according to specified principles of probability sampling (or in short, as a random sample) is the one from which it is possible not only to estimate the values of characteristics for the population but also to get valid estimates of the sampling errors. These sampling errors provide in turn the confidence limits that contain the parameters being estimated with a high probability. In other words, we get the margin of uncertainty of the estimates.

### **Control of Errors**

In any survey it should be our objective to minimise the errors. Since we are surveying a part of the population, the estimate obtained for any characteristic from this survey may not be equal to the true value of the population parameter; first because of the sampling fluctuations and secondly due to the other factors like coverage errors, response and ascertainment errors, processing errors. There are therefore, two types of errors:

- i. Sampling Error: This error is in-built when a particular method of random sampling is adopted. There are various methods of reducing this type of error.
- ii. Non-Sampling Error: This category of error comprises a whole lot of possible sources. In particular, the investigator should pay attention to errors arising in the field out of
  - a) wrong understanding of concepts and definitions
  - b) incorrect identification of sampling unit
  - c) numerical errors in recording
  - d) faulty selection of households
  - e) incorrect classification of households while stratifying
  - f) wrong way of putting questions to the respondent by putting words in respondent's mouth or in short, defective interviewing technique and so on

The investigator has to be careful right from the start of identifying the village from the sample list to the final submission of the filled in questionnaire. In what follows some of the important concepts and definitions, heavily drawn from the National Sample Survey Organization, are explained.

In a later section some of the important steps are given for the special attention of the investigators. The steps may be followed to reduce the non-sampling errors. Lastly, the salient points of the household questionnaires are explained, The instructions given must be studied and followed.

## **2. Concepts and Definitions**

### **Household**

A group of persons normally living together and taking food from a common kitchen will constitute a household. The members of a household may or may not be related by blood to one another. Therefore, family and household are not necessarily interchangeable. The number of normally resident members of a household is its size; it will include temporary stay-aways but exclude temporary visitors and guests. In deciding the composition of a household, more emphasis is to be placed on 'normally living together' than on 'ordinarily taking food from a common kitchen'. A resident employee or domestic help or a paying guest will be considered as a member of the household with whom he resides even though he is not a member of the family. Floating population that is, persons without any normal residence will not be listed. But households residing in open space, roadside shelter, under a bridge etc. more or less regularly in the same place will be listed.

### **Economic Activity**

Any activity that is performed for production of goods and services for market for pay or profit is defined as an economic activity. The non-market activities like production of agricultural produce for own consumption and those relating to own-account production of fixed assets like construction of own houses; machinery, tools for household enterprise are also considered economic activities.

### **Unusual Activity**

The economic activity or non-economic activity on which a person spent relatively longer time during the 365 days preceding the date of survey is considered the usual activity status of the person. The broad principal usual activity status could be one of the three categories: 'employed' (working); 'unemployed' (available for work) and 'not in labour force'. The first category includes both salaried/wage earners and self-employed in household enterprises. In the second category are those who are not working but available for work. The third category includes those who are not involved in any economic activity *viz.*, students, domestic help, pensioners and so on.

### **Status Code**

For each adult and child, the status code has to be given. While during the 365 days preceding the date of survey, if a person did not have any income, the status code will by definition be 0. The rest of the members will be divided into 2 categories: working and non-working. The sub-categories are self-explanatory; a few are however, explained.

### **Self-Employed**

Persons who operate their own farm or non-farm enterprises or are engaged in a profession or a trade on own account or with a few partners are self-employed in household enterprises.

### **Salaried/Wage Earning**

Persons in others' farms or non-farm enterprises and getting in return salary or wages on regular basis and not on daily or periodic renewal of work contract are only to be considered. The persons may be part time or full time workers.

### **Casual Worker**

A person, getting wage in return of his casual employment in others' farm or non-farm enterprises according to the terms of daily or periodic work contract is a casual wage labourer.

### **Agricultural Labour**

A person will be treated as a wage-paid manual labourer in agriculture or an agricultural labourer if he/she follows one or more of the following agricultural occupations in the capacity of a labourer on hire or on exchange, whether paid wholly in cash or in kind or partly in cash and partly in kind:

- i. farming including cultivation and tillage etc,
- ii. dairy farming
- iii. production, cultivation, growing and harvesting of any horticultural commodity
- iv. raising of livestock, bees or poultry
- v. any practice performed on a farm as incidental to or in conjunction with farm operations

### **Public Distribution System (PDS)**

It means the distribution of some essential commodities by the government at subsidized rate through ration shops, fair price shops and control shops. These shops may be owned by the government, local self- government, a government-undertaking etc. For kerosene, PDS will also include depots selling kerosene at controlled prices.

### **Slum**

A slum is a compact area with a collection of poorly built tenements, mostly of temporary nature, crowded together usually with inadequate sanitary and drinking water facilities in unhygienic conditions. Such an area will be considered as a slum if at least 20 households live in that area for the purpose of this survey. Some areas are notified as slums by the respective municipalities, corporations, local bodies or development authorities. In this survey, all the slums whether notified or not will come within the purview of the survey.

### **Squatter Settlement**

Sometimes an area develops into an unauthorised settlement with unauthorised structures put up by 'squatters'. Squatter settlement will include all slum like settlements that do not have the stipulated number of 20 households.

## **3. Some Important Steps**

### **Proper Identification of the Boundaries**

*a. First Stage Unit (FSU):* Districts being the FSUs, boundaries are fairly distinguishable. Even then in cases of doubts, the maps at the district headquarters may be seen in consultation with the officials. The problem may arise only in cases of sample villages in the rural sector falling in the fringe areas of two or more adjacent districts. There should not be any problem in identification of the FSUs that is, the sample towns in the urban sector.

*b. Second Stage Unit (SSU):* The investigator has the important task of identifying the exact boundaries of the SSU (sample village) as per the particulars supplied in the list.

Problem of Big Villages:

The investigator will have to decide after identifying the boundaries of the SSU whether the listing of the whole village is possible or not. In order to avoid arbitrariness, the following procedure is to be adopted to divide large villages into a number of hamlet groups and then selecting one of them at random for survey purposes:

Plains		Hilly Areas	
Present Population of the Sample Village	Number of Hamlet Groups	Present Population of the Sample Village	Number of Hamlet Groups
Less than 1200	Nil	Less than 600	Nil
1200 – 1799	3	600 – 999	3
1800 – 2399	4	1000 – 1199	4
2400 and more	5	1200 and more	5

The hamlets will be formed in such a way that all the hamlets are more or less of equal population content. For those villages for which 3 hamlets have been formed, one will be selected at random. But for larger villages, two hamlets will be selected at random and two questionnaires will have to be filled up, which means the listing operations also will have to be done twice, one for each of the selected hamlets. The number of hamlets must be noted in the relevant item of the questionnaire.

A freehand sketch-map of the village showing the boundaries of the hamlets should be drawn on a separate sheet and attached with the village questionnaire. It need not be drawn to scale. The selected hamlet is to be shaded.

### **Listing of Households**

Once the boundaries of the sample village are identified, as a rule, the listing of households should be taken up from the north-west corner of the village, moving in a serpentine manner towards the southern part of the village taking care not to miss out any household.

The sampling serial number of the village as given in the sample list should be copied properly in the appropriate item. As will be observed from the structure of the listing schedule, the households are to be stratified into two strata. For identifying the poor in the village, a twin criteria is used: its vulnerability and its placement in village records as falling below the poverty line. Those households designated as either landless or agricultural labour or marginal farmers or SC or ST or headed by women will be taken as the vulnerable group and if so, a tick mark is to be given in the column. Those households having tick marks both in 'vulnerable' and 'BPL' will be included in the first stratum. All the other households will feature in the second stratum. In the subsequent two columns, the households will be given separately the running sampling serial numbers for sampling. From stratum 1 eight households will be selected at random and from stratum 2 two households.

The total numbers of households in the two strata are to be noted in relevant items in the first block.

### **Substitution of Villages (SSU's)**

It may happen that a sample ssu could not be identified or traced or it may be a restricted area like military barracks or it could not be reached despite best of efforts. In such cases the ssu has to be substituted by another from the Sample List provided. The reasons for substitution are to be given in codes:

Original sample ssu	not identifiable/ traceable ---1
	not accessible ----- 2
	restricted area ----- 3
	others (specify) ----- 4

The name of the substitute village and its sampling serial number are to be given on the cover page of the questionnaire and also the reason code.

## **Survey Codes**

There could be three possibilities:

- i. selected village has been surveyed -----1
- ii. selected village is a casualty but a substitute village has been surveyed--2
- iii. selected village is a casualty and no substitute has been surveyed --- 3

In the third case it is assumed that efforts have been made to go for the next serial number in the list of substitute villages in case the substitute village happens to be uninhabited, not accessible or unidentifiable.

The survey codes are to be given on the cover page of the questionnaire.

### **Sub-Sample Number**

The total sample has been divided into two subsamples to be surveyed independently by two different parties of investigators. It is very necessary that the subsample number is given on the cover page.

### **Shortfall in the Number of Households**

If the number of households in any of the two strata is less than the required number to be surveyed, all the households in the concerned stratum are to be surveyed.

### **Use of Random Number Tables**

The layout of the two digit random numbers is in the form of 50 rows and 20 columns in a page. The leaflet given to the investigator will contain two pages of 20 columns each, the columns given a running serial number. The nth column will be consulted where n is the two digits of the sampling serial number. For successive draws, proceed down the column and if after rejections, there is a shortfall in the required random numbers, move to the next column.

## **4. Instructions for Survey of Villages (R1)**

All the information sought for in the cover page are to be given; the information for the sample village are to be obtained from the sample list. The survey code is to be given from among the code list given at the bottom. If a substitute village is surveyed, the reasons are to be supplied in codes.

### **Page 1**

The first four items of village identification are to be filled up from the sample list. If hamlets are formed because of the large size of the sample village, it is very necessary to record the total number of hamlets formed and the name of the selected hamlet. If two hamlets are selected, for each hamlet one village questionnaire is to be filled up with hamlet no. added in item 5 ii) and a footnote at the bottom.

### **Page 2, item 2.01**

Primary schools have classes I to V. Non-formal schools claiming to be primary schools are not to be recorded.

The information on items 2.03 to 2.11 as also on facilities are to be collected as on date of survey.

### **Page 3, item 3.01**

Secondary schools have classes from VI to VIII.

The information on items 3.03 to 3.11 as also on facilities are to be collected as on date of survey.

In a school having classes I to X, the details as per format of the primary section and the secondary section only are to be given.

**Page 4**

Gram Panchayat and Village Panchayat are synonymous. The items are self-explanatory.

**Pages 5: item 5.05**

‘Sarpanch’ in Madhya Pradesh is the same as ‘Pradhan’ in Uttar Pradesh. Other items are self-explanatory.

**Page 6: items 6.01, 6.05, 6.09 and 6.13**

Large farmers are those who operate holdings of 10 hectares or more, ‘medium’ 2 to 6 hectares, ‘small’ 1 to 2 hectares and ‘marginal’ less than a hectare.

**Page 7**

Self Help Groups are to be included in others (7.12)

Apex organisation is the one at the State level having control over the community and cooperative activities.

Mode of financing: government-1; bank-2; cooperative credit societies-3; other institutions-4

**Page 8**

The statistics to be collected should be obtained from a reliable source e.g., the Sarpanch or Village Pradhan preferably looking into the register(s) he may be maintaining. For classifying the number of households according to income ranges too, the investigator may have to start (by asking the village pradhan) with the richest class ‘above Rs.20000’ and noting the frequency (no.) on a separate sheet. This procedure may be repeated for the next two lower size classes. The lowest class that is, 0-5000 will be the remainder. This procedure would be needed because the statistics on household income may not be available in village records.

**5. Instructions for Rural Household Questionnaire (R3)**

**Page 1**

**Household Identification:** Items 1.01-1.04 are to be copied from the Sample List whereas items 1.05-1.07 from the Listing Schedule. Item 1.08 is to be filled by counting the member codes (item 1.09).

**Demographic & other particulars:** Item 1.09: Member ID code

The existing version as appearing at the bottom of Page 1 is to be changed as : ‘List adults (completed 18 years) in sequence from eldest to youngest as A1,A2,-----and pre-adults and children C1, C2 -----respectively’

The usual activity during last year of the economically active members and those who were not, are to be entered in 1. 12 in codes (as explained in Concepts & Definitions).

Members not having any income during last 365 days are to be given 0 in status code.

**Page 2**

**Occupation and Income (last year):**

**Income from paid employment:** This block is to be filled up for all those members whose status code is 2 that is, salaried/wage earning. The appropriate ID code is to be mentioned.

**Item 2.03 to 2.05**

If a person works for 4 hours or more during a day, he will be considered to be a full time worker for the entire day.

If a member worked during last year less than full time, item 2.02 will be left blank but the amount received in cash as salaries and allowances (if any) will be recorded in item 2.03, value of benefits in kind in item 2.04 and hence the total of the two in item 2.05. If however, a member worked full time for some days and less than full time for some period, the total salary, allowances and total value of benefits in kind received for these two periods will be recorded in respective columns.

**Income from self-employment activities (last year):** In 2.06 first the ID code of the member is to be written and then the appropriate occupation code. For perennial non-agricultural activities, 2.07 and 2.08 may be left blank; the value of output may be entered in the total column i.e. 2.09

**Estimated value of output 2.14 (Total)** = 2.09(total) - {2.10(total) + 2.11 (total)}

**Net Income 2.18(total)** = 2.14(Total) - 2.17 (Total)

**Total income of the household last year 2.21:** This will be equal to 2.05(total) + 2.18(total) + 2.19 + 2.20

As the erstwhile members who had migrated to places outside the village are no longer members of the household the remittances sent by them should not be included.

### Page 3

#### Assets and Liabilities

**Rented House:** In this case when the ownership code is 3 in 3.01, expenditure on rent **last month** is to be given in 3.03

In the blank space below, introduce a new item 3.03a to record the amount spent on cesses and taxes paid by the household as a domestic consumer. Only taxes and cesses are included which are considered to be levied on the household as a consumer unit. Road cess, chowkidari tax, municipal rates are some examples.

License fees are paid against firearms, vehicles etc. For taxes to be paid monthly/quarterly/annual basis entries will be the amount last paid divided by the number of months for which paid. Professional tax or income tax will not be taken into account.

Item 3.04 that is, value of house should include cost of land.

**Assets:** The particulars of all assets including land, livestock and consumer durables are to be collected **as on the date of survey**.

#### Borrowing and Debt:

Source of borrowing: Introduce Self Help Group as code 8

The initial amount of loan as at the beginning of last year is to be recorded by sources from where the loan was procured. The loans taken during last year for agricultural activities are to be separately recorded while the total loan in the next column includes all types of loans taken for agricultural and non-agricultural activities and personal ones.

Outstanding loan at the end of the last year will be the sum of 'initial' + 'total loan during the year' - 'repaid during the year' as shown in column heading of 3.17

Expenditure on social ceremonies will be given in 3.18.

The relevant code (3.19) for mortgage taken for this purpose, if any will be ticked.

#### **Page 4**

##### **Expenditure on Food Consumption**

The expenditures on the listed items of food consumption in Rs.0.00 are to be collected for last 30 days. These expenditures for each item are broken up by source that is, spent on purchase from PDS (4.01) and market (4.02). If the consumption is from self-produced stock or received in lieu of work under the ' food for work' scheme, the imputed value of the quantity consumed has to be recorded in 4.03 or 4.04. Based on the consumption expenditure for one month (4.06), the estimated total annual expenditure on food (4.07) is to be obtained after including any abnormal expenditure say, on weddings or social ceremonies during last year.

#### **Page 4 contd.**

##### **PDS**

The break up of total quantities procured (4.08) in respect of the four items is to be given in 4.09 to 4.12 that is from PDS, market, self-produced or 'Food for work' during last month; to assess the price difference between PDS and market, price/ unit for each is also to be obtained in Rs. 0.00

The questions asked in respect of the quality of the commodities from PDS are self-explanatory.

##### **Expenditure on Clothings & Footwear:**

The investigator has to go into the detailed item list provided to obtain the aggregate figures. Item head Personal expenses: The title should be changed to 'expenses on miscellaneous goods and services' but expenses on conveyance, medical and post & telephone will be excluded from the scope of this item. Expenses in cash and imputed value of expenses in kind for non-productive purposes are to be recorded.

Sundry articles will include electric torch, bulb, batteries, earthenware, glassware, plastic goods, coir, rope, washing soap, soda, agarbatti, insecticide etc.

Consumer services will include those of domestic servant/cook, sweeper, barber, washerman, tailor, priest etc. Repair charges of non-durables are to be included if the goods are used for domestic consumption and not for productive purpose.

#### **Page 5**

**The information sought for on water supply and sanitation should pertain to the situation as on** date of survey except for the total cost including maintenance which should be obtained for last month.

#### **Pages 6-7**

Information are to be collected for both adults and children though the structure of questions for the latter is more detailed. The items are self-explanatory except attendance last week (7.04) for children attending school which is to be calculated upto 2 places of decimal.

As explained in the footnote, this in fact is a ratio of number of days attended last week to no. of days school was open. The maximum value of this ratio is 1.00

Item 7.11: The codes for transport may be taken from Page 2 of R1. It may be noted that 'no transport' will be the same as 'on foot'

Benefits from Government, items 7.18-7.25: The reference period for obtaining or assessing the benefits is last year. If a child got some preference in admission, code 1 is to be entered in 7.22, otherwise code 2. The amount by way of scholarship during last year is to be given in item 7.18. Since for each child the class of study is given in 7.01, the books received free of cost may be seen and the total calculated amount may be entered in 7.19. For free uniform, the number of sets received free

may be multiplied by the price ascertained from any knowledgeable person in the school and entered in 7.20. For mid-day meals, item 7.21, the cost may again be ascertained from the school authorities. If the school happens to be in another nearby village, the price of the mid-day meal may be ascertained from the 'mukhia'. The total of 'total benefits' for all children is to be given in 7.25

### **Page 8**

Item 8.05 will include other expenses incurred on transport and for boarding and lodging required for treatment outside the village.

### **Women's Antenatal and Postnatal Care**

This block is to be filled up for currently married women and questions are to be addressed in respect of the last pregnancy. BP means blood pressure, HB haemoglobin, TT tetanus toxoid; LB means live birth, SB still birth, AB aborted

Child's Health: It is expected that the investigator is familiar with the diseases for which a child is immunized. Hep is the abbreviation used for Hepatitis.

### **Page 9**

Expenditure on Fuel & Light: The consumption of electricity (9.05) will be in units as per the bill of last month. For gas (9.07) however, the household will be asked the number of days a cylinder (14.5 kg.) lasts. Based on that the consumption for 30 days will have to be calculated. In respect of cowdung, wood, twigs/dry leaves, efforts may be made to get the consumption in kg.

### **Electricity**

Items 9.05 & 9.06: Electricity and diesel consumed by the household during 30 days prior to the date of survey will be recorded. The consumption for other purposes like agriculture is not to be included

Items 9.20 – 9.24: Delete monthly cost (Rs.) above 9.20. The codes for 'how connected' will be recorded against the box below 9.20. Codes for alternative means will be given in 9.21 and its monthly cost in 9.23. Against item 9.22 will be recorded the estimated annual cost of electricity and alternatives. Annual cost of alternatives alone will be recorded in 9.24.

Total expenditure on intoxicants and gambling: In **9.31** the total of drinking, pan, tobacco and gambling for all the members will be recorded.

### **Page 10**

This is a summary block providing household expenditure culled from different pages. Introduce 'cesses and taxes (3.03a)' just below Rent (3.03) and label this as 10.15a

Item 10.37 refers to annual column and not the monthly column.

### **Page 11: Self-explanatory**

### **Page 12**

Law matter: The total of personal costs during last 12 months will be recorded in the box against 12.02, the breakdowns that is, spent on lawyer, court fees and others to be given separately.

The rest of the items are self-explanatory except item 12.15 where if the particular household did not need approach police or jail authorities, code '0' is to be entered; otherwise the codes for 'time taken' are to be consulted.

### **Page 13**

Item 13.01 & 13.03: In case of more than one mode of travel used, the most frequently mode used during last month is to be given

**Migration** The incidence and reasons of out- migration of members during last year are taken up in 13.08- 13. 1 0 to know the push factor. On the contrary, the pull of the particular village is also sought to be examined by getting the details of the in-migrants in the household as members.

There are two sets of codes for mode of transport, one for within the village and the other for outside the village. Care is to be taken to use the appropriate set for use in 13.01 or 13.03.

For items 13.09 and 13.11 the code list given for `migration` is to be consulted.

Migration code: A nearby town means urban area near the village having less than 1 lakh of population and a nearby city 1 lakh or more.

#### **Page 14**

**Elections** Details are to be collected on the members eligible to vote, in possession of voter identity card, when the eligible members last voted for Lok Sabha, Vidhan Sabha, Panchayat. The household's opinion of the services rendered by the Panchayat is also sought on individual public services

For item 14.36, the months are to be entered in two digits for example, the month of may be recorded as 05.

#### **Page 15:**

Member ID code is to be given in the third column.

Out of the several benefits to the particular member, only two most important ones are to be given in fourth and fifth columns as indicated by the informant.

Item 15.22: For schemes like `Annapurna`, another code may be added: `getting food grains-12` and another `others-13`

### **6. Instructions for Urban Slum Survey (U1-U3)**

**Schedule 0.1:** Listing of Slums(SL) and Squatter Settlements(SQ)

**Schedule 0.2 :** Listing of Households in Sample Slum

The investigator will first approach the Municipal Board or the Municipal Corporation or any such local body for obtaining a copy of the map of the selected town giving the location of the slums. While covering the entire town methodically, the slums will be serially numbered and the locations of squatter settlements noted and also serially numbered. These will be filled up properly in the 'Listing Schedule for slums(SL) & squatter settlements(SQ) ' for selection of the required number of sample SLs and SQs in the first stage. In the second stage, the 'Listing Schedule for households' will be filled up for each sample SL and SQ for selection of households. In both stages the selection will be simple random sampling without replacement. For this purpose the random number tables given is to be used, instructions for which are explained in the section 'Some important steps'.

In Sch 0.2, the sampling particulars of the selected slum will be copied from Sch 0. 1 and then the particulars of the selected slum as noted in the schedule will be collected. The items are self-explanatory.

#### **Urban Household Questionnaire**

As the household questionnaires for the rural household and the urban slum household are more or less the same, the clarifications and amendments as indicated for the former are to be noted for the latter too. The clarifications wherever necessary, are given below.

#### **Page 1**

The identification particulars are to be copied from Schedule 0.2. The format for filling of demographic block is the same as that of the rural counterpart.

**Page 2**

Occupation and Income: The occupation codes for the urban slum households are different from the rural codes. Moreover, the format of collection of data of this block is different. Slum dwellers may have more than one occupation and hence the distinction between primary and secondary occupation. The occupation on which a person devotes major time will be treated as the primary occupation. For children, two separate sets of occupation are listed: hazardous and non-hazardous. Data are to be collected on child labour for both of these sets.

Item 2.13: Some of the hazardous occupations for the children are carpet weaving, glass blowing, cotton ginning, dealing with cracker-preparation and so on

Gross income (2.17) = Total (2.04) + Total (2.08) + Total (2.12) + Total (2.16)

Net income (2.19) = 2.17 - 2.18

**Pages 3-12** Same as in the Rural questionnaire

**Page 13**

Migration History: Since there is a heavy influx of migrants from villages of different States in urban areas to form a major component of the slum population of any town, details on their native place, whether settled permanently in urban areas, frequency of visits to the original village, frequency and amount of remittances, if any sent to the village etc are to be collected.

**Page 14:** Same as in Rural

**Page 15:** Except for the change in the list of Government Schemes for the urban sector as compared to rural, the essence remains the same that how far the schemes have benefited the poor people.

# INDIA: FISCAL REFORMS FOR POVERTY REDUCTION

## PAPER 4: CASE STUDY OF CHHATTISGARH

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March 2004

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## **Preface**

This study has been undertaken by the National Institute of Public Finance and Policy at the instance of the Canadian International Development Agency (CIDA), Canada.

The study team consists of D. K. Srivastava, S. K. Sanyal, C. Bhujanga Rao, and Pinaki Chakraborty. Opinions and analyses here are those of the authors. The members of the Governing Body of the National Institute of Public Finance and Policy are in no way responsible for these.

March 2004  
New Delhi

M. Govinda Rao  
Director

## **PAPER 4: CASE STUDY OF CHHATTISGARH**

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# INDIA: FISCAL REFORM FOR POVERTY REDUCTION

## PAPER 4: CASE STUDY OF CHHATTISGARH

### Chapter 1: GROWTH AND POVERTY: CHHATTISGARH

In terms of the Madhya Pradesh Reorganisation act 2000, the State of Madhya Pradesh has been reorganised and new state known as Chhattisgarh comprising 16 districts<sup>1</sup> of the composite state of Madhya Pradesh has been formed with effect from 1<sup>st</sup> November 2000. Situated in the Central eastern part of India, Chhattisgarh shares its boundaries with six states, viz. Madhya Pradesh, Maharashtra, Andhra Pradesh, Orissa, Jharkhand and Uttar Pradesh. The total geographical area of the state is 136.03 thousands sq. km. Geographically, the state is divided into three areas, viz., satpura range in the north, the Chhattisgarh plains<sup>2</sup> in the centre and the plateau of Bastar in the south. The state at present has three commissioner divisions, 16 districts, 93 tahsils, and 146 community development blocks including 85 tribal development blocks. With Panchayati Raj Institution (PRI) in place, the state has three-tier PRIs with 16 district panchayats, 146 Janpad Panchayats and 9139 village panchayats<sup>3</sup>. The state has 6 Municipal Corporations, 20 Municipal Councils and 49 Nagar Panchayats.

#### 1.1 Demographic Profile

As per the 2001 census, the total population of the state is 2.08 crore with male population of 1.05 crore and female population of 1.03 crore<sup>4</sup>. The sex ratio of the state is 990 females per 1000 males, which is above the national average of 920. Another important characteristic of the population is the concentration of the tribal population. The percentage of tribal population in total population is 32.46 percent as against 8.08 percent for all India and 19.9 percent for Madhya Pradesh. The population density is 154 persons per sq. km., which is much lower than the national average of 324. The work participation rate in the state is 42.10 percent, which is higher than the all India average of 37.46 percent. The

---

<sup>1</sup> The names of the districts are Bastar, Bilaspur, Dantewada, Dhamtari, Durg, Jangir-Champa, Jashpur, Kaner, Karnardha, Korba, Koriya, Mahasamund, Raigarh, Raipur, Rajanandgaon and Surguja.

<sup>2</sup> It is also known as the plains of river Mahanadi and its tributaries.

<sup>3</sup> "With a view to making the Panchayati Raj system more effective, the Zila Panchayats have been identified as the main units of development, while Janpad Panchayats the extended units and Gram Panchayats as executive units. The Panchayats have been developed with authority to implement various welfare schemes" (GOC: 2003).

<sup>4</sup> Population figures are taken from the Statistical Abstract, India, 2002, pp.-3.

increased work participation rate in the state compared to the national average is mainly due to the very high rate of work participation by females (GOC: 2003). The state has achieved overall literacy rate of 65 percent (which is equal to that of national average) with male and female literacy at 78 and 52 percent respectively<sup>5</sup>. However, it can be seen from Table 1.1, there are wide differences in the literacy rate across the districts.

**Table 1.1: Inter-District Comparison of Literacy Rate**

		Female		Male		Persons	
		1991	2001	1991	2001	1991	2001
1.	Koriya	24.53	50.08	51.78	76.01	38.79	63.44
2.	Surguja	15.21	42.17	39.01	68.19	27.34	55.37
3.	Bilaspur	27.99	48.08	62.43	78.98	45.46	63.68
4.	Korba	28.15	48.65	61.52	77.27	45.3	63.24
5.	Janjgeer-Champa	27.56	50.41	67.41	82.21	47.36	66.26
6.	Jashpur	26.93	57.9	59.05	83.1	42.96	70.5
7.	Raigarh	25.67	54.09	51.02	76.7	38.33	65.37
8.	Kawardha	31.91	67.92	66.01	87.54	48.77	77.58
9.	Rajnandgawn	14.16	39.6	45.42	71.35	29.78	55.39
10.	Durg	42.78	64.91	74.06	86.59	58.7	75.84
11.	Raipur	31.56	55.3	65.47	82.41	48.65	68.98
12.	Mahasamund	25.85	54.04	60.22	81.58	42.85	67.64
13.	Dhamtari	36.02	63.66	69.22	86.78	52.84	75.16
14.	Kanker	13.7	33.97	32.41	57.09	23.06	45.48
15.	Bastar	24.13	63.69	51.37	83.03	37.71	71.31
16.	Dantewada	10.09	20.59	22.87	39.59	16.46	30.01
	<b>Chhattisgarh</b>	<b>27.52</b>	<b>52.4</b>	<b>58.07</b>	<b>77.86</b>	<b>42.91</b>	<b>65.18</b>

Source: Directorate of Economics and Statistics, Chhattisgarh (2001).

**Table 1.2: Sex Ratio, Density and Growth Rate of Population**

		Sex Ratio		Density		Population Growth Rate	
		1991	2001	1991	2001	1981-91	1991-01
1.	Koriya	926	947	76	89	30.15	16.91
2.	Surguja	966	972	101	125	26.68	24.58
3.	Bilaspur	973	975	205	241	24	17.59
4.	Korba	952	964	125	153	34.83	22.55
5.	Janjgeer-Champa	1007	999	288	342	31.35	18.55
6.	Jashpur	1001	998	112	127	16.75	12.71
7.	Raigarh	1000	995	150	179	20.99	18.68
8.	Kawardha	996	1002	122	138	26.24	13.86
9.	Rajnandgawn	1016	1024	135	159	22.43	17.7
10.	Durg	967	982	280	328	26.8	16.88
11.	Raipur	983	980	193	230	30.14	18.97
12.	Mahasamund	1015	1019	165	180	319.38	8.72
13.	Dhamtari	1009	1005	174	208	24.15	19.72
14.	Kanker	1000	1006	84	100	56.8	18.84
15.	Bastar	999	1009	74	87	12	18.28
16.	Dantewada	1009	1017	35	41	21.94	15.56
	<b>Chhattisgarh</b>	<b>985</b>	<b>990</b>	<b>130</b>	<b>154</b>	<b>25.73</b>	<b>18.06</b>

Source: Directorate of Economics and Statistics, Chhattisgarh (2001).

<sup>5</sup> The literacy rate figure pertains to the year 2001 obtained from Statistical Abstract, India, 2002, pp.-448.

The decadal rate of growth of population for the period between 1991-2001 was 18.06 percent which was relatively lower than the national average of 21.38 percent (Table 1.2). The population growth rate during the last decade compared to the decade starting with 1981 and ending with 1991 was lower by 7.67 percent. Districts, which have shown population growth rate well above the state-average are Surguja (24.58 percent), Korba (22.55 percent) and Dhamtari (19.72 percent). It is also to be noted that out of 16 districts, 14 districts contain their population growth below that of the national average.

The district-wise population of SC, ST and their shares in total population of Chhattisgarh are shown in Table 1.3. As mentioned earlier, the state has a very high share of tribal population. The combined share of SC and ST population in the district as per the 1991 census was 44.66 percent with ST population constituting 32.46 percent. The districts, which have ST population shares higher than the state-average are Dantewada (78.83 percent), Bastar (66.51 percent), Jashpur (65.38 percent), Surguja (56.72 percent) Kanker (55.73 percent), Koriya (44.01 percent), Korba (43.13 percent) and Raigarh (36.81 percent).

**Table 1.3: District-Wise SC and ST and Their Share in Population of Chhattisgarh**

	1991		Total	1991		Total Share
	SC	ST		Share of SC	Share of SC	
1. Koriya	39417	220360	259777	7.87	44.01	51.88
2. Surguja	75415	897217	972632	4.77	56.72	61.49
3. Bilaspur	323474	347216	670690	19.09	20.49	39.57
4. Korba	82481	356222	438703	9.99	43.13	53.12
5. Janjgeer-Champa	248273	135641	383914	22.36	12.22	34.58
6. Jashpur	47012	429092	476104	7.16	65.38	72.54
7. Raigarh	148901	392385	541286	13.97	36.81	50.78
8. Kawardha	71191	103946	175137	13.86	20.24	34.11
9. Rajnandgawn	109820	293071	402891	10.08	26.91	36.99
10. Durg	305916	298059	603975	12.76	12.43	25.20
11. Raipur	422920	331554	754474	16.72	13.11	29.83
12. Mahasamund	100350	222298	322648	12.68	28.10	40.78
13. Dhamtari	40307	160175	200482	6.86	27.26	34.11
14. Kanker	24130	296584	320714	4.53	55.73	60.27
15. Bastar	83433	742799	826232	7.47	66.51	73.98
16. Dantewada	25318	490505	515823	4.07	78.83	82.89
<b>Chhattisgarh</b>	<b>2148358</b>	<b>5717124</b>	<b>7865482</b>	<b>12.20</b>	<b>32.46</b>	<b>44.65</b>

Source: Directorate of Economics and Statistics, Chhattisgarh (2001).

## 1.2 Health Indicators

The overall health status of the population, when compared to the all India, the state remains far behind. It can be seen from the Table 1.4, the human development index (HDI) of Chhattisgarh is 39, which is well below the national HDI of 45. The birth rate achieved is 28.3 percent compared to 27.2 percent for all India. In terms of other health related indicators, viz., total fertility rate, infant mortality rate and couple protection rate, the state remained far below the national average. Particularly, the infant mortality rate is very high compared to many of the developed states in India. It needs to be pointed out that even though the state has achieved an overall literacy rate comparable to all India, in case of health status it remains far behind the all India level. Thus, a proactive government policy for better health public delivery system is a must for the improvements of basic health related indicators of the state. In this context it should also be remembered that the health related infrastructure of the state is very poor. Out of 16 districts, only 10 districts have the district hospitals and out of 146 blocks, only 114 have community health centres (GOC: 2003). The district hospital and health centres are not well equipped with advance medical equipment. The draft 10<sup>th</sup> Five Year plan of the state acknowledged that very limited resources are allocated to the public health system in the state.

**Table 1.4: Health Related Indicators: Comparing Chhattisgarh with India**

Indicators	Chhattisgarh	India
Human Development Index	39	45
Birth Rate (1997)	28.3	27.2
Death Rate (1997)	10.6	8.9
Total Fertility Rate (1997)	3.6	3.3
Infant Mortality Rate (1997)	84	71
Couple Protection Rate ( in %)	29.5	30.2

Source: GOC (2003).

## 1.3 Composition of GSDP

The economy of Chhattisgarh, though predominantly agriculture-based with large forest cover<sup>6</sup>, the share of agriculture in total state income is on the decline. Although, the combined primary sector share in total GSDP is on the decline, agriculture has remained the main strength of the state economy with 80 percent of the workforce still depending on

agriculture. The agriculture production still follows the traditional methods of rainfed agriculture. It can be seen from the Table 1.5, within the total net area sown in the state, which is 48278 hundred hectares, only 22.34 percent is irrigated. The distribution of the net irrigated area is unevenly distributed across districts. In relatively underdeveloped districts like Bastar and Dantewada, less than 2 percent of the net sown area is irrigated, while in Dhamtari 71.57 percent of the net sown area is irrigated. Apart from Dhamtari, districts, which had relatively higher irrigated area, are Bilaspur (34.33 percent), Jangeer-Champa (45.78 percent) and Durg (35.19 percent).

**Table 1.5: Net Area Sown and Net Irrigated Area**

		(In Hundred Hect.)		
		Net Area Sown	Net Irrigated Area	Share of Irrigated Area
1.	Koriya	1115	56	5.02
2.	Surguja	4901	287	5.86
3.	Bilaspur	3734	1282	34.33
4.	Korba	1342	56	4.17
5.	Janjgeer-Champa	2621	1200	45.78
6.	Jashpur	2519	73	2.90
7.	Raigarh	2824	350	12.39
8.	Kawardha	1871	283	15.13
9.	Rajnandgawn	3624	590	16.28
10.	Durg	5525	1944	35.19
11.	Raipur	5527	2863	51.80
12.	Mahasamund	2679	576	21.50
13.	Dhamtari	1340	959	71.57
14.	Kanker	2127	163	7.66
15.	Bastar	3552	52	1.46
16.	Dantewada	2977	50	1.68
<b>Chhattisgarh</b>		<b>48278</b>	<b>10784</b>	<b>22.34</b>

Source: Directorate of Economics and Statistics, Chhattisgarh (2001).

It can be seen from the Table 1.6, when states are arranged in the ascending order of their percapita income with respect to the year 1999-00, Chhattisgarh ranked 5<sup>th</sup> lowest percapita income state in India with a real percapita income of Rs. 7881. Figure 1.1 presents the trend rates of growth of real percapita income of various states in India for the period between 1993-94 and 1999-00, which again shows that the real percapita income growth of Chhattisgarh was only 1.14 percent and was higher than only that of Assam. From figure 1.1 it is also evident that in low income states, real rates of growth of per capita income is much

<sup>6</sup> The state has a large forest cover of 6099 thousands hectares (source: GOC: 2001), which is 44.84 percent of the total area of the state.

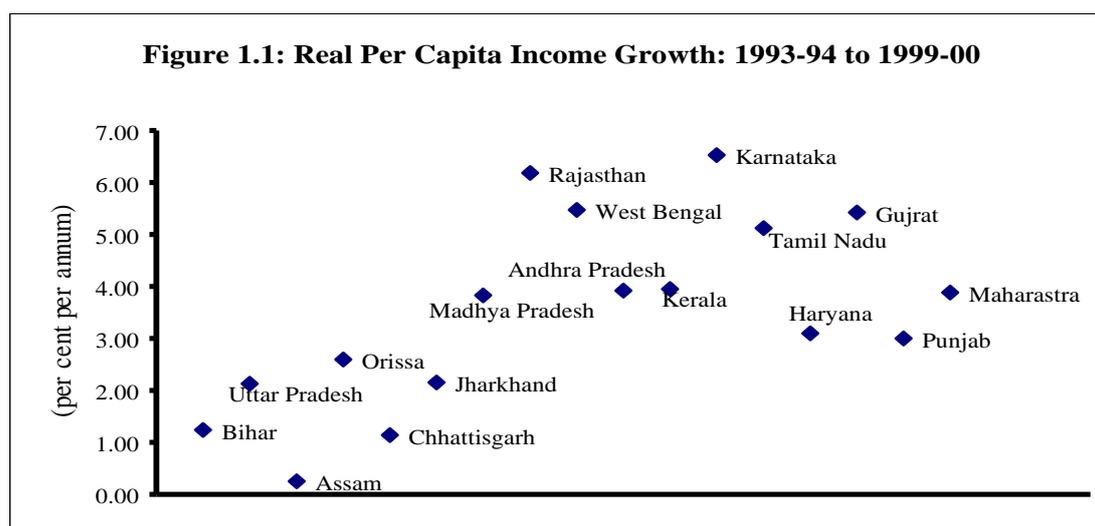
lower than that of the high and middle income states except for Madhya Pradesh and Rajasthan.

**Table 1.6: Real Per Capita GSDP of States**

	(In Rupees)							
	1990-91	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01
Bihar	4526	4154	4377	4023	4360	4458	4645	4694
Orissa	5914	5462	5635	5841	5495	6131	6051	6170
Assam	6162	6360	6428	6498	6574	6526	6400	6723
Uttar Pradesh	5871	5813	6013	6127	6609	6466	6759	6984
<b>Chhattisgarh</b>	<b>7619</b>	<b>7594</b>	<b>7667</b>	<b>7865</b>	<b>7988</b>	<b>8289</b>	<b>7881</b>	<b>7971</b>
Madhya Pradesh	6391	7336	7332	7624	7936	7992	8387	8553
Rajasthan	6740	6875	7865	7946	8592	9327	9382	8898
West Bengal	6078	7408	7782	8222	8650	9217	9706	10258
Andhra Pradesh	7703	8314	8667	9062	9509	9257	10249	10573
Kerala	7661	8766	9406	9742	10012	10209	10793	11446
Karnataka	7569	8635	8974	9392	10080	10410	11496	12173
Tamil Nadu	8523	9915	11064	11347	11770	12581	13206	13821
Haryana	11203	12327	12874	12869	14012	13866	14279	14907
Gujarat	10501	11092	12828	13260	14844	14767	15362	14970
Punjab	12694	14002	14125	14413	15187	15350	15715	16494
Maharashtra	11041	13368	13433	14675	15261	15527	15724	16985

Source: Central Statistical Organisation

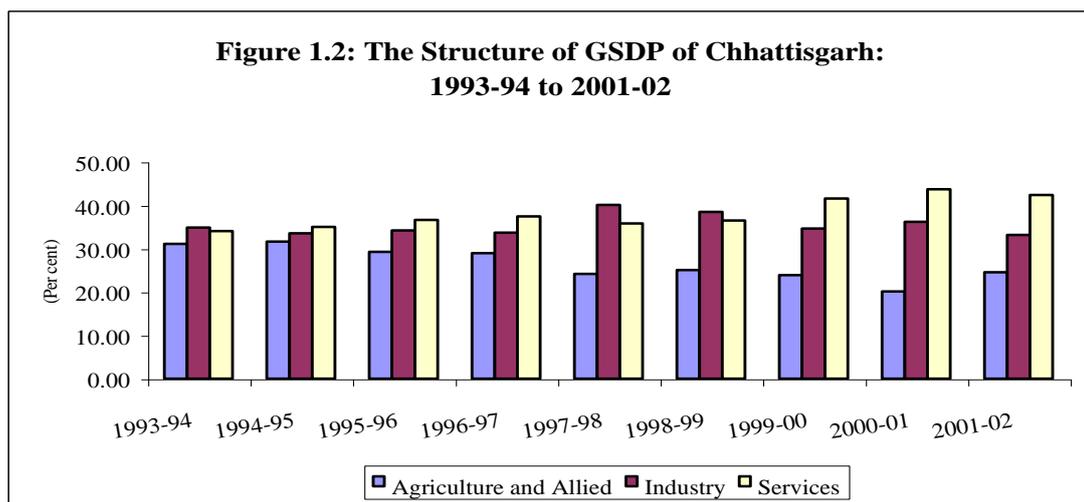
Note: For the year 2000-01 and 2001-02, Chhattisgarh and Karnataka's per capita income is based on the trend growth rate for the period 1993-94 to 1999-00.



The structure of GSDP of the state divided into agriculture and allied, industry and services is presented in Figure 1.2. The share of service sector in total GSDP has increased from 34.04 percent in 1993-94 to 42.33 percent in 2001-02. The share of industry remained stagnant at around 34 percent during this period. However, the share of agriculture declined

from 31.11 percent in 1993-94 to 24.55 percent in 2001-02. As mentioned earlier, though the share of agriculture in total GSDP is on the decline, the dependence of the state economy in agriculture is enormous with 80 percent of the total population being engaged in agriculture. Within agriculture 83 percent of the total area sown is paddy, with productivity half the national average and also the disparities in terms of per capita output have widened over the years (GOC: 2003).

The draft 10<sup>th</sup> Five Year Plan targeted to achieve a GSDP growth rate of 8 percent for Chhattisgarh.



#### 1.4 Poverty: Inter-Regional and District-Wise

The specific district wise poverty estimates for Chhattisgarh are not yet available. However, we attempted to examine the poverty profile of the state in terms of the NSS region wise estimates. Measured in terms of head count ratio these, region wise estimates are shown in Table 1.7. The distinctive profile of the rural urban poverty profile of the regions reported in Table 1.7 revealed that urban poverty ratio is much higher than the rural poverty ratio in Chhattisgarh. The overall HCR is highest in the region of Sarguja at 36.5 percent, followed by Bilaspur at 33 percent.

**Table 1.7: Estimates for Poverty for 1993-94 - Head Count Ratios**

	(Percent)		
	<b>Rural</b>	<b>Urban</b>	<b>Total</b>
Bastar	24.0	39.5	25.2
Bilaspur	31.6	41.0	33.3
Durg	21.6	39.5	28.2
Raigarh	26.3	49.0	28.5
Raipur	21.5	43.6	26.2
Rajanandgao	24.4	48.4	28.6
Surguja	35.6	41.7	36.5
Total	25.7	42.2	

Source: Sarvekshana Analytical Report No. 1 GOI.  
Human Development Report, 1998, Madhya Pradesh.

Table 1.8 shows district-wise incidence of poverty according to the BPL survey conducted in the state in 1997-98. It is evident from the table that the southern region of the state has incidence of higher poverty compared to the northern region and the mainland. However, in the north, the district of Surguja has a high poverty ratio.

**Table 1.8: The Share of BPL Households**

	(Percent)
	<b>1997-98</b>
Bastar	58
Bilaspur	42
Dantewada	60
Dhamtari	32
Durg	33
Janjgeer-Champa-Champa	41
Jashpur	40
Kanker	41
Kawardha	51
Korba	44
Koriya	42
Mahasamund	50
Raigarh	48
Raipur	36
Rajanandgawn	41
Surguja	51
Chhattisgarh	44

Districts like Dantewada, Bastar and Mahasamund have a poverty ratio, which is substantially higher than the average for Chhattisgarh. Bastar and Dantewada have the higher share in the forest area of the state (Table A5). Surguja has the next higher share of forest area amounting to total 12.5 percent.

## **Chapter 2: POLICIES FOR POVERTY REDUCTION UNDER FISCAL STRESS: THE CASE OF CHHATTISGARH**

Poverty, considered in a multidimensional perspective of poverty, requires examination not only of the income profile but also issues relating to access to such services as education, health, and water supply and sanitation. In the context of both, the fiscal policy plays an important role. The income poverty among other things can be addressed by a growth promoting fiscal policy with progressive income distribution criteria in place. Other dimensions of poverty can be addressed largely by the fiscal policy through provision of opportunities in terms various public services, viz, health, education, water supply and sanitation etc.

For an appropriate fiscal policy to function to address various dimensions of poverty, the fiscal resources should be adequate to pursue a growth oriented fiscal strategy and also should provide various public services efficiently to eliminate the deprivation of opportunities and thereby the non-income poverty. It is to be noted that in order to have enough flexibility in the formulation of fiscal policy, the resources after having met various committed liabilities of the government should be adequate and that will be possible in a sustainable fiscal policy regime.

In the context of Chhattisgarh, a newly formed state, there is hardly any fiscal history that is available to analyse the focus of the fiscal policy of the state government and the fiscal stress emanating from the high fiscal deficit, revenue deficit, stock of debt and other committed liabilities like interest payment, pension, wages and salaries and other establishment expenditure. At the same time, as the state begins its own fiscal management after bifurcation from the state of Madhya Pradesh in November 2000, it will be easier for the state to design its fiscal policy in such a way that it addresses the issue of poverty in an efficient manner.

### **2.1 Fiscal Profile: Key Indicators**

The basic fiscal profile of the state of Chhattisgarh for the period between 2001-02 and 2003-04 is presented in Table 2.1. The revenue to GSDP ratio of the state has increased from 14.5 percent in 2001-02 to 20.1 percent in 2003-04, which was on account of an

increase in the grants from the centre from 1.6 percent of GSDP to 5.2 percent in 2003-04. The own tax revenue constituted 6.5 percent of GSDP and the budget estimates of 2003-04 expect the revenue effort to increase to 7.1 percent of GSDP. Similarly, the own non-tax revenue effort is also expected to increase from 2.4 percent of GSDP in 2001-02 to 3.1 percent in 2003-04. The share of central taxes remained at little more than 4.5 percent of GSDP during this period.

**Table 2.1: Key Fiscal Indicators: An Overview**

	(Percent to GSDP)		
	<b>2001-02</b>	<b>2002-03RE</b>	<b>2003-04BE</b>
<b>Revenue Receipts</b>	14.5	17.5	20.1
Own Tax Revenues	6.5	6.8	7.1
Own Non Tax Revenues	2.4	2.7	3.1
Share in Central Taxes	4.3	4.6	4.7
Grants from the Centre	1.6	3.5	5.2
<b>Revenue Expenditure</b>	16.2	19.0	21.0
Capital Expenditure	1.7	3.1	4.3
Total Expenditure	18.0	22.1	25.4
Revenue Deficit	1.8	1.5	0.9
Fiscal Deficit	3.5	4.6	5.3
Primary Deficit	1.2	1.9	2.5

Source: Budget Document (2003-04).

The expenditure profile reveals a sharp increase in the total expenditure to GSDP ratio from 18.0 to 25.4 percent between 2001-02 and 2003-04 due to the increase in both revenue and capital expenditure. However, the increase in revenue expenditure to GSDP ratio is sharper than that in the capital expenditure to GSDP ratio.

Given the profile of revenues and expenditures, the state level key fiscal parameters moved in following fashion: the revenue deficit which was 1.8 percent in 2001-02 is expected to decline to 0.9 percent of GSDP in 2003-04, the fiscal deficit to GSDP ratio is expected to increase from 3.5 to 5.3 percent and primary deficit is also expected to rise sharply from 1.2 to 2.5 percent of GSDP during the same period.

## **2.2 Structure of Expenditure**

It is evident from the Table 2.2 that the sharp increase in the economic service expenditure in the revenue account contributed to the overall increase in the revenue expenditure to GSDP ratio from 16.2 to 21.0 percent. Within economic services, increased

allocation is reflected in agriculture and allied activities. There has also been a marginal increase in the allocation for rural development. However, the allocation for transport sector remained stagnant at less than 0.5 percent of GSDP of the state. Given the poor road connectivity condition of the state, allocation in the transport sector seems minimal.

Within social services, the allocation for general education is expected to increase from 2.2 to 3.3 percent of GSDP. But in other sectors especially in health and family welfare and in water supply and sanitation there is marginal improvement in the allocation in 2003-04 compared to 2001-02. The allocation for the welfare of SC, ST and OBCs is expected decline in the state from 1.66 to 1.10 percent of GSDP. The allocation for labour and labour welfare is expected to remain stagnant during this period. It is to be noted that within general services, the state intends to manage its committed expenditure. The interest payment to GSDP ratio expects to increase marginally from 2.45 to 2.89 percent. The pension obligation is expected to decline 1.5 to 1.1 percent of GSDP during this period.

**Table 2.2: Revenue Expenditure: A Disaggregated Profile**

	(As Percent to GSDP)		
	2001-02	2002-03RE	2003-04BE
<b>General Services of which</b>	5.67	5.98	6.21
Interest payment	2.45	2.84	2.89
Pension	1.51	1.15	1.10
<b>Social Services of which</b>	6.32	6.90	7.03
General Education	2.21	2.45	3.26
Health and Family Welfare	0.77	0.86	0.79
Water Supply and Sanitation	0.65	0.77	0.85
Welfare of SC, ST and OBCs	1.66	1.52	1.10
Labour and Labour Welfare	0.07	0.08	0.08
<b>Economic Services of which</b>	3.80	5.67	7.11
Agriculture and Allied Activities	1.54	3.04	3.76
Rural Development	1.13	1.39	2.00
Transport	0.43	0.45	0.47

Source: Budget Document (2003-04).

As evident from the earlier table, the composition of government expenditure between general, social and economic services is presented in Table 2.3 also reveals that the share of expenditure under economic services is on the increase and that of general services is on the decline. However, the share of expenditure under social services showed a steady fall during this period.

**Table 2.3: Structure of Expenditure Under Major Heads**

	(Percent)		
	2001-02	2002-03RE	2003-04BE
General Services	33.04	28.22	25.67
Social Services	38.43	34.71	33.41
Economic Services	28.54	37.07	40.93
Total	100.00	100.00	100.00
Total (In Rs. Crore)	5258	7113	8908

Source: Budget Document (2003-04)

The composition of expenditure between plan and non-plan classification is given in Table 2.4. Contrary to the declining share of plan expenditure across states, in Chhattisgarh, the share of plan expenditure in total expenditure is on the increase. The decline in the share of non-plan expenditure, mostly the establishment expenditure is partly due to the containment of various committed liabilities like interest payment and pension. The approach paper to the 10<sup>th</sup> plan also highlighted the fact that state government has been able to manage its committed expenditure growth to a level much lower than the all state average. However, the revenue expenditure intensity of the plan expenditure is very high. As can be seen from the Table 2.4, plan revenue expenditure as a percentage of total plan expenditure was as high as 69 percent in 2001-02, its share is expected to decline to 65 percent by the end of 2003-04.

**Table 2.4: Government Expenditure: Plan and Non-Plan Categories**

	(Percent)		
	2001-02	2002-03 RE	2003-04 BE
Share of Plan Exp.	27.30	37.66	46.54
Share of Non-Plan Exp.	72.70	62.34	53.46
Total	100.00	100.00	100.00
Plan Rev. Exp. as % to Plan Exp.	69.06	65.37	65.24

Source: Budget Document (2003-04).

### 2.3 Approach to the Plan and Plan Priorities

The plan priorities of the state government can be seen from the plan allocation in different sectors of the state economy presented in Table 2.5. The highest share of plan allocation is made under economic services, which has more than 50 percent of the total plan expenditure. The share of plan expenditure under social services was 47.73 percent. Out of the total plan expenditure, 8.94 percent is spent on agriculture and allied activities and the

shares of rural development and irrigation and flood control in total plan expenditure were 17.3 and 15.4 percent respectively.

**Table 2.5: State Annual Plan 2001-02: Approved Outlay and Actual Expenditure**

	Approved Outlay	Actual Expenditure	Distribution of Actual Exp.	(Rs. crore) Actual as % to Approved
Agriculture and Allied Activities	125.36	131.6	8.94	104.99
Rural Development	225.03	254.9	17.32	113.29
Irrigation and Flood Control	244.87	226.0	15.35	92.28
Energy	3.21	18.1	1.23	562.40
Industry and Minerals	23.61	22.7	1.55	96.33
Transport	45.43	85.9	5.84	189.16
Science, technology and Ecology	1.04	0.0	0.00	0.00
General Economic Services	18.69	0.6	0.04	3.41
<b>Economic Services (Total)</b>	<b>687.24</b>	<b>739.89</b>	<b>50.27</b>	<b>107.66</b>
<b>Social Services</b>	<b>593.23</b>	<b>702.5</b>	<b>47.73</b>	<b>118.43</b>
<b>General Services</b>	<b>31.81</b>	<b>29.3</b>	<b>1.99</b>	<b>92.21</b>
<b>Total</b>	<b>1312.28</b>	<b>1471.8</b>	<b>100.00</b>	<b>112.15</b>

Source: Directorate of Economics and Statistics, Chhattisgarh (2001) and Budget Document (2003-04).

It is also notable that actual plan expenditure exceeded the approved plan outlay for the year 2001-02. The approved outlay, which was Rs. 1312 crore remained lower than the actual plan expenditure of Rs. 1471.8 crore which was mainly due to the increase in the actual plan expenditure more than the approved outlay in agriculture and allied, rural development, transport and in social services.

Selected expenditure schemes that are currently under operation under various state plan schemes, central plan and centrally sponsored schemes which evidently having anti-poverty bias is reported in Table 2.6. The combined share of these plan schemes together as a percentage of total plan expenditure of the state was 8.13 percent and as a percentage of aggregate budgetary expenditure it was 3.06 percent.

Some of the major schemes under the department of Panchayat and Rural Development are Sampurna Grameen Rojgar Yojana with an allocation of 78.75 crore and EAS with 14.81 crore. Major schemes under the department of women and child development are ICDS and SNP. Old age pension scheme is also an important scheme currently under operation under the department of social welfare. It is to be noted that there

are many schemes where funds have been allocated but not spent. For example, under the department of labour, though there are schemes with an allocation of 55.56 lakhs, the funds remained unspent. As these schemes are in nature of providing direct social and economic support, non-execution of these schemes despite budgetary provision demands correction and rationalization of these schemes and their execution. It can also be noted that there has been a huge shortfall in the actual expenditure spent and the allocation made for the plan purposes.

**Table 2.6: Selected Schemes with Anti-Poverty Bias Currently Under Operation**

	(In Rs. Lakh)		
	2002-03 Plan Outlay	Expenditure up to 3/31/2003	Percentage of Actual to Outlay
<b>Department: Panchayat and Rural Development</b>			
a. Swarna Jayanti Gram Swarojgar Yojana	849.7	704.6	82.92
b. Sampurna Grameen Rojgar Yojana	13026.4	7875.2	60.46
f. Pradhanmantri Gramodaya Yojana	750.0	690.0	92.00
g. Indira Awas Yojana	777.5	740.3	95.22
h. DPAP	355.8	352.6	99.11
I. EAS	1999.4	1481.1	74.08
j. IWDP	57.0	51.4	90.25
<b>Total</b>	<b>17815.6</b>	<b>11895.3</b>	<b>66.77</b>
<b>Department: Women and Child Development</b>			
a. ICDS (World Bank)	3182.37	2506.64	78.77
b. ICDS (General)	3240.13	2600.51	80.26
c. Balika Samridhi Yojana	200	152.55	76.28
d. Swa Shakti Project		57	
e. Integrated Women Empowerment Programme	120	35	29.17
f. NNM (Free food grain for low birth weight women)	239.39	129.55	54.12
g. Pradhan Mantri Gramodaya Yojana	997	825.19	82.77
h. SNP	2699.39	2012.08	74.54
i. Ayusmati Yojana	28	15.82	56.50
j. Grant to NGOs (For State Level Schemes)	44.88	13.22	29.46
k. Women Awareness Camp	37	33.66	90.97
<b>Total</b>	<b>10788.16</b>	<b>8381.22</b>	<b>77.69</b>
<b>Department: Social Welfare</b>			
a. Rehabilitation of Poor	18.9	22.51	119.10
b. Rehabilitation of Juvenile and Destitute Children	63.41	56.55	89.18
c. Old Age Pension	1927.24	1927.24	100.00
<b>Total</b>	<b>2009.55</b>	<b>2006.3</b>	<b>99.84</b>
<b>Department: Labour</b>			
a. Construction of Houses for Bidi Worker	39.36	0	0.00
b. Rehabilitation of Bonded Labour	5	0	0.00
c. Indira Krishi Shramik Durghatana Kshatipurti Yojana	11.2	0	0.00
<b>Total</b>	<b>55.56</b>	<b>0</b>	<b>0.00</b>
<b>Aggregate Allocation</b>	<b>30668.9</b>	<b>22282.8</b>	<b>72.66</b>
<b>As Percentage to Aggregate Plan Expenditure</b>	<b>11.19</b>	<b>8.13</b>	
<b>As Percentage to Aggregate Budgetary Expenditure</b>	<b>4.21</b>	<b>3.06</b>	

Source: Budget Document (2003-04).

## **Chapter 3: POVERTY IN CHHATTISGARH: PRIMARY SURVEY FINDINGS**

### **3.1 Introduction**

In order to assess the situation prevailing in the countryside with a view to postulating fiscal measures, a sample survey was carried out in four states including Chhattisgarh. The details of the sampling design and survey instruments are given in Vol. 1 of this report. The concepts and definitions used while canvassing the field survey are appended. Income accruing from various sources and the expenditure pattern on the one hand and deprivation or otherwise of the opportunities in terms of public services on the other were sought to be ascertained through the survey. The survey also examined the functioning and efficacy of direct fiscal intervention made by various tiers of governments in addressing the problem of poverty. The details of the survey guidelines, and concepts and definitions are given in Annexure 1 appended to this report.

This chapter is divided into seven sections. Based on the survey estimates, the social and demographic characteristics of the sample districts and that of the state are analysed in section 2. Section 3 analyses the economic opportunities of the rural poor, rural indebtedness and the phenomenon of out migration from the villages. The livelihood issues in terms of basic necessities are discussed in section 4. In section 5, we evaluate the public service delivery system, particularly the issue of status and access of publicly provided services. The evaluation of the pro-poor fiscal intervention strategies is analysed in section 6. The main constraints and the perceptions of poor regarding the poverty alleviation strategies are analysed in section 7.

Four districts, *viz.*, Surguja, Durg, Mahasbund and Bastar were selected with probability proportional to female illiteracy rate from the sixteen districts of the newly formed State as the first stage units in the three stage design adopted. The survey was canvassed during October-November 2003 during which period owing to political turmoil and for security reasons the borders of the district of Bastar were partly sealed and mobility was restricted. The local police authority advised the investigating team not to access the sample villages. Under these circumstances, while the Bastar district could not be surveyed, the sample size got reduced further as six sample villages of Surguja district also were not

surveyed owing to the same reason. Table 3.1 shows the sample size allotted and that surveyed by districts in terms of the second and ultimate stage units.

**Table 3.1: Number of Samples Allotted and Those Surveyed**

District	Number of Sample Villages		Number of Sample Households			
	Allotted	Surveyed	Stratum 1		Stratum 2	
			Allotted	Surveyed	Allotted	Surveyed
1. Surguja	26	20	208	158	52	40
2. Durg	24	24	192	240	48	60
3. Mahasmund	12	12	96	104	24	26
4. Bastar	18	Not Surveyed	144		36	
Chhattisgarh	80	56	640	502	160	126

It will be seen that the sample surveyed in terms of households in Durg and Mahasmund exceeded the sample size contemplated. This was due to the splitting of big villages in some cases into more than three hamlets for which two hamlets were selected with the consequent increase in number of sample households.

### 3.2 Social and Demographic Characteristics

Based on the effective sample size of the three districts, a few characteristics of the three districts are presented in Table 3.2. It may be noted that at the penultimate stage, the households in the sample village were stratified into two strata viz., (1) poor that is, belonging to the vulnerable group comprising of agricultural labourers, marginal farmers, Scheduled Caste or Scheduled Tribe, women-headed households and possessing the BPL card (2) the remaining households. Three ratios, viz., average household size, sex ratio and adult illiteracy rate estimated from the sample are presented for each of the two strata. The estimated proportion of the poor households ranges from 34 percent to 44 percent in the three districts. Among the three districts, Surguja has the highest percentage of poor households. The NSS region-wise estimates for 1993-94 also reported the highest HCR in Surjuja compared to other regions of undivided Madhya Pradesh (see Table 1.7).

**Table 3.2: Selected Features of the Sample Districts**

District	Percentage of Poor Households Stratum 1	Estimated Average Household Size		Estimated Females Per 1000 Males		Estimated Adult Illiteracy Rate (Percent)			
		Stratum 1	Stratum 2	Stratum 1	Stratum 2	Stratum 1		Stratum 2	
						Male	Female	male	Female
1. Surguja	44	5.16	5.5	872	931	50.38	73.63	26.66	59.92
2. Durg	34	5.63	5.78	996	896	34.13	66.75	20.9	45.22
3. Mahasmund	42	5.14	4.5	976	837	53.41	69.06	18.24	32.04

It is observed that the average household size of stratum 2 is higher than that of the stratum 1 for two districts but much lower for Mahasmund. The sex ratio for the poor is much higher for Durg and Mahasmund compared to the non-poor. A wide disparity in literacy rate across gender and strata is a matter of serious concern. The adult female illiteracy in stratum 1 ranges from 67 percent to 74 percent relative to the range of 34 percent to 53 percent in case of males. The illiteracy rates for males is much lower in stratum 2 compared to stratum 1. The features reflected in the sample do indicate a gender inequality with regard to literacy. But the sex ratio in the state of Chhattisgarh is healthier relative to many other states. The rural poor in Chhattisgarh have higher number of females per thousand males than the non-poor in two out of three districts if we compare both the strata. In what follows, the estimates of relevant ratios at State level are discussed with the focus on differentials in behaviour of the ratios as between the stratum 1 and stratum 2.

## Demographic Profile

### Age-Sex Distribution

Table 3.3 brings out almost same proportion of children in 0-6 age group in the two strata but that in the school going age group (6-18) much less in the non-poor. There appears to be a shift towards the older age groups among the non-poor relative to the poor and this holds good both for males and the females. The combined share of the males in age group 0-18 accounts for more or less 40 percent in both the strata. Even though the share of the persons in age group 18-45 is the same for both the strata, the females claim a larger share in stratum 2 than in stratum 1 which may possibly indicate a larger out-migration among the male working population among the non-poor as compared to the poor. The issue of out migration is discussed in the subsequent section.

**Table 3.3: Percentage Distribution of Population by Sex and by Age Groups**

Age Group	Stratum 1			Stratum 2		
	Male	Female	Person	Male	Female	Person
0-6	10.70	14.07	12.36	14.09	9.25	11.82
6-18	30.77	29.51	30.15	25.46	23.27	24.43
18-45	42.71	42.64	42.67	39.52	46.02	42.58
45-60	11.98	9.81	10.91	13.42	14.35	13.86
60+	3.84	3.98	3.91	7.50	7.10	7.31
<b>All</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

## Sex Ratio

Using the broad dichotomy of the population into adults defined as 18 years and above in age and children (0-18 years) and presenting the sex ratio that is, number of females per 1000 males for the two strata, Table 3.4 brings out some interesting results. As observed in case of the sample districts earlier, Chhattisgarh has a sex ratio of 917. While in case of adults, the sex ratio is still higher at 960, for children it is only 853, mainly due to the adverse ratio of 751 for the non-poor households. The fact that female children are more than male among the poor households combined with the finding that the sex ratio for the poor is much higher than that of the non-poor should indicate that the stigma of foeticide of the female child does not apply so much to the poor in Chhattisgarh.

**Table 3.4: Sex Ratio Among Adults and Children**

	<b>Stratum 1</b>	<b>Stratum 2</b>	<b>Combined</b>
Adults	933	975	960
Children	1015	751	853
Combined	967	889	917
Children Per 1000 Adults	739	555	620

In addition, a ratio, giving number of children per 1000 adults is computed for the two strata to indicate the dependency stress of the two categories of households. The poor, it may be seen, have to shoulder a much greater responsibility of bringing up the children than the non-poor.

### 3.3 Economic Opportunities, Indebtedness and Migration of Rural Poor

Having discussed the demographic profile, in terms of age and sex distribution and sex ratio, in this section, we analyse the economic opportunities of poor in rural Chhattisgarh, in terms of activity status and income, the status of village industries and also income and occupational status. The indebtedness of rural poor vis-à-vis income and the nature and incidence of out-migration is also analysed in this section.

#### Activity Status and Income

For all the members of the sample household, information on his or her usual activity status during the 365 days preceding the date of the survey based on the major time criterion was obtained. The broad categories of the principal usual activity of a person were (i)

employed (working), (ii) unemployed (available for work), and (iii) not in the labour force (neither willing nor available for work). Table 3.5 presents the distributions of males and females in each of the two strata by usual activity status.

**Table 3.5: Distribution of Estimated Number of Persons by Usual Activity Status by Sex and by Strata**

Usual Activity Status Code	(Percent)					
	Male		Female		Combined	
	Stratum 1	Stratum 2	Stratum 1	Stratum 2	Stratum 1	Stratum 2
Employed	55.73	52.59	42.73	28.53	49.34	41.27
Unemployed	1.90	2.81	5.66	6.86	3.75	4.71
Not in Labor Force	42.08	44.17	51.20	62.24	46.57	52.67
Not Specified	0.29	0.43	0.41	2.37	0.35	1.34
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

The males in both strata have almost identical distributions except for a marginally higher proportion of ‘employed’ and consequently a slightly lower proportion in ‘not in labour force’ in stratum 1. For the females, however, while almost 43 percent are employed in stratum 1, only 28 percent are reported as ‘employed’ in stratum 2. The proportion of the ‘unemployed’ is 6-7 percent with little difference among the strata. In either of the strata, males have a much lower proportion of ‘unemployed’ relative to the females.

The survey methodology attempted first to identify earners among the employed in the household and secondly to enquire through a structured set of items, the nature of their employment and the occupations. Incomes from paid employment and self-employment and income from other sources were aggregated for computation of per capita annual income. Imputed value of benefits in kind in lieu of wages, which was included as the share of output given to labour as wages or to landlord as rent was excluded from the income.

The percentage distributions of number of persons reporting paid employment and self-employment respectively with per worker annual income are given in Table 3.6. Agricultural labourers account for the bulk of the persons in paid employment, 92 percent in stratum 1 and 81 percent in stratum 2. The rest of the employees are distributed in small proportions over more than a dozen other occupations. Per worker income for the agricultural labourers in both the strata is about Rs. 4600. There is a wide variation in income in other occupations. In fact, 78 percent of the self-employed poor persons are small cultivators in stratum 1 as against 70 percent in stratum 2. The proportion of big cultivators is 19 percent among the self-employed persons in stratum 2 as against 5 percent in stratum 1.

**Table 3.6: Occupation and Income Profile**

Occupation Category	Paid Employment		Self-Employment	
	Number of Person (% Share)	Per Worker Income (In Rs.)	Number of Person (% Share)	Per Worker Income (In Rs.)
<b>Stratum 1</b>				
Agricultural labourer	91.55	4613.15	8.66	2731.67
Cultivators Small	0.00	0.00	78.33	4900.65
Cultivators Big	0.00	0.00	5.14	9856.69
Livestock & Fishermen	0.15	4562.47	0.91	3854.57
Forest based tribal	0.13	3605.38	1.38	1470.43
Mining & quarrying	1.16	7653.83	0.85	1513.42
Household Industry	0.35	9501.80	0.00	0.00
Non Household Industry	0.52	6157.83	0.00	0.00
Construction	0.85	6319.78	0.09	1200.00
Electricity, Water, Gas	0.28	0.00	0.00	0.00
Retail Trade	0.63	7691.25	1.22	3485.92
Transport, Storage & Comm.	0.37	9750.00	0.00	0.00
Hotel, Restaurant, Dhabas	0.04	6000.00	1.64	357.56
Financial service provider	0.45	5909.70	0.53	0.00
Community, other service provider	0.39	6033.28	0.00	0.00
Other different from above	3.11	7361.57	1.25	6075.88
<b>Total</b>	<b>100</b>	<b>4595.71</b>	<b>100</b>	<b>1057.47</b>
<b>Stratum 2</b>				
Agricultural labourer	80.88	4632.86	6.43	4660.97
Cultivators Small	0.00	0.00	69.66	13099.61
Cultivators Big	0.00	0.00	19.02	26283.46
Livestock & Fishermen	0.00	0.00	0.00	0.00
Forest based tribal	0.00	0.00	0.00	0.00
Mining & quarrying	1.71	7200.00	0.00	0.00
Household Industry	2.27	1463.31	0.68	2500.00
Non-Household Industry	0.27	21000.00	0.00	0.00
Construction	3.05	8780.67	0.00	0.00
Electricity, Water, Gas	0.00	0.00	0.00	0.00
Retail Trade	0.00	0.00	0.72	18000.00
Transport, Storage & Comm.	0.02	900.00	0.17	60.00
Hotel, Restaurant, Dhabas	0.00	0.00	3.31	17303.52
Financial service provider	0.63	17796.38	0.00	0.00
Community, other service provider	0.10	1250.00	0.00	0.00
Other different from above	11.07	18870.19	0.00	0.00
<b>Total</b>	<b>100.00</b>	<b>5361.70</b>	<b>100.00</b>	<b>6216.72</b>
<b>Combined</b>				
Agricultural labourer	84.14	4525.38	7.10	3948.81
Cultivators Small	1.59	4965.64	72.29	10409.09
Cultivators Big	0.16	1995.23	14.82	24558.58
Livestock & Fishermen	0.07	4562.47	0.28	3854.57
Forest based tribal	0.06	3605.38	0.42	1470.43
Mining & quarrying	1.46	7370.59	0.26	1513.42
Household Industry	1.37	2435.21	0.48	2500.00
Non Household Industry	0.39	11641.61	0.00	0.00
Construction	2.02	8293.18	0.03	1200.00
Electricity, Water, Gas	0.13	0.00	0.00	0.00
Retail Trade	0.30	7691.25	0.87	11847.17
Transport, Storage & Comm.	0.19	9247.04	0.12	60.00
Hotel, Restaurant, Dhabas	0.02	6000.00	2.81	14300.79
Financial service provider	0.55	13149.89	0.16	0.00
Community, other service provider	0.24	4948.68	0.00	0.00
Other different from above	7.33	16575.62	0.38	6075.88
<b>Total</b>	<b>100.00</b>	<b>5,030.68</b>	<b>100.00</b>	<b>3,987.15</b>

Taking into account all the occupations, the average income per worker at a meagre Rs.1057 in stratum 1 for the self-employed is less than one-fourth of that (Rs. 4596) for paid employment. Because of big cultivators and viable small cultivators, this feature is seen to be reversed for stratum 2 though the difference is not that marked (Rs. 6217 for self-employment against Rs. 5362 for paid employment). The average income from self-employment in stratum 1 is less than one-sixth of that in stratum 2. This indicates the plight of entrepreneurs in the poor households; most of them being small cultivators.

### Village Industries

Among the wide range of information collected from sample villages, data were also obtained on the number of establishments in different village industries in order to obtain an idea of the scope for non-farm employment. It would be interesting to know the relative importance of the various types of village industries available in villages classified by the size of the village determined by the number of households. Table 3.7 presents the relative proportions of the number of establishments in these industries in terms of percentages for each size of the village. It may be noted that animal husbandry includes also poultry and piggery. Agro-based industries and mills include food processing, papad making, flourmills and oil mills.

**Table 3.7: Size of Village and the Type of Village Industries**

Size of Village by Number of Households	(Percent)						Total
	Blacksmiths	Carpentry	Basket Making	Animal Husbandry	Agro-Based Industries and Mills	Others	
Upto 49	5.35	9.53	0.00	45.04	21.64	18.45	100
50-100	15.09	11.47	1.51	55.01	16.92	0.00	100
101-150	19.78	23.24	19.93	14.45	16.51	6.09	100
151-200	18.52	20.11	8.19	36.70	16.47	0.00	100
201-250	21.92	1.65	16.50	53.97	5.97	0.00	100
251 & Above	17.76	21.04	1.32	42.42	13.44	4.02	100
Not Specified	17.86	64.28	0.00	0.00	17.86	0.00	100
<b>Total</b>	<b>18.13</b>	<b>20.01</b>	<b>7.68</b>	<b>35.76</b>	<b>14.47</b>	<b>3.95</b>	<b>100</b>

Taking all sizes together, 36 percent of the establishments belong to animal husbandry, 20 percent to carpentry, 18 percent to blacksmiths, agro-based industries and mills claiming 14 percent. The remaining establishments belonged to basket weaving (7.68 percent) and others (3.95 percent). With respect to size of the village, the same feature of animal husbandry claiming the maximum proportion of establishments is noticed over

different sizes except in villages having 101-150 households in which case, carpentry, basket weaving and blacksmiths are more important. No systematic pattern is observed for any type of industry with the size of the village. Among the villages not specifying number of households, 64 percent related to carpentry.

### **Out-Migration**

Out-migration as one of the important phenomena affecting the rural areas was included in the questionnaire to enquire into the reasons and the places they migrate. The results are shown in Table 3.8. Combining both the strata, 10.43 percent of the households reported household members migrating during the year preceding the date of the survey to places outside the villages. While 40 percent migrated to join as casual agricultural labour, 35 percent opted for work in urban informal sector; 16 percent migrated for regular salaried jobs. The pull of nearby cities in preference to nearby towns is shown by the fact that the former attracted 43 percent of the migrants against only 14 percent by the latter. Only 14 percent made it to nearby villages.

**Table 3.8: Reasons for Out-Migration and Destinations**

	(Percent)
<b>Share of HHs Reporting Migration</b>	10.43
Distribution of HH Members Migrating for	
Regular salaried job	16.03
Work in urban informal sector	34.96
Education	-
Marriage	-
Casual work in Agriculture	40.13
Others	8.88
Total	100
<b>Distribution of HH Members Migrating to</b>	
Nearby Town	14.3
Nearby City	42.8
Nearby Villages	14.2
Others	28.7
<b>Total</b>	<b>100</b>

### **Income Distribution & Incidence of Indebtedness**

The percentage distributions of households according to size classes of per capita annual income given in Table 3.9 for the two strata suggest that the bulk (about 90 percent) of the poor households have per capita annual income less than Rs. 4500 or Rs. 375 per month. Against this about 67 percent of the non-poor households are seen to be clustered below the same cut-off point. The differentials between the poor and non-poor are quite marked but the

fact to be noticed is that among the non-poor too, there is a sizeable chunk with pitifully low income. As there is wider spread of non-poor households over the size classes relative to the poor households, the inequality in income distribution apparently is more pronounced in the former.

**Table 3.9: Distribution of Households According to Per Capita Income Classes and Indebtedness**

Per Capita Income Class	(Percent)					
	Stratum 1		Stratum 2		Combined	
	Distribution of Households	Share of Indebted Households	Distribution of Households	Share of Indebted Households	Distribution of Households	Share of Indebted Households
Less than Rs 1,500	7.84	40.81	7.30	82.46	7.51	65.94
Rs 1,500 – 2,500	37.73	36.06	22.11	67.56	28.04	51.48
Rs 2,500 – 3,500	27.70	39.51	23.98	53.88	25.39	47.93
Rs 3,500 – 4,500	16.05	24.90	13.70	24.52	14.59	24.68
Rs 4,500 – 5,500	6.70	39.23	11.25	53.79	9.52	49.90
Rs 5,500 – 6,500	3.26	39.11	7.46	34.37	5.87	35.37
Rs 6,500 – 8,000	0.37	-	2.58	6.64	1.74	6.10
Rs 8,000 - 10,000	0.25	-	1.95	-	1.30	-
Rs 10,000 – 12,500	-	-	1.98	-	1.23	-
Rs 12,500 – 15,000	-	-	0.94	100.00	0.58	100.00
More than Rs. 15,000	-	-	5.46	53.28	3.39	53.28
Not Specified	0.09	-	1.30	-	0.84	-
<b>Total</b>	<b>100</b>	<b>35.65</b>	<b>100</b>	<b>49.87</b>	<b>100</b>	<b>44.48</b>
<b>Avg. PCI (Rs.)</b>	<b>2,632.81</b>		<b>4,319.42</b>		<b>3,681.35</b>	

An indebted household is defined here as the one who took loans during the year preceding the date of the survey. The proportion of such households to the total for each size class is given as percentage. Almost half of the households in stratum 2 is indebted whereas it is 36 percent for the poor, the range of this ratio over the size classes is much less for the poor than the non-poor. The most striking feature is that even across size classes, particularly at the lower end the proportion of indebted households is much more in stratum 2 than in stratum 1. The higher incidence of indebted households among non-poor may be due to their creditworthiness, somewhat apparent from Table 3.11 that shows the source of borrowing. 35 percent of households in stratum 2 got their loans from cooperative societies against 22 percent in stratum 1.

The questionnaire provided for collection of the amount of outstanding debt at the end of the year after payment of the interest. It is observed from Table 3.10 that the amount of outstanding debt per indebted household still to be paid is much more at lower income ranges of the poor and they stand out as the worst hit by indebtedness. Since stratum 2 is found to be a mix of the poor and the rich, if we exclude the indebted households of upper income ranges, the situation converges to that obtaining in stratum 1.

**Table 3.10: The Per Household Amount of Outstanding Debt Across Income Classes**

Per capita income class	Per Household Debt		
	Stratum 1	Stratum 2	Combined
Less than Rs 1,000	11,329	5,000	6,903
Rs 1,000 - 1,500	5,965	2,467	3,181
Rs 1,500 - 2,500	7,153	8,339	7,915
Rs 2,500 - 3,500	4,774	3,822	4,147
Rs 3,500 - 4,500	4,126	18,096	12,215
Rs 4,500 - 5,500	4,521	4,457	4,471
Rs 5,500 - 6,500	4,757	1,652	2,376
Rs 6,500 - 8,000		20,000	20,000
Rs 8,000 - 10,000			
Rs 10,000 - 12,500			
Rs 12,500 - 15,000		215,952	215,952
More than Rs 15,000		80,000	80,000
<b>Total</b>	<b>5,949</b>	<b>14,558</b>	<b>11,940</b>

**Table 3.11: Distribution of Households Across Source and Purpose of Borrowing**

	Distribution of Households	The share of Agricultural Loan	Loans for Other Purposes	Total
<b>Stratum 1</b>				
Government	2.91	98.48	1.52	100
Development Corporation	0.33	100.00	-	100
Banks	15.50	85.27	14.73	100
Cooperative Society	21.63	100.00	-	100
Village Moneylenders	19.45	94.61	5.39	100
Private Banks	0.30	81.03	18.97	100
Relatives/Neighbours	39.88	86.55	13.45	100
<b>Total</b>	<b>100.00</b>	<b>90.94</b>	<b>9.06</b>	<b>100</b>
<b>Stratum 2</b>				
Government	1.59	100.00	-	100
Development Corporation	0.32	-	-	100
Banks	9.53	83.36	16.64	100
Cooperative Society	34.83	99.49	0.51	100
Village Moneylenders	14.92	100.00	-	100
Private Banks	2.26			100
Relatives/Neighbours	36.56	96.07	3.93	100
<b>Total</b>	<b>100.00</b>	<b>97.30</b>	<b>2.70</b>	<b>100</b>
<b>Combined</b>				
Government	2.00	99.94	0.06	100
Development Corporation	0.32	100	-	100
Banks	11.36	84.34	15.66	100
Cooperative Society	30.78	99.57	0.43	100
Village Moneylenders	16.31	97.58	2.42	100
Private Banks	1.66	81.03	18.97	100
Relatives/Neighbours	37.58	92.74	7.26	100
<b>Total</b>	<b>100</b>	<b>96.19</b>	<b>3.81</b>	<b>100</b>

Table 3.11 brings out that even though the loans were procured from various sources, they were preponderatingly for agricultural purposes. Among the sources, ‘relatives/ neighbours’ account for 40 percent of the indebted households in stratum 1 and almost 37 percent in stratum 2, claiming for the biggest source of borrowing. For the poor, 13 percent of

the loans borrowed from relatives/neighbours are taken for purposes other than agricultural. The poorest among the poor (with income less than Rs. 1000) are the most indebted with per household debt being nearly double of the group average. In their case, per capita debt is ten times higher than the highest of their income range (Rs. 1000). (Table 3.10)

Table 3.11 shows that the focus group (the poor) depends primarily on relatives/neighbours for borrowing (40 percent). It is also shown that the poor still depend almost as much on the village moneylenders as on the cooperative societies. Most of that borrowing is also for agricultural purpose.

### **3.4 Livelihood Issues: Access to Food and Other Basic Necessities**

One of the principal reasons for poverty is the lack of income. Inadequate income compels the poor to suffer from material deprivation in terms of basic necessities including food. In this section, we analyse the status of rural households in Chhattisgarh in terms of these very basic necessities. A detailed analysis of the availability aspect of food via public distribution system (PDS) vis-à-vis market for both poor and non-poor is undertaken in this section to examine how effectively the PDS as a fiscal instrument supports rural poor in making food available at a subsidised rate than the market. The operation of targeted PDS and its coverage is also examined through the survey. The issue of access to water is also examined in this section.

Before we go into a comparison of the relative position of the stratum 1 vis-à-vis stratum 2, the salient characteristics of stratum 1 in terms of vulnerability is summarised in the Table 3.12. It shows that average family size in stratum 1 is 5.39, their per capita annual income is Rs. 2633 when the per capita annual expenditure is Rs. 2682. The average share of food in total expenditure is as high as 68.57 percent. The percentage of households accessing market for food is also as high as 77.12 percent and the PDS access is 90.69 percent. The percentage of households holding blue ration card (BPL card) is again below 100 percent indicating that in the regime of targeted PDS, the coverage of poor is not total. Other indicators of access like the drinking water facilities, percentage of electrified households, share of households getting food throughout the year paint a very gloomy picture with respect to stratum 1.

**Table 3.12: Stratum 1: The Key Characteristics**

	(Percent)
Average Household Size	5.39
Per capita Annual Income	2632.81
Per capita Annual Expenditure	2681.69
Average share of food to total expenditure	68.57
Percentage of Household Accessing food from the PDS	90.69
Percentage of Household Accessing food from the Market	77.12
Percentage of Household holding BPL ration card	83.44
Percentage of Households below official poverty line	89.07
Percentage of households electrified	18.49
Percentage of Households having drinking water facilities within premises	10.46
Percentage of Households getting food throughout the year	52.77

In order to understand the share of households falling below MPCE class equivalent to that of official poverty line of Chhattisgarh, we have updated the poverty line of Madhya Pradesh (which is Rs. 311 per capita per month<sup>7</sup>) pertaining to 1999-2000, by the consumer price index for agricultural labourer for the subsequent years. As there is no separate estimate of poverty line for Chhattisgarh, we have used the updated poverty line of Madhya Pradesh as a proxy for Chhattisgarh. On the basis of the updated poverty line, it is noted that the poverty line falls between the MPCE class of Rs. 300 to 355. On the basis of this, the percentage of households falling below poverty line comes to 89.07 percent in stratum 1. In other words, about 90 percent of the households in stratum 1 are falling below the updated official poverty line.

Given the status of households within stratum 1 in terms of their vulnerability and availability of basic necessities in a summarized form, we undertake a detailed analysis of their position across MPCE class disaggregation and compare with stratum 2 wherever necessary. To start with, average household size in stratum 2 is also 5.4 with relatively larger family size in the lower MPCE classes in both the strata (Table 3.13). Also, the distribution of households as per MPCE classes reveals that around 80 percent of the total rural households in stratum 1 belong to the MPCE class of less than Rs. 300 and 58 percent in stratum 2. The combined share of expenditure of all MPCE classes upto Rs. 300 constitutes 75 percent of total expenditure of all MPCE classes in stratum 1 and 41.78 percent in stratum 2. As expected, the share of food expenditure is significantly higher in the lower MPCE classes than the higher ones. In stratum 2, the share of food expenditure in total expenditure is 47.87 percent when the same is as high as 68.57 percent in stratum 1.

<sup>7</sup> Government of India, Press Information Bureau (2001): Poverty Estimates for 1999-2000, 22<sup>nd</sup> February, New Delhi.

**Table 3.13: Average Size, Distribution and Expenditure  
According to MPCE Classes of Households**

<b>MPCE</b>	<b>Average Household Size</b>	<b>Percentage of Distribution of Households</b>	<b>Percentage of Distribution of Total Expenditure</b>	<b>Share of Food to Total Expenditure</b>
<b>Stratum 1</b>				
Less than Rs. 190	6.04	36.09	26.68	75.93
Rs. 190 - 210	6.44	8.37	8.93	65.94
Rs. 210 - 235	5.40	13.38	13.32	68.06
Rs. 235 - 265	5.40	13.68	15.20	69.89
Rs. 265 - 300	5.11	9.16	10.88	73.70
Rs. 300 - 355	4.12	8.38	9.30	65.21
Rs. 355 - 455	3.75	8.12	10.44	68.93
Rs. 455 - 560	2.02	1.37	1.14	61.65
Rs. 560 - 650	2.71	0.87	1.17	17.59
Rs. 650 - 750	2.00	0.18	0.21	41.80
Rs. 750 - 1,000	10.00	0.34	2.34	17.96
More than Rs. 1,000	6.00	0.07	0.39	9.48
Not Specified	-	-	-	-
<b>Total</b>	<b>5.39</b>	<b>100</b>	<b>100</b>	<b>68.57</b>
<b>Stratum 2</b>				
Less than Rs. 190	5.56	11.94	4.29	69.02
Rs. 190 - 210	7.76	4.18	3.06	70.89
Rs. 210 - 235	5.98	13.23	8.32	65.19
Rs. 235 - 265	6.02	18.80	13.62	63.00
Rs. 265 - 300	7.04	12.01	11.49	60.47
Rs. 300 - 355	4.40	9.93	6.94	62.09
Rs. 355 - 455	4.41	15.74	13.02	60.03
Rs. 455 - 560	3.94	3.31	3.09	62.92
Rs. 560 - 650	3.00	0.51	0.46	5.35
Rs. 650 - 750	6.47	1.19	2.60	46.16
Rs. 750 - 1,000	5.94	1.92	4.80	32.63
More than Rs. 1,000	3.25	5.96	28.31	16.60
Not Specified	-	1.30	-	-
<b>Total</b>	<b>5.4</b>	<b>100</b>	<b>100</b>	<b>47.87</b>
<b>Combined</b>				
Less than Rs. 190	5.88	21.10	10.17	73.78
Rs. 190 - 210	7.03	5.77	4.60	68.36
Rs. 210 - 235	5.76	13.29	9.64	66.23
Rs. 235 - 265	5.82	16.86	14.04	64.96
Rs. 265 - 300	6.43	10.93	11.33	63.81
Rs. 300 - 355	4.30	9.34	7.56	63.10
Rs. 355 - 455	4.25	12.85	12.34	62.01
Rs. 455 - 560	3.56	2.57	2.58	62.77
Rs. 560 - 650	2.85	0.64	0.64	11.18
Rs. 650 - 750	6.09	0.81	1.98	46.03
Rs. 750 - 1,000	6.33	1.32	4.15	30.46
More than Rs. 1,000	3.26	3.72	20.97	16.56
Not Specified	-	0.81	-	-
<b>Total</b>	<b>5.4</b>	<b>100.00</b>	<b>100.00</b>	<b>53.31</b>

As mentioned earlier, the distribution of households across MPCE classes also reveals that there is heavy concentration of poor and vulnerable groups in the lower end of the classes in both stratum 1 and stratum 2. There has been heavy dependence of rural households across MPCE classes on PDS (Table 3.14) in both the strata despite many problems associated with the PDS. In stratum 1, more than 90 percent and in stratum 2, more than 80 percent of the total households access PDS in Chhattisgarh. However, the lower MPCE class, which has the highest concentration of poor, the share of households accessing PDS is not hundred percent. In case of stratum 2, though this pattern is observed in the lower MPCE class, in case of higher MPCE class also, households availing PDS purchase is not hundred percent except for two MPCE classes.

**Table 3.14: Percentage of Households Accessing PDS and Market as Per MPCE Class**

MPCE	(Percent)					
	Accessing PDS			Accessing Market		
	Stratum 1	Stratum 2	Combined	Stratum 1	Stratum 2	Combined
Less than Rs. 190	92.96	86.82	90.80	76.25	49.95	67.01
Rs. 190 - 210	89.78	88.05	89.00	71.70	91.60	80.64
Rs. 210 - 235	93.63	88.88	90.69	64.28	61.84	62.77
Rs. 235 - 265	93.49	91.76	92.29	79.87	57.49	64.38
Rs. 265 - 300	79.74	72.58	74.86	67.26	99.80	89.46
Rs. 300 - 355	81.11	69.63	73.54	92.42	76.29	81.78
Rs. 355 - 455	90.97	76.50	79.97	93.92	97.17	96.39
Rs. 455 - 560	100.00	91.25	93.01	100.00	100.00	100.00
Rs. 560 - 650	100.00	100.00	100.00	76.13	-	38.97
Rs. 650 - 750	100.00	53.28	57.18	100.00	100.00	100.00
Rs. 750 - 1,000	100.00	100.00	100.00	100.00	35.24	41.52
More than Rs. 1,000	100.00	38.72	39.15	-	48.80	48.45
Not Specified		100.00	100.00		-	-
<b>Total</b>	<b>90.69</b>	<b>80.40</b>	<b>84.30</b>	<b>77.12</b>	<b>71.71</b>	<b>73.77</b>

The share of households in total households accessing market in stratum 1 at lower tail of the MPCE class is more than 75 percent. But at the higher end of the MPCE class, households reporting purchase from market is 100 percent. In stratum 2, the aggregate share of households accessing market across all MPCE class is 72 percent, which is lower than that of stratum 1. The higher share of households accessing market in stratum 1 compared to stratum 2 may be due to the less than 100 percent coverage of PDS services at the lower end of the MPCE class in stratum 1. In the case of stratum 2, a significant share of vulnerable group is also located in the lower end of the MPCE class. In their case also, the access is not hundred percent and even lower compared to stratum 1. In other words the PDS coverage is

well below the target group in case of poor. But in case of people above updated poverty line, the coverage is 100 percent in case of stratum 1 and in even in two MPCE classes above poverty line in stratum 2. The MPCE wise distribution of households clearly brings out that the targeted PDS suffers from both exclusion and inclusion errors.

The issue of targeted PDS has been a matter of extensive debate since this system was introduced in the 1990s. In Chhattisgarh also, the system of targeted PDS is introduced where in accordance with the depth and severity of the poverty, poor as a group is segmented into various groups within the poor and different colours of ration cards are given to each of these groups for easy identification and targeting to provide corresponding support system through PDS. The distribution of the households according to the colour of ration card is given in Table 3.15. As can be seen from the Table 3.15, on an average, more than 83 percent of the total households hold blue colour ration card in stratum 1, and only 15.48 percent in Stratum 2. In stratum 2, 27.41 percent and 25.82 percent of the total households are having pink and white colour ration cards.

### **Energy Consumption**

In rural India, the access to government benefits from the subsidized fuel except for kerosene (through PDS) is almost absent. The percentage of households according to the type of fuel use given in Table 3.16 reveals that both in stratum 1 and in stratum 2, around 97 percent of the total households use kerosene. Other major forms of energy resources used are wood and electricity. In stratum 2, more than 70 percent households use electricity when the same share is as low as 36.19 percent in stratum 1. However, when one looks at the structure of expenditure, wood accounts for the bulk of the expenditure in both the strata.

The per household monthly expenditure on fuel also reveals that the cost of fuel per capita is as high as Rs. 222.65 in stratum 2 compared to Rs. 130.07 in stratum 1 (Table 3.17). Although among all the categories of fuel, per household cost of wood is highest in both the strata, the limitation of this price is to be noted as its value is not the actual amount spent but the imputed value of wood based on market price of wood collected mainly from the forest and this could be on the higher side. The highest expenditure allocation in wood also signifies the fact that wood is the principal means of fuel used in the rural Chhattisgarh. Another interesting point to be noted from the table is that per household expenditure on electricity is as high as Rs. 65.34 in stratum 2 compared to that of Rs. 18.98 in stratum 1.

**Table 3.15: Distribution of Households According to the Colour of Ration Cards**

MPCE	(Percent)							Total
	Blue	Yellow	White	Green	Red	Pink	Not Specified	
<b>Stratum 1</b>								
Less than Rs. 190	76.75	-	0.08	14.96	-	-	8.22	100
Rs. 190 - 210	94.26	-	-	3.50	-	-	2.25	100
Rs. 210 - 235	92.42	1.07	0.27	4.63	-	0.95	0.67	100
Rs. 235 - 265	83.82	-	0.26	13.70	-	2.22	-	100
Rs. 265 - 300	84.45	3.85	-	8.37	-	-	3.33	100
Rs. 300 - 355	87.62	1.85	-	10.53	-	-	-	100
Rs. 355 - 455	84.18	-	8.46	6.79	-	-	0.57	100
Rs. 455 - 560	55.57	-	-	44.43	-	-	-	100
Rs. 560 - 650	91.98	-	-	8.02	-	-	-	100
Rs. 650 - 750	78.04	-	-	21.96	-	-	-	100
Rs. 750 - 1,000	100.00	-	-	-	-	-	-	100
More than Rs. 1,000	100.00	-	-	-	-	-	-	100
Not Specified								-
<b>Total</b>	<b>83.44</b>	<b>0.65</b>	<b>0.79</b>	<b>11.10</b>	<b>-</b>	<b>0.43</b>	<b>3.59</b>	<b>100</b>
<b>Stratum 2</b>								
Less than Rs. 190	31.26	-	29.79	14.14	-	3.90	20.91	100
Rs. 190 - 210	27.16	8.40	57.01	7.43	-	-	-	100
Rs. 210 - 235	16.55	5.12	9.16	3.27	-	34.12	31.79	100
Rs. 235 - 265	3.15	11.96	37.29	-	-	26.70	20.90	100
Rs. 265 - 300	24.16	1.81	23.65	6.00	-	38.68	5.70	100
Rs. 300 - 355	6.84	18.07	49.41	8.68	-	-	17.00	100
Rs. 355 - 455	7.89	11.33	17.80	-	-	41.33	21.65	100
Rs. 455 - 560	21.33	5.96	-	-	-	63.96	8.75	100
Rs. 560 - 650	-	100.00	-	-	-	-	-	100
Rs. 650 - 750	-	-	53.28	-	-	-	46.72	100
Rs. 750 - 1,000	-	-	24.94	-	-	64.76	10.30	100
More than Rs. 1,000	38.72	-	-	-	-	48.80	12.49	100
Not Specified	-	-	-	-	-	-	100.00	100
<b>Total</b>	<b>15.48</b>	<b>7.77</b>	<b>25.82</b>	<b>4.01</b>	<b>-</b>	<b>27.41</b>	<b>19.50</b>	<b>100</b>

**Table 3.16: Percentage of Households According to the Type of Fuel Use and the Corresponding Share of Expenditure**

Type of Fuel	Share of Households		Share of Expenditure	
	Stratum 1	Stratum 2	Stratum 1	Stratum 2
Kerosene	97.76	96.63	24.89	15.68
Cow Dung	27.41	28.03	6.59	4.47
Wood	63.57	66.45	52.22	42.78
Twigs, Dry leaves	2.24	2.33	0.95	0.23
Electricity	36.19	70.34	14.59	29.35
Diesel	0.15	0.00	0.00	0.00
Gas	0.40	6.34	0.51	6.97
Other	1.20	2.01	0.25	0.52

**Table 3.17: Per Household Monthly Expenditure on Fuel  
According to Type of Fuel**

Type of Fuel	Per Household Expenditure (in Rs.)	
	Stratum 1	Stratum 2
Kerosene	32.38	34.92
Cow Dung	8.58	9.96
Wood	67.92	95.25
Twigs, Dry leaves	1.24	0.51
Electricity	18.98	65.34
Diesel	0.00	0.00
Gas	0.66	15.51
Other	0.32	1.16
<b>Total</b>	<b>130.07</b>	<b>222.65</b>

The access to electricity indicated by the percentage of households electrified reveals a sharp contrast between both the strata. As evident from Table 3.18, out of total, 31.49 percent of the total households are electrified, with 18.49 percent of the total households in Stratum 1 and 41.66 percent in Stratum 2. The nature of connection classified in terms of legal and illegal reveals that 13 percent of the total connections in both the strata are illegal.

**Table 3.18: Percentage of Households Electrified  
and the Type of Connection**

	% of Houses Electrified	(Per cent)		
		Type of Connection		
		Legal	Illegal	Total
Stratum 1	18.49	86.67	13.33	100
Stratum 2	41.66	86.93	13.07	100
Combined	31.49	86.86	13.14	100

### **Availability of Water**

The status regarding various sources of drinking water vis-à-vis distance from dwelling across strata is presented in Table 3.19. The stratum wise distribution reveals that 10.46 percent of the total households in stratum 1 and 18.95 percent of total households in stratum 2 are having the provision of drinking water within their premises; the rest depend on sources from outside, primarily the public provision of water supply. More than 74 percent of the total households in stratum 1 and 64.5 percent in stratum 2 have access to drinking water sources within 100 meters of their premises. More than 13 percent of the households in stratum 1 and 16.56 percent in stratum 2 still depend on the sources, which are between 100 to 500 meters. However, in stratum 1, 1.86 percent of the total households still depend on the water sources which are between half to more than 1 km. from their premises.

**Table 3.19: Source of Drinking Water and Distance from Dwelling**

	(Percent)				
	Within Premises	Less than 100 Mtrs.	Between 100 to 500 Mtrs.	Between Half to 1 Km.	More Than 1 Km.
<b>Percentage of Total Households: Stratum 1</b>					
Own well	10.28	1.23	-	-	-
Own tap	0.14	0.14	-	-	-
Own handpump	0.04	-	-	-	-
Public well	-	7.45	1.42	-	-
Public tap	-	3.89	0.89	0.04	-
Public handpump	-	61.34	9.59	0.86	0.71
Tank	-	-	0.05	-	-
Others	-	0.11	1.24	0.25	-
<b>Total</b>	<b>10.46</b>	<b>74.15</b>	<b>13.19</b>	<b>1.15</b>	<b>0.71</b>
<b>Percentage of Total Households: Stratum 2</b>					
Own well	16.88	2.75	0.08	-	-
Own tap	1.56	-	-	-	-
Own handpump	0.51	-	-	-	-
Public well	-	5.03	0.52	-	-
Public tap	-	3.79	1.65	-	-
Public handpump	-	51.66	14.30	-	-
Tank	-	-	-	-	-
Others	-	1.27	-	-	-
<b>Total</b>	<b>18.95</b>	<b>64.50</b>	<b>16.56</b>	<b>-</b>	<b>-</b>

The spread of public water sources according to distance presented in Table 3.20 reveals that 81 percent of the total provision of public water which comprises of public well, public tap and public hand pump, remains within the range less than 100 meters for 81 percent of the total households in rural Chhattisgarh.

**Table 3.20: Spread of Public Water Sources According to Distance**

	Within Premises	Less Than 100 Mtrs.	Between 100 to 500 Mtrs.	Between Half to 1 Km.	More Than 1 Km.	Total
Public well	-	87	13	-	-	100
Public tap	-	74	26	0	-	100
Public handpump	-	81	18	0	0	100
<b>Total</b>	<b>-</b>	<b>81</b>	<b>18</b>	<b>0</b>	<b>0</b>	<b>100</b>

The distribution of households according the time spent in collection of water (Table 3.21) shows that 82.18 percent in stratum 1 and 86.47 percent in stratum 2 spend less than one hour in the collection of water. However, among the rest if we compare the two strata, the average time spent in collecting water is much higher in stratum 1, than in stratum 2.

**Table 3.21: Distribution of Households by Time Spent on Collection of Water**

	(Percent)					
	<b>Less Than 1 Hour</b>	<b>Between 1 to 2 Hours</b>	<b>Between 2 to 4 Hours</b>	<b>More Than 4 Hours</b>	<b>Not Reported</b>	<b>Total</b>
Stratum 1	82.18	7.78	1.72	2.65	5.67	100
Stratum 2	86.47	6.44	0.97	0.50	5.62	100

### **3.5 Public Service Delivery: The Status and Access**

#### **Education**

The stratum-wise estimates of literacy status both for adults and children reported in Table 3.22 reveal that in case of both males and females, literacy rates of adults in stratum 1 are significantly lower than that of stratum 2. In case of stratum 1 the share of male under the ‘Can Read and Write’ category is 55.16 percent when the same is as high as 76.83 percent in stratum 2. In case of female literacy, this divergence is as high as 24.74 percentage points. However, in case of children, the educational attainment is relatively more equitable across stratum compared to adult literacy rate. Nevertheless, literacy attainment remains higher in stratum 2 than that of stratum 1 in case of children. Across stratum, male literacy rate remains higher than that of female. However, it is to be noted that 13.21 percent of total children remains out of the primary education represented in ‘can’t read and write’ category. Non-accessibility of education is even more acute in the case of adult with ‘can’t read and write’ category number remaining as high as 40.56 percent.

The survey conducted a detailed probe into the reasons beneath the proportion of people not able to enjoy the benefit of education in rural Chhattisgarh both for adults and children across stratum and gender. The survey results indicate that the principal reason for no access to education by the children is the shortage of finance particularly in stratum 1 (Table 3.23). Other major reasons are the lack of interest and the pressure of household work. The school distance is not a significant factor in the case of accessing it (Table 3.24). Distribution of children according to weekly attendance by distance and stratum reveal that distance has not been a significant factor in terms of attending the school. In fact, the percentage of attendance has been significantly high across distance and even higher in case of schools which are distantly located. However, this finding does not mean to indicate that more the school’s distance higher the attendance. This only proves the fact that in case of

education, wherever the services are available, members of individual household units are trying to access it.

**Table 3.22: Adult and Children's Education Status:  
by Sex and Stratum**

(Percent)

	Stratum 1	Stratum 2	Combined
<b>Adult Education Status: By Sex and Stratum</b>			
<b>Male</b>			
Can Read and Write	55.16	76.83	69.10
Read Only	1.94	2.03	2.00
Can't Read and Write	42.9	21.13	28.90
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>
<b>Female</b>			
Can Read and Write	28.99	53.73	45.17
Read Only	2.35	2.02	2.13
Can't Read and Write	68.66	44.26	52.70
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>
<b>Persons</b>			
Can Read and Write	42.54	65.41	57.38
Read Only	2.14	2.02	2.06
Can't Read and Write	35.32	32.56	40.56
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>
<b>Children's Education Status: By Sex and Stratum</b>			
<b>Male</b>			
Can Read and Write	82.01	86.25	84.49
Read Only	3.99	4.29	4.16
Can't Read and Write	14.00	9.46	11.34
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>
<b>Female</b>			
Can Read and Write	78.75	85.86	82.69
Read Only	3.35	0.77	1.92
Can't Read and Write	17.90	13.37	15.39
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>
<b>Persons</b>			
Can Read and Write	80.44	86.07	83.66
Read Only	3.68	2.71	3.13
Can't Read and Write	15.88	11.22	13.21
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

**Table 3.23: Distribution of Children not Attending School by Sex, Reason and Strata**

(Percent)

Reasons	Stratum 1			Stratum 2			Combined		
	Male	Female	Persons	Male	Female	Persons	Male	Female	Persons
Shortage of Finance	54.67	52.29	53.41	16.72	44.03	28.42	33.12	48.43	40.41
School is too far	-	0.79	0.42	-	-	-	-	0.42	0.20
Poor quality in affordable school	3.97	2.81	3.36	-	8.29	3.55	1.72	5.38	3.46
Discontinued after marriage	-	-	-	-	-	-	-	-	-
Have to do household work	6.70	12.69	9.86	-	2.12	0.91	2.89	7.75	5.21
Have to earn for family	2.17	5.40	3.88	-	-	-	0.94	2.87	1.86
No interest	13.39	4.51	8.70	29.67	23.64	27.09	22.64	13.46	18.27
Not specified	19.10	21.50	20.37	53.61	21.91	40.03	38.70	21.69	30.60
<b>Total</b>	<b>100</b>								

**Table 3.24: Distribution of Children by Attending School by Distance and Strata**

Attendance Last Week	(Percent)			
	Less Than 1Km.	1-2 Km.	2-5 Km.	More Than 5 Km.
<b>Stratum 1</b>				
Less than 0. 20	0.90	0.00	11.76	3.37
0.20 to 0.40	0.45	0.00	0.00	0.00
0.40 to 0.60	2.17	0.48	0.00	0.00
0.60 to 0.80	9.86	8.46	4.68	4.00
0.80 to 1.00	21.53	20.23	6.48	17.52
Equal to 1.00	65.10	70.83	77.07	75.11
<b>Stratum 2</b>				
Less than 0.20	6.07	0.00	0.00	0.00
0.20 to 0.40	0.00	0.00	0.00	0.00
0.40 to 0.60	1.37	0.00	0.00	0.00
0.60 to 0.80	9.93	6.39	0.00	12.79
0.80 to 1.00	25.77	26.92	34.98	24.62
Equal to 1.00	56.86	66.69	65.02	62.58
<b>Combined</b>				
Less than 0.20	4.04	0.00	6.41	1.00
0.20 to 0.40	0.18	0.00	0.00	0.00
0.40 to 0.60	1.68	0.14	0.00	0.00
0.60 to 0.80	9.90	7.01	2.55	10.19
0.80 to 1.00	24.11	24.92	19.46	22.53
Equal to 1.00	60.09	67.92	71.58	66.28

When, we look at the reasons for the adults not able to continue education, we find that apart from shortage of finance, the principal reason is the pressure to earn for their families and provide income support. It can be seen from Table 3.25 that as high as 44.49 percent of males in stratum 1 could not continue education in order to provide income support to the family, followed by shortage of finance at 27.66 percent. No interest in education also remains a major factor both for child and adult education.

**Table 3.25: Distribution of Number of Adults not Attending School by Sex, Reason and Strata**

Reasons	(Percent)								
	Stratum 1			Stratum 2			Combined		
	Male	Female	Persons	Male	Female	Persons	Male	Female	Persons
Shortage of Finance	27.66	25.92	26.83	18.27	17.40	17.85	21.48	20.24	20.88
School is too far	1.02	0.51	0.78	0.29	0.00	0.15	0.54	0.17	0.36
Poor quality in affordable school	0.93	0.05	0.51	2.12	0.38	1.27	1.71	0.27	1.01
Discontinued after marriage	0.67	1.45	1.04	0.66	5.93	3.23	0.66	4.44	2.49
Have to do household work	2.61	32.18	16.70	7.84	33.64	20.40	6.05	33.16	19.15
Have to earn for family	44.49	15.45	30.65	37.72	10.31	24.38	40.04	12.02	26.50
No interest	17.65	20.18	18.86	29.27	24.16	26.78	25.30	22.83	24.11
Others	3.60	3.04	3.33	3.83	8.16	5.94	3.75	6.46	5.06
Not specified	1.39	1.22	1.31	0.00	0.02	0.01	0.47	0.42	0.45
<b>Total</b>	<b>100</b>								

The literate adults are not a homogeneous group. The level of adult literacy is presented in Table 3.26. It is evident that the bulk of the adult literates is concentrated below class 8, followed by class 9 to 10 and class 10 to 12. Similar pattern is observed in the case of female literates as well. The share of professional graduates and other higher degree attainment remains significantly low in the distribution of educational status across adults. However, when we look at the share of persons continuing in each group it remains the highest in professional graduate courses in the case of males. In case of females, the retention rate is the highest in class 9 to 10 category.

**Table 3.26: Distribution of Number of Adults by Sex by Highest Level of Education Achieved**

Educational Status	(Percent)					
	Male		Female		Persons	
	Literacy Status	Currently Enrolled (%)	Literacy Status	Currently Enrolled (%)	Literacy Status	Currently Enrolled (%)
Less than class 5	31.43	2.57	35.11	3.89	33.23	3.25
Class 6 to 8	20.38	0.37	11.66	2.77	16.11	1.22
Class 9 to 10	9.91	7.48	6.11	29.44	8.05	15.64
Class 10 to 12	7.91	2.45	3.86	2.28	5.93	2.40
Professional graduate	0.18	39.56	0.07	-	0.13	28.34
Non Professional graduate	3.00	7.59	1.10	-	2.07	5.61
Post graduate	1.33	4.62	1.31	-	1.32	2.37
Prof. Cert/diploma	1.46	-	-	-	0.74	-
Others	-	-	0.04	-	0.02	-
Not specified	24.40	-	40.72	0.08	32.40	0.05
<b>Total</b>	<b>100.00</b>	<b>2.18</b>	<b>100.00</b>	<b>3.61</b>	<b>100.00</b>	<b>2.88</b>

Evidence from other countries has shown that scholarship programmes and other direct incentive programmes have played an effective role in raising school attendance. These programmes may help reduce the dropouts at primary education and in turn can increase the retention rate. The benefit incidence of direct fiscal intervention in terms of scholarship, free books, free uniform and mid-day meal schemes run by the government is shown in Table 3.27. It is noted that combined benefit of all these schemes reaches to 95.13 percent of the school going children in stratum 1 and 92.79 percent in stratum 2 (Table 3.27). The analysis further reveals that the major share of these expenditure across benefit goes for mid-day meal schemes and maximum number of students are also benefiting through this schemes across stratum.

**Table 3.27: Benefit Incidence of Government Programme in Education:  
State-Wise Estimates by Stratum**

Type of Benefits	Stratum 1		Stratum 2		Combined	
	Number Benefiting (% Share)	Expenditure Distribution Across Benefits	Number Benefiting (% Share)	Expenditure Distribution Across Benefits	Number Benefiting (% Share)	Expenditure Distribution Across Benefits
Scholarship	16.73	21.39	18.83	18.03	17.94	19.27
Free Books	30.22	8.96	29.23	6.96	29.65	7.70
Free Uniform	2.09	1.43	2.74	0.44	2.47	0.80
Midday Meal	47.57	67.48	45.22	66.62	46.21	66.93
Others	3.38	0.75	3.98	7.94	3.73	5.30
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
As % to School Going Children	95.13		92.79		93.76	
Per Capita Exp. Benefit		177.50		222.83		203.72
Benefit Excl. MMS* As % to School Going Children	49.88		20.68		35.12	

Note: \* Mid-day Meal Scheme

However, the stratum-wise distribution of expenditure across benefit shows that out of total expenditure, 63.26 percent goes to stratum 2 and the rest goes to the stratum 1 (Table 3.28). In other words, only one third of the total benefits goes to the stratum 1. Whether this regressive distribution pattern of benefit is due to the higher number of enrolment in stratum 2 compared to stratum 1 or due to the higher per capita incidence of benefit in stratum 1 compared to stratum 2 can be understood if we look at the per capita expenditure benefit incidence reported in Table 3.27. The per capita expenditure benefit in stratum 1 is Rs. 177.50 compared to that of Rs. 222.83 in case of stratum 2. The combined expenditure (per capita) estimated to be Rs. 203. Such regressive distribution pattern of benefit reflects inadequate targeting.

**Table 3.28: Expenditure Benefit Across Stratum**

Type of Benefits	Stratum 1	Stratum 2	Total
Scholarship	40.79	59.21	100
Free Books	42.76	57.24	100
Free Uniform	65.11	34.89	100
Midday Meal	37.03	62.97	100
Others	5.17	94.83	100
<b>Total</b>	<b>36.74</b>	<b>63.26</b>	<b>100</b>

## Health

Public provision of health services is another area where prima facie there should be a heavy dependence of poor in rural areas on public health services provided by government run primary health centers. The information gathered from the field, sheds light on the status of health care facilities, health service seeking behaviour of poor and non-poor, the cost of health services and the status of ante-natal care of rural households. As mentioned in Chapter 1 public infrastructure of health services in Chhattisgarh comprises, among others, 6 district hospitals, 17 civil hospitals, 114 community health centres and 512 primary health centres spreaded across all the districts in the state<sup>8</sup>. Given the available public health infrastructure, an attempt has been made to analyse the health service seeking behaviour of rural population across private and public health services , cost of medical services and accessibility aspect of public health services. It is to be noted that the issue of physically accessing a particular provision of public services especially health and educational services in terms of their distance from the village is analysed in the section on rural connectivity.

The questionnaire, sought to ascertain the preference of the households for consulting during illness last year among the various health service providers. Additional information on average cost per consultation was also sought. Table 3.29 presents the distribution of households in a particular stratum reporting their first preference to total households in stratum and Table 3.30 provides the distribution of households according to size classes of average cost of consultation for different providers. It is revealed that the rural households in both the strata depend heavily on primary health centres (PHC) and private doctors. One third of the households in stratum 1 and one fourth in stratum 2 also consult the cheap *jhola-chhap* quacks (Table 3.29).

**Table 3.29: Households by Type of Health Service Seeking Behaviour**

	Stratum 1	Stratum 2
Health Worker	18.50	23.19
PHC	69.96	69.31
Private Doctor	64.75	71.26
Jhola-chhap quack	33.10	25.24
Others	10.77	10.66
Not specified	2.92	0.32

Note: This is as a percentage of total households.

<sup>8</sup> Directorate of Economics and Statistics (2002) Chhattishgarh.

The spread of the average consultation fee in stratum1 for these three important health service providers can be seen from the Table 3.30. The modal value of average consultation fee is Rs. 25 for PHC and private doctors, while less than Rs. 10 for the *jhola-chhap* quacks. The pattern for stratum 2 is slightly different in the sense that the modal value shifts to a higher fee for both PHC and private doctors that is Rs. 40 for each. For the quacks, 74 percent pay less than Rs. 10.

**Table 3.30: Distribution of Households as Per Average Consultation Cost and Type of Health Service**

	Stratum 1					Total
	< Rs. 10	Rs. 10-19	Rs. 20-29	Rs. 30-49	'Rs. 50+	
Health Worker	25.25	17.23	34.57	11.80	11.15	100.00
PHC	31.83	18.53	38.66	6.22	4.77	100.00
Private Doctor	17.66	21.39	41.56	11.47	7.92	100.00
Jhola-chhap quack	64.34	8.93	23.37	2.05	1.30	100.00
Others	36.95	18.74	28.83	4.45	11.03	100.00
Not specified	15.71	3.20	64.01	17.08	-	100.00
	Stratum 2					Total
	< Rs. 10	Rs. 10-19	Rs. 20-29	Rs. 30-49	'Rs 50+	
Health Worker	18.39	5.31	19.48	50.90	5.92	100.00
PHC	24.03	10.72	26.38	31.10	7.77	100.00
Private Doctor	16.83	8.14	29.05	39.12	6.86	100.00
Jhola-chhap quack	74.38	9.31	10.71	5.60	-	100.00
Others	58.43	20.83	8.95	4.82	6.95	100.00
Not specified	-	-	-	-	-	-
	Combined					Total
	< Rs. 10	Rs. 10-19	Rs. 20-29	Rs. 30-49	'Rs. 50+	
Health Worker	20.65	9.24	24.46	38.00	7.65	100.00
PHC	27.01	13.70	31.07	21.60	6.62	100.00
Private Doctor	17.13	12.88	33.53	29.23	7.24	100.00
Jhola-chhap quack	69.93	9.14	16.32	4.03	0.58	100.00
Others	50.78	20.09	16.03	4.69	8.41	100.00
Not specified	13.30	18.09	54.16	14.45	-	100.00

It can be seen from the Table 3.31, the percentage of households reporting illness across MPCE classes is 98.49 percent, the principal reason for such high morbidity rate being the one-year reference period of reporting illness. The distribution of households reporting illness across MPCE class reveals that MPCE class upto Rs. 300 has more than 81 percent of the households reporting illness in stratum 1 and 60 percent in stratum 2. The structure of health expenditure between medicine, doctors and others<sup>9</sup> reveals that major share of total

<sup>9</sup> Other medical expenditure includes hospital charges, charges on account of X-ray and various other medical diagnostic tests.

health expenditure is on medicine in both the strata. The share of expenditure on account of medicine is 66.71 percent in stratum 1 and 73.92 percent in stratum 2. The average per household annual expenditure is Rs. 974 in stratum 1 with some semblance of an increase over the MPCE classes. The average for stratum 2, surprisingly at Rs. 833 is lower than in stratum 1. The average share of health expenditure in total expenditure in stratum 1 is 6.63 per cent, which is much higher than in stratum 2.

**Table 3.31: Distribution of Households and Health Expenditure Across MPCE Classes**

MPCE	% of Households Reporting Illness in Total	Distribution of Households Reporting Illness	Structure of Health Expenditure				Per Household Health Expenditure	% to Total Expenditure
			Medicines	Doctors	Others	Total		
<b>Stratum 1</b>								
Less than Rs 190	98.83	36.22	67.99	11.08	20.93	100	530.82	4.91
Rs 190 – 210	99.53	8.46	72.83	16.16	11.01	100	543.16	3.51
Rs 210 – 235	99.20	13.48	65.06	16.36	18.58	100	665.69	4.59
Rs 235 – 265	98.15	13.64	74.10	8.64	17.26	100	485.66	2.97
Rs 265 – 300	100.00	9.30	71.22	13.13	15.65	100	635.32	3.70
Rs 300 – 355	100.00	8.51	66.98	15.58	17.44	100	939.56	5.86
Rs 355 – 455	91.54	7.55	63.78	17.45	18.77	100	811.63	4.00
Rs 455 – 560	100.00	1.39	75.16	19.20	5.65	100	488.73	4.06
Rs 560 – 650	100.00	0.88	30.63	0.72	68.65	100	10,717.58	55.10
Rs 650 – 750	100.00	0.18	86.61	13.39	-	100.00	2,494.83	14.33
Rs 750 - 1,000	100.00	0.34	75.00	6.25	18.75	100.00	80,000.00	79.49
More than Rs 1,000	100.00	0.07	87.50	12.50	-	100.00	800.00	0.99
<b>Total</b>	<b>98.49</b>	<b>100.00</b>	<b>66.71</b>	<b>10.24</b>	<b>23.05</b>	<b>100.00</b>	<b>973.89</b>	<b>6.63</b>
<b>Stratum 2</b>								
Less than Rs 190	100.00	12.04	74.27	19.80	5.93	100.00	294.44	3.31
Rs 190 – 210	100.00	4.21	78.44	7.34	14.23	100.00	388.51	2.14
Rs 210 – 235	96.89	12.93	73.22	13.08	13.70	100.00	416.47	2.59
Rs 235 – 265	100.00	18.96	73.31	15.61	11.08	100.00	549.05	3.06
Rs 265 – 300	100.00	12.12	80.63	12.58	6.79	100.00	1,141.29	4.81
Rs 300 – 355	95.51	9.56	57.92	17.73	24.35	100.00	491.98	2.71
Rs 355 – 455	100.00	15.87	76.81	13.24	9.95	100.00	1,194.12	5.82
Rs 455 – 560	100.00	3.34	72.11	15.31	12.58	100.00	590.73	2.55
Rs 560 – 650	100.00	0.51	75.00	12.50	12.50	100.00	4,000.00	17.84
Rs 650 – 750	100.00	1.20	71.14	11.42	17.43	100.00	9,328.20	17.22
Rs 750 - 1,000	100.00	1.93	67.16	21.25	11.59	100.00	2,794.07	4.50
More than Rs 1,000	100.00	6.01	72.41	4.23	23.36	100.00	631.22	0.54
Not Specified	100.00	1.31	83.33	-	16.67	100.00	300.00	
<b>Total</b>	<b>99.14</b>	<b>100.00</b>	<b>73.92</b>	<b>13.67</b>	<b>12.42</b>	<b>100.00</b>	<b>832.79</b>	<b>3.33</b>

In order to examine the efficacy of the reproductive and child health (RCH) programme in rural Chhattisgarh, we focused on the status and use of antenatal care services by probing into the nature and frequency of clinical consultation of currently married pregnant women and the kind of medical help sought during pregnancy. Clinical consultation of currently married women during last pregnancy as per the number of visits reveal that the distribution in both stratum 1 and stratum 2, concentrated around two visits with corresponding share of 52.65 and 67.68 percent respectively (Table 3.32). However, when we examine the distribution of the type of consultation providers, it becomes evident that in the

single consultation class, it is mostly the trained and untrained dai whose services were sought (Table 3.33). In case of two consultations class also, the number of women visiting trained and untrained dai constituted 38.55 percent. If we consider 'other' as a category in this, the share goes up to 54.26 percent. However, in case of 5 or more consultation in stratum 1, the dependence is on trained dai, followed by others in stratum 1. In stratum 2, dependence on nurses is clearly seen in all the categories of number of visits. Taking into account all the categories, 59 percent of currently married women in stratum 1 consulted dai (trained and untrained) and others whereas 58 percent in stratum 2 consulted nurses.

**Table 3.32: Percentage Distribution of Currently Married Women During Last Pregnancy by Number of Visits**

Number of Visit	(Percent)		
	Frequency	Frequency	Frequency
	Stratum 1	Stratum 2	Combined
1	8.79	13.36	11.42
2	52.65	67.68	61.28
3	19.77	18.96	19.31
4	4.12	0.00	1.75
5 or more	14.67	0.00	6.24
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>

**Table 3.33: Percentage of Currently Married Women Seeking Different Types of Consultation of Currently During Last Pregnancy Each Category of Number of Visits**

No. of Visit	(Percent)						
	Doctor	Nurse	Trained dai	Untrained dai	Others	NS	Total
<b>Stratum 1</b>							
1	0.00	0.00	51.44	48.56	0.00	0.00	100.00
2	8.73	23.22	21.31	17.24	15.71	13.79	100.00
3	0.00	44.57	4.51	19.60	28.30	3.01	100.00
4	67.79	0.00	32.21	0.00	0.00	0.00	100.00
5 or more	0.00	0.00	33.51	11.21	21.78	33.51	100.00
<b>Total</b>	<b>7.39</b>	<b>21.04</b>	<b>22.87</b>	<b>18.86</b>	<b>17.06</b>	<b>12.77</b>	<b>100.00</b>
<b>Stratum 2</b>							
1	0.00	37.19	0.00	0.00	0.00	62.81	100.00
2	0.00	59.61	12.45	21.30	6.63	0.00	100.00
3	0.00	64.98	0.00	0.00	35.02	0.00	100.00
4							
5 or more							
<b>Total</b>	<b>0.00</b>	<b>57.64</b>	<b>8.43</b>	<b>14.42</b>	<b>11.13</b>	<b>8.39</b>	<b>100.00</b>
<b>Combined</b>							
1	0.00	25.01	16.84	15.90	0.00	42.24	100.00
2	3.19	46.32	15.69	19.82	9.95	5.04	100.00
3	0.00	56.09	1.96	8.54	32.09	1.31	100.00
4	67.79	0.00	32.21	0.00	0.00	0.00	100.00
5 or more	0.00	0.00	33.51	11.21	21.78	33.51	100.00
<b>Total</b>	<b>3.14</b>	<b>42.07</b>	<b>14.57</b>	<b>16.31</b>	<b>13.65</b>	<b>10.25</b>	<b>100.00</b>

Note: NS - Not Specified.

### Connectivity and the Rural Poor

Rural connectivity remains a major issue in the context of poverty. In order to understand the problem of connectivity we have examined the distance of villages from various publicly provided services, use of various means of connectivity and expenditure incurred on travel. In regard to road connectivity, Table 3.34 shows that in Chhattisgarh, only 65 percent of villages remain connected throughout the year by road with the main town/city. In other words, almost one third of the total villages do not remain connected through road with the main city/town round the year.

**Table 3.34: Village Road Connectivity**

	(Percent)
Throughout the year	65.01
During certain seasons	32.15
Not specified	2.84
<b>Total</b>	<b>100.00</b>

The distribution of villages according to various infrastructure facilities (primarily publicly provided) by distance presented in Table 3.35 reveals a dismal scenario with respect to the most important public services, like educational institutions, primary health center, maternity health centres, ration shops, pucca road, etc. The comparison of distance vis-à-vis facilities shows that for 74.03 percent of the villages PHCs are more than two km. away and what is more disappointing is that in the case the maternity health centres this percentage goes upto 92.50 percent. These huge supply side bottlenecks in health infrastructure has serious ramifications on the access to one of the most important aspect of deprivation, viz., health in rural sector. The sub-divisional hospitals, district hospitals and medical college also are located more than 2 Km. away for 91, 97 and 99 percent of the villages respectively.

In the case of PDS also, for 35 percent of the villages, PDS shop is more than two km. away from the village. Higher educational institutions also remain quite far from most of the villages when these facilities are distributed according to the distance code. Other means of connectivity like bus stand, pucca road highway, post office, commercial banks, irrigation-canal vis-à-vis distance from villages reflect the huge supply side bottlenecks in social and economic infrastructure in rural Chhattisgarh.

**Table 3.35: Distribution of Villages According to Various Infrastructure Facilities by Distance**  
(Percent)

Facilities	< 0.5Km.	0.5-1 Km.	1-2 Km.	> 2 Km.	Not Specified	Total
Bus Stand	27.11	6.58	1.48	59.69	5.14	100.00
Ration shop	45.44	5.35	13.35	35.02	0.83	100.00
Pucca Road	30.12	5.16	0.83	63.88	0.00	100.00
Highway	22.32	3.20	1.31	72.34	0.83	100.00
Railway Station	0.00	0.00	0.00	92.97	7.03	100.00
Post Office	26.13	2.64	2.34	67.41	1.48	100.00
Commercial Bank	13.39	2.64	0.00	83.97	0.00	100.00
Primary Health Centre	22.01	2.64	1.31	74.03	0.00	100.00
Maternity Health Centre	4.00	0.00	1.31	92.50	2.19	100.00
Sub-divisional Hospital	4.00	1.31	0.00	90.98	3.72	100.00
Divisional Hospital	0.00	1.31	0.00	97.86	0.83	100.00
Medical College	0.00	0.00	0.00	99.17	0.83	100.00
Irrigation Canal	16.38	0.00	2.70	67.66	13.26	100.00
Sr. Sec. College	12.78	0.00	0.00	86.39	0.83	100.00
Polytechnic	4.00	0.00	0.00	95.17	0.83	100.00
Vocational degree college	0.00	0.00	0.00	98.22	1.78	100.00
Degree college	0.00	0.00	0.00	96.05	3.95	100.00
University headquarters	0.00	0.00	0.00	99.17	0.83	100.00
Dist. head quarter	0.00	0.00	0.00	99.17	0.83	100.00
<b>Total</b>	<b>11.98</b>	<b>1.62</b>	<b>1.30</b>	<b>82.72</b>	<b>2.38</b>	<b>100.00</b>

Given the huge infrastructure bottlenecks in road connectivity shown in Tables 3.34 and 3.35, it can be seen from the Table 3.36 that average per household monthly expenditure on travel is Rs. 44 in stratum 1 and Rs. 99 in stratum 2. It is also to be noted that, the per household expenditure on travel is more at the upper end of the MPCE classes than at the lower end, particularly in stratum 2. On an average, the expenditure on travel constituted 3.69 percent of the total expenditure in stratum 1 and 4.78 percent in stratum 2.

**Table 3.36: Cost of Travel Across MPCE Class**

	(In Rs.)					
	Stratum 1		Stratum 2		Combined	
	Per Household Cost of Travel	% to Total Expenditure	Per Household Cost of Travel	% to Total Expenditure	Per Household Cost of Travel	% to Total Expenditure
Less than Rs. 190	33.95	3.81	57.86	7.80	42.35	5.05
Rs. 190 – 210	48.93	3.81	65.99	4.36	56.59	4.08
Rs. 210 – 235	51.79	4.32	65.14	5.01	60.04	4.76
Rs. 235 – 265	32.94	2.46	55.90	3.73	48.83	3.37
Rs. 265 – 300	30.92	2.16	34.47	1.74	33.35	1.85
Rs. 300 – 355	99.35	7.43	110.37	7.64	106.62	7.57
Rs. 355 – 455	56.27	3.63	91.28	5.34	82.89	4.96
Rs. 455 – 560	52.14	5.19	94.38	4.89	85.87	4.92
Rs. 560 – 650	2.01	0.12	40.00	2.14	20.55	1.18
Rs. 650 – 750	93.64	6.45	215.91	4.78	205.70	4.83
Rs. 750 – 1,000	-	0.00	199.99	3.87	180.61	3.29
> Rs. 1,000		0.00	499.04	5.08	495.51	5.06
Not Specified						
<b>Total</b>	<b>44.41</b>	<b>3.7</b>	<b>98.88</b>	<b>4.78</b>	<b>78.22</b>	<b>4.50</b>

The percentages of households using various means of connectivity, viz., post office, telephone booth, television, radio, news paper and internet show that the main means of connectivity is radio, followed by post office, television and telephone booth (Table 3.37). A very small proportion of households report the use of newspaper. The percentage of households using internet is nil. In the case of stratum 2 also, they remain out of the most modern means of connectivity like internet. There are significant differences in the use of the means of the connectivity among the strata except for newspaper, stratum 2 reporting a much higher proportion. The total number of households reporting the use of various means of connectivity is 44.11 percent in stratum 1 and 86.84 percent in stratum 2. It is to be noted that even though 57.10 percent of total males in stratum 1 and 78.86 percent in stratum 2 are literate in the combined category of ‘can read and write’ and ‘read only’, the households reporting access to newspaper in Stratum 1 is as low as 1.89 percent, and in stratum 2 it is 3.35 percent.

**Table 3.37: Percentage of Households Reporting Use of Means of Connectivity**

	(Percent)		
	<b>Stratum 1</b>	<b>Stratum 2</b>	<b>Combined</b>
Post Office	11.10	22.41	18.12
Telephone booth	6.22	19.28	14.32
Television	9.65	15.11	13.03
Radio	15.26	26.70	22.36
Newspaper	1.89	3.35	2.80
Internet	-	-	-
<b>Total</b>	<b>44.11</b>	<b>86.84</b>	<b>70.63</b>

### **3.6 Pro-Poor Fiscal Intervention: The Ground Realities**

As it has been mentioned in the volume 1, there has been various pro-poor fiscal interventions in the form of various state and centrally sponsored schemes implemented through the village panchayats. Some of the major schemes are reported in Table 3.38. Enquiry into the functioning of these schemes, involvement of panchayats and their nature of involvement brought out interesting features. Apart from initiating these schemes, panchayats get involved by way of formation of peoples groups, mobilizing labour time of people, community contribution, etc. However, it is also to be noted that across schemes the percentage of villages ‘not participating’ differs widely. The role of panchayats actively in various ways seems to be highest in the widow pension, anganwadi, kisan pension and Bal Poshahar schemes. The involvement of panchayats in other schemes like Pradhan Mantri

Gram Sadak Yojana, Pradhan Mantri Gramodhay Yojana and P.M. Drinking Water Project involvement is minimal.

**Table 3.38: Role of Panchayat in Implementation of Various Government Schemes**

	Initiating	Formation of People's Group	Mobilizing Labour time of People	Community Monetary Contribution	Capacity Building	Others	(Percent)	
							Not Participating	Total
Swarna Jayanti Rozgar Yojana	25.17	33.67	2.74	0.00	0.00	0.00	38.42	100
Jawahar Gram Samridhi Yojana	17.06	19.67	16.62	0.00	5.06	2.72	38.87	100
Sampurna Gramin Roxgar Yojana	13.29	18.09	13.04	0.00	9.38	12.19	34.01	100
Pradhan Mantri Gramodhaya Yojana	2.09	4.39	2.85	0.00	3.73	4.47	82.48	100
Pradhan Mantri Gram Sadak Yojana	6.66	4.30	3.97	0.00	1.31	0.00	83.77	100
PM Rural Drinking Water Project	6.99	0.00	3.90	0.00	3.76	0.00	85.35	100
Anganwadi	56.55	13.05	0.00	0.00	9.41	8.20	12.78	100
Balika Samridhi	27.97	11.04	0.00	0.00	16.84	3.72	40.43	100
Bal Poshahar	41.40	14.09	0.00	5.35	14.94	6.59	17.63	100
Widow Pension	60.54	8.79	0.00	0.00	20.53	1.57	8.56	100
Kisan (old age) pension	48.43	15.04	0.00	9.93	0.00	2.87	23.72	100
Others	9.99	6.11	0.00	1.14	5.54	1.57	75.65	100

The benefits of various government schemes, the percentage of households benefiting and the nature of these benefits are presented in Table 3.39. It is evident from the Table that 19.57 percent of the households in stratum 1 and 9.87 percent in stratum 2 reported that they have received government benefits. It emerges from the table that mostly, that is, 70 percent of the total benefits are in the nature of employment generation in both the strata, followed by direct cash benefit generally associated mainly with social security schemes like old age pension. The distribution of the households reporting and the nature of benefit across MPCE class (Table 3.40) reveal that in both stratum 1 and stratum 2, the lower tail of the MPCE classes receive most of the benefit showing a pattern of progressive distribution of benefits reaching the rural sector. However, the most disturbing aspect of the whole pro-poor fiscal intervention is the fact that while 87 percent of the total poor in stratum 1 remains below the MPCE class upto 355, the number of households reporting benefits of government schemes in all MPCE class in stratum 1 amounts to only 19.57 percent.

**Table 3.39: Households Benefiting from Government Schemes and Nature of Benefits**

	Stratum 1	Stratum 2
<b>Percent of Households Benefiting</b>	<b>19.57</b>	<b>9.87</b>
<b>Nature of Benefit (in percent)</b>		
Temporary Employment	69.47	69.50
Regular Employment	8.14	1.20
Improvement in living Condition	7.71	0.00
Cash Benefit	24.72	15.90
Food Grains	4.49	10.60
Augment Infrastructure	0	4.00
Others	1.72	0.00

**Table 3.40: Distribution of Households Reporting Benefit and Its Nature by MPCE Class**

MPCE	(Percent)			
	Distribution of Households Reporting	Distribution of Benefits	Distribution of Households Reporting	Distribution of Benefits
	Stratum 1		Stratum 2	
Less than Rs. 190	32.30	31.64	5.58	6.74
Rs. 190 – 210	12.25	13.48	0.00	0.00
Rs. 210 – 235	16.90	17.56	17.29	17.08
Rs. 235 – 265	8.75	7.35	17.56	12.26
Rs. 265 – 300	11.02	10.19	37.07	36.63
Rs. 300 – 355	5.76	4.95	10.80	10.67
Rs. 355 – 455	10.67	12.81	6.58	6.50
Rs. 455 – 560	0.27	0.23	0.00	0.00
Rs. 560 – 650	0.00	0.00	5.12	10.11
Rs. 650 – 750	0.00	0.00	0.00	0
Rs. 750 - 1,000	1.72	1.48	0.00	0
More than Rs. 1,000	0.35	0.31	0.00	0
Not Specified	0.00	0.00	0.00	0
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

### Sensitivity of Public Representatives

Sensitivity of public representatives, viz., members of parliament and members of legislative assembly is analysed by their frequency of visits to the constituency in which respective villages fall. As can be noted from the Table 3.41, more than 42 percent of the visit falls in the category of more than once a year in the case of the visit of MP. Almost similar proportion is reported, where the respondent could not specify frequency of visits by MP. In the case of MLA, though the distribution of visit by frequency of month is different from that of MP, 10.97 percent of the visits was within ‘once in six month’ category. But 54.25 percent of the visits fall in the category of ‘more than one year’. However, in the case of MLA, the share of ‘not able to specify’ category is much less than that of in the case of frequency of visit by MP indicating the limited political awareness of the rural people in the sense that the elections for the Lok Sabha has less relevance than the state assembly. The nature of various development schemes run by the MP and MLAs from their local area development fund shows that it is mainly distributed in four categories, viz., public water supply, village roads, community halls and others. It is also to be noted that 42.32 percent of the villages could not report the nature of schemes run by the MP/ MLA local area development funds (Table 3.42).

**Table 3.41: Frequency of Visits of Public Representatives to Rural Areas**

	(Percent)
<b>Frequency of Visits by Member of Parliament</b>	
Once in a Month	0.00
Once in Six Month	1.02
Once in a Year	15.12
More than one year	42.62
Not Able to Specify	41.24
<b>Total</b>	<b>100.00</b>
<b>Frequency of Visits by Member of Legislative Assembly</b>	
Once in a Month	0
Once in Six Month	10.97
Once in a Year	15.92
More than one year	54.25
Not Able to Specify	18.86
<b>Total</b>	<b>100.00</b>

**Table 3.42: The Nature of Developmental Schemes Run by Public Representatives**

	(Percent)
Hand Pumps	7.99
Village Roads	6.28
Community Halls	16.93
Others	26.48
No Scheme reported	42.32
<b>Total</b>	<b>100.00</b>

The various public services provided by the panchayats as reported by the village Pramukh is given in Table 3.43. It is evident from the table that despite 73<sup>rd</sup> and 74<sup>th</sup> constitutional amendments, in actual practice, the Panchayats' functions remain mainly concentrated on various civic services, viz., street lighting, village sanitation, vaccination programmes and various maintenance works. However, the prominent role of panchayat in the construction of roads and bridges is visible from the fact that more than 74 percent of the total expenditure of all the panchayats is spent on this function. The fact that more than 70 percent of the villages reported that setting up of hand pump and its maintenance is one of the main functions of village panchayat reveals public provision of water supply through panchayat.

**Table 3.43: Various Public Services Performed by the Panchayats**

	Percentage of Villages Reporting	Percentage of Distribution of Expenditure	Per Village Expenditure (In Rs.)
Street Lighting	39.11	6.88	83030
Vaccination Programmes	59.43	0.70	5540
Running of village hospitals	9.65	0.03	1429
Setting up of hand pumps	70.95	1.50	9980
Maintenance of pumps/wells/ponds	77.62	6.86	41712
Village Sanitation	50.75	1.10	10226
Running of schools	32.40	0.47	6846
Construction of roads & puliyas	50.48	74.44	695982
Maintenance of roads & bridges	58.74	3.59	28872
Construction of irrigation water channels	8.72	0.13	6970
Dispute resolution	49.16	4.18	40152
Others	8.42	0.11	6426
<b>Total</b>		<b>100</b>	<b>91563</b>

However, if we look at the size of the panchayats (Table 3.44) in terms of the number of members, it can be seen that more than 37 percent of the panchayats fall, in the class of 11-15, followed by the size class 16-20 and 21-25. In case of Panchayat finances, 85 percent come from states and 11 percent only from centre. However, for all lower sizes of Panchayats, except the size class 21-25, it is seen that the centre accounts for the major share of revenue resources. This anomaly is explained by the fact that the class 21-25 comprises of big Panchayats with huge requirements mostly funded by the states and thus in the weighted average this size class has a large enough weight to reverse the feature.

**Table 3.44: Size of Panchayats and Sources of Funds**

Size of Panchayat by Number of Members	% of Villages	Structure of Revenue Resources by Sources					(Percent)
		Centre	States	Own	Others	Total	
1-5	1.79	84.00	16.00	0.00	0.00	100	
6-10	1.29	80.81	18.18	1.01	0.00	100	
11-15	37.65	47.65	45.31	7.04	0.00	100	
16-20	30.88	53.96	32.36	7.59	6.09	100	
21-25	28.39	5.12	92.27	1.07	1.54	100	
26-30	0						
> 30	0						
Not Specified	0						
<b>Total</b>	<b>100</b>	<b>11.61</b>	<b>84.83</b>	<b>1.89</b>	<b>1.67</b>	<b>100</b>	

### 3.7 Poverty Alleviation Strategies: The Perception of Poor

In order to understand the perception of poverty by poor, reasons thereof and required schemes and strategies for its alleviation, the survey asked open-ended questions. A summary of various perceptions is given in Table 3.45. It can be seen from the table that lack of employment opportunities, lack of housing facilities and lack of possession of land are the main reason for the poverty. The point to be noted from the table is that in Stratum 1, a sizeable chunk of the poor considered lack of education as one of the main reasons for their deprivation and poverty.

**Table 3.45: Perception of Poverty: The Perspective of Rural households**

Perception	Stratum 1	Stratum 2	Combined
Lack of Employment	25.94	29.58	27.69
Lack of Land Possession	13.84	20.36	16.97
Undernourishment	9.33	7.16	8.28
Lack of Housing	20.56	23.88	22.16
Lack of Wealth	2.14	3.09	2.60
Lack of Education	19.36	9.51	14.63
Others	8.83	6.43	7.68
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

The most helpful government schemes for poverty alleviation, the respondent urged for were employment generation schemes and provision of health facilities at village level in case of stratum 1. Provision of irrigation facilities was next in order. Respondents also suggested better educational facilities, better public distribution system and provision of housing facilities especially in stratum 1 (Table 3.46).

**Table 3.46: Most Helpful Government Schemes and Services: Perception of Poor**

	Stratum 1	Stratum 2	Combined
Employment Scheme	24.86	24.02	24.34
Food for Work Programme	1.84	-	0.70
Health Facilities	30.97	47.06	40.92
Provision of Electricity	1.34	1.65	1.54
Provision of Irrigation Facilities	6.83	1.90	3.79
Provision of Communication Facilities	1.80	-	0.69
Provision of Housing Facilities	3.59	-	1.37
Drought Relief Work	2.53	0.65	1.37
Public Distribution System	1.70	0.65	1.05
Removal of Poverty	0.32	1.82	1.24
Education	4.85	5.10	5.00
Others	19.36	17.14	17.99
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

## Chapter 4: SUMMARY AND CONCLUSIONS

This study looks at various facets of poverty on the basis of a primary survey across 628 rural households spread over three districts, *viz.*, Surguja, Durg and Mahasmand. It examines the role of fiscal policy in poverty reduction given the nature of the Chhattisgarh economy and the depth and severity of poverty in the state. We found that the newly formed state of Chhattisgarh, which ranks as a poor income state with a real per capita income of Rs. 7971 in 2000-01, has a very high incidence of poverty. The NSS region-wise estimates reveal a spatial distribution of poverty with the overall HCR being highest in the region of Surguja. The 1997-98 BPL survey of Chhattisgarh region also reveals that percentage of BPL households in total households is 44 percent and the poverty is spatially concentrated.

Apart from the head count ratio, which reflects the income poverty, human poverty is reflected in the deprivation of basic opportunities in terms of health, education, water supply and sanitation and other publicly provided services of basic necessities. A detailed survey examined these issues. Apart from the social and demographic characteristics, the survey addressed the issue of economic opportunities of the rural poor, their indebtedness and the phenomenon of out migration to understand the income vulnerability of rural poor. The analysis of income vulnerability, which gives an assessment of income poverty, also sets the tone for analysing the issue of poverty in a comprehensive sense in terms of access to basic opportunities. Apart from the access to food (both from market and through PDS), fuel and water, the other major access issues addressed are access to basic education and health facilities and rural connectivity. A critical assessment of the pro-poor fiscal intervention by the government, its nature and benefit incidence, the sensitivity of public representatives and also the perception of poor regarding poverty and poverty alleviation strategies are examined through the survey.

It is to be noted that adequate provision of much needed public services largely depends on the focus and design of fiscal policy. A fiscally vulnerable state government with high fiscal and revenue deficits and large outstanding debt over hang and ever mounting committed liabilities will have limited flexibility in focusing and designing a pro poor fiscal policy. With extreme fiscal stress, the share of discretionary government expenditure continues to become less as committed expenditure increases. Given this background, we attempted to look into the focus of fiscal policy in the state. Though there is no long fiscal

history of the state, the analysis of three years data reveals large fiscal revenue and primary deficits, which in turn will eventually increase the committed liabilities like interest payment. The expenditure under general services including interest payment and pension constitutes around 6 percent of the state GSDP when the total government expenditure is around 22 percent of GSDP. The composition of government expenditure also reveals that the share of social service expenditure has been stagnating at around 7 percent of state GSDP while the expenditure under economic services reflects a sharp increase during the last three years. Contrary to the general trend, the share of plan expenditure in total expenditure is on the increase in the state of Chhattisgarh.

An analysis of the approach to the plan and its priorities reveals that highest share of plan allocation is done under economic services. Also the actual plan expenditure exceeded the approved plan outlay for the year 2001-02. An analysis of the selected expenditure schemes that are currently in operation under various state plan schemes, central plan schemes and centrally sponsored schemes, which evidently have an anti-poverty bias constitutes 8.13 percent of the plan expenditure and 3.06 percent of the total budgetary expenditure of the state. It is observed that there are many schemes where funds have been allocated but not spent. Most of these schemes are in the nature of direct income support, non-execution of these schemes despite budgetary provision demands correction and rationalization of these schemes.

To sum up, we summarise the major findings of the survey as below:

- i. There is a wide disparity with regard to literacy rate. Compared to male literacy, the female literacy rates are much less in all the sample districts surveyed. There are huge differentials also between the poor and non-poor in respect of literacy, the latter having a clear advantage over the former.
- ii. A larger proportion of children and pre-adults (0-18) are reported among the poor as compared to the non-poor. There appears to be a shift towards the older age groups in the age distribution of the males among the non-poor, which may possibly indicate a larger out-migration among the male working population as compared to the poor.
- iii. The fact that the sex ratio for the poor is much higher than that of the non-poor and that female children are more than male among the poor households is of

considerable sociological importance, indicating that infanticide and foeticide of the female child is not prevalent among the poor.

- iv. The number of children per 1000 adults is much higher among the poor than among the non-poor, which implies a higher dependency rate for the former. It is not surprising, therefore, that the employed women form a higher proportion in the poor households than their counterparts in the non-poor households to shoulder the dependency stress.
- v. Agricultural labourers account for the bulk of the persons in paid employment, the per worker income averaging Rs. 4600 annually. A large proportion of the self-employed work as small cultivators in both the strata. The average income from self-employment is much less than that from paid employment. This has some policy implications especially because most of the self-employed are small cultivators and they have apparently failed as successful entrepreneurs.
- vi. 90 percent of the poor households have per capita annual income of less than Rs. 4500 or less than Rs. 375 per month. The differentials in income distribution between the poor and non-poor are quite marked.
- vii. Almost half of the non-poor households are indebted against 36 percent of the poor households. Even at the lower end of the income distribution, there is a higher proportion of indebted households among the non-poor than among the poor. The outstanding amount of debt per indebted household at lower income ranges for the poor is much higher than in other income levels. They stand out as the worst hit economically. The loans were taken mostly for agricultural purposes. The most sought after source of borrowing was 'relatives/neighbours' for both the strata. This is partly due to the problem of access to the formal credit market and partly, the problem of credit worthiness, which is required to be demonstrated for loans from the formal credit market.
- viii. Animal husbandry is the most important village industry accounting for 36 percent of the establishments, followed by carpentry, blacksmiths and agro-based industries. This is true for villages, irrespective of their size measured in terms of number of households residing.
- ix. One-tenth of the households reported one or more members migrating mostly to nearby cities/towns to join the urban informal sector or to nearby villages to join as casual agricultural labourers.
- x. Coming to livelihood issues, the poor with average household size as 5.39 have an extremely low per capita annual income of Rs. 2633, the below subsistence

level of living carried on with per capita annual expenditure of Rs. 2681. The average share of food to total expenditure is about 69 percent. This is further compounded by the fact that in the regime of targeted PDS, the coverage of the poor is not total with the result that as much as 77 percent have to access the market for food. About 90 percent of the households in stratum 1 are below the official updated poverty line. The MPCE wise distribution of households clearly brings out that the targeted PDS suffers from both exclusion and inclusion errors.

- xi. Other indicators of access like drinking water facilities, percentage of electrified households, share of households getting food throughout the year paint a very gloomy picture.
- xii. Around 97 percent of the total households use kerosene, other forms of energy being wood and electricity. A total of 31.49 percent households are electrified. But only 18.49 of the households in stratum 1 are electrified.
- xiii. Only one-tenth of the households in stratum 1 has provision of drinking water within premises. However, the spread of public water supply system reveals that more than 81 percent of the public water supply facilities are less than 100 metres away from the premises of rural households.

### **Public Service Delivery**

- i. Illiteracy rates of adult males (43 percent) and adult females (69 percent) are both significantly higher in stratum 1 than in stratum 2 (21 percent and 44 percent, respectively) indicative of a high degree of inequality across strata and gender. The disparities are not that pronounced in the case of children across strata. For adults, the principal reasons for not continuing education are shortage of finance and obligation to earn for their families to provide income support. No interest in education or indifference is also seen to be one reason applicable for both adults and children for not continuing education. For children, shortage of finance remains the most important factor for not being able to continue to attend the school.
- ii. It is heartening to note that the combined benefit of direct fiscal intervention in terms of scholarship, free books, free uniform and mid-day meal schemes reaches 95 percent of school going children of the poor households, major share going to mid-day meals. However, only 37 percent of the expenditure accrue to the poor households. The per capita expenditure benefit in stratum 1 is Rs. 177.50 compared to Rs. 222.83 in case of stratum 2, indicating a regressive distribution pattern of benefit.

- iii. The analysis of health seeking behaviour of rural households in case of illness shows that they depend heavily on the PHCs, private doctors and quacks, the modal value of average consultation fee being Rs. 25 for the former two, and less than Rs. 10 for quacks in respect of stratum 1. Major share of total annual health expenditure per household (Rs. 974) is claimed by medicines. Dependence on dais, trained or untrained and others (leaving aside doctors and nurses) is very much seen for currently married women during last pregnancy in stratum 1 compared to nurses in stratum 2. This reflects that the benefits of RCH programme is not reaching to rural women especially in poor households.

### **Connectivity**

- i. The distribution of villages according to various publicly provided infrastructure facilities by distance reveals a dismal scenario in respect of educational institutions, PHCs, maternity health centres, ration shops, pucca roads etc, which are all located more than 2 km. away from the village. Given the huge infrastructure bottlenecks, the average per household monthly expenditure for poor households on travel is Rs. 44 that is, 3.69 percent of the total expenditure.
- ii. The main means of connectivity is radio, followed by the post office. The households reporting access to newspaper is as low as 1.89 percent for stratum 1.

### **Pro-Poor Fiscal Intervention**

- i. The Panchayats, the data reveal, play an active role in initiating the implementation of Government schemes particularly relating to widow pension, anganwadi, kisan (old age) pension and Bal poshahar. They help in formation of people's groups and mobilisation of labour time of the people in respect of some schemes. However, it is also to be noted that the involvement of Panchayat is minimal in certain schemes.
- ii. Whereas 89 percent of the total poor remain below the poverty line in stratum 1, only 19.57 percent of the poor households reported having been benefited from Government schemes. If we look at the nature of benefits, 70 percent of the benefits are in the nature of employment generation. The lower tail of the MPCE distribution receives most of the benefit showing a pattern of progressive distribution of benefits reaching the rural poor. However, unless the coverage of benefit increase (which currently covers only 19.57 percent of the poor households), a tangible positive outcome may not be feasible in terms of reduction of multidimensional aspects of poverty.

## **Sensitivity of Public Representatives**

- i. MPs and MLAs visit the villages in their constituencies quite infrequently. More than 42 percent of the visits by MPs fall in the category of more than a year as against 54 percent for MLAs. Again, 42 percent of the villages could not report the nature of schemes run by MP/MLA local area development funds. For those reporting, the funds are devoted to public water supply, village roads, community halls and others.
- ii. In actual practice, the Panchayats' functions remain mainly concentrated on various civic services like street lighting, village sanitation, vaccination programmes and maintenance works. However, 74 percent of the total expenditure of all Panchayats is spent on construction of roads and bridges. A sizeable chunk (71 to 78 percent) of the villages reported main function of Panchayats as being related to setting of hand pumps and maintenance of pumps/wells/ponds that is, public provision of water supply.
- iii. 28 percent of the villages have large Panchayats of size as 21-25 members. 92 percent of the revenue resources of such Panchayats are from the state government. The Centre contributes relatively more in the case of small Panchayats of size 1-5 or 6-10. On the whole, 85 percent of resources are drawn from the state government.

## **Poverty Alleviation Strategies**

- i. In the perception of the poor, lack of employment opportunities, lack of housing facilities and lack of possession of land emerge as the main reasons for poverty. The poor also cited lack of education as an important reason for poverty.
- ii. The most helpful government schemes for poverty alleviation as suggested by the respondents are employment generation schemes and provision of health facilities at the village level.

On the basis of the above findings, the broad conclusion that the study reaches is that the poor suffer from severe vulnerability in terms of opportunities of income and access to various public services. Chhattisgarh being a low income state, the survey noted that agriculture remains the principal means of sustenance for the landless rural poor. In the rural agrarian economy of Chhattisgarh, formal rural credit market also has not acquired any depth.

The deprivations of opportunities are reflected in terms of accessing educational and health services. Gender inequality in terms of educational attainment comes out to be a cause of concern across the states surveyed including Chhattisgarh. However, it is heartening to note that gender disparities are much less in terms of children's educational attainment. But efforts should be made through various fiscal interventions so that retention rate is maintained and more children get enrolled in the schools.

With little scope for employment other than agriculture, the perception of poor regarding poverty alleviation is to create more employment opportunities. Panchayats' participation in providing fiscal support to the rural poor through various centrally and state sponsored schemes appears to be minimal. However, the percentage of poor households getting benefited through various government schemes is the highest in Chhattisgarh (20 percent of the rural poor households) compared to other states surveyed. The MP/MLA local area development fund seems to have made no significant impact in the creation of better rural infrastructure and in turn more employment opportunities. Thus, an effective pro poor fiscal intervention is a must to alleviate rural poverty in the state including provision of rural credit facilities.

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**Table A1: Literacy Rates in Chhattisgarh: 1951-2001**

Years	Persons	Male	Female
1951	9.41	16.25	2.66
1961	18.14	30.16	6.18
1971	24.08	37.13	10.99
1981	32.63	47.44	17.67
1991	42.91	58.07	27.52
2001	65.18	77.86	52.4

Source: Directorate of Economics and Statistics, Chhattisgarh (2001).

**Table A2: Educational Institutions in Chhattisgarh**

	Number
Pre Primary Schools	537
Primary Schools	29414
Middle Schools	6033
High Schools	1049
Higher Secondary Schools	1250
Total Number of Schools	38283

Source: Directorate of Economics and Statistics, Chhattisgarh (2001).

**Table A3: Teachers in Schools Education and Teacher Pupil Ratio**

	Number of Teachers			Percentage of Trained Teachers	Teacher Pupil Ratio
	Male	Female	Total		
Pre Primary Schools	364	763	1127	26	1:26
Primary Schools	48396	15656	64052	50	1:47
Middle Schools	16193	4535	20728	54	1:42
High Schools	4028	1513	5541	47	1:45
Higher Secondary Schools	9648	4075	13723	56	1:30
Total Number of Schools	78629	26542	105171	47	1:43

Source: Directorate of Economics and Statistics, Chhattisgarh (2001).

**Table A4: Health Infrastructure: 2000-01**

District Hospital	6
Civil Hospitals	17
Community Health Centres	114
Primary Health Centres	512
Urban Civil Dispensaries	23
TB Hospital and Sanatorium: Clinic	1
Leprosy Home and Hospital	1
Urban Maternity Home and Child Welfare Centres	16
Rural Maternity Home and Child Welfare Centres	21
Sub Health Centres	3818
Poly Clinic	1

Source: Directorate of Economics and Statistics, Chhattisgarh (2001).

**Table A5: District-Wise Forest Area in Chhattisgarh**

		<b>Reserved</b>	<b>Protected</b>	<b>Others</b>	<b>Total</b>	<b>Share</b>
1.	Koriya	2002	1528	471	4001	6.56
2.	Surguja	2382	2904	2310	7596	12.45
3.	Bilaspur	1111	1073	1131	3315	5.44
4.	Korba		1455	1897	3352	5.50
5.	Janjgeer-Champa	309	485	95	889	1.46
6.	Jashpur	1147		622	1769	2.90
7.	Raigarh	1497		586	2083	3.42
8.	Kawardha	507	677	247	1431	2.35
9.	Rajnandgaon	943	665	996	2604	4.27
10.	Durg	446	303	246	995	1.63
11.	Raipur	1756	2308	1195	5259	8.62
12.	Mahasamund	762	341	307	1410	2.31
13.	Dhamtari	2056	69	88	2213	3.63
14.	Kanker	1584	278	939	2801	4.59
15.	Bastar	3224	5337	2781	11342	18.60
16.	Dantewada	4969	368	4596	9933	16.29
	<b>Chhattisgarh</b>	<b>24695</b>	<b>17791</b>	<b>18507</b>	<b>60993</b>	<b>100</b>

**Table A6: Category-Wise Electricity Consumption**

		(Percent)						
		<b>Domestic</b>	<b>Non- Industrial</b>	<b>Water Agriculture</b>	<b>Street</b>	<b>Total</b>		
		<b>Domestic</b>	<b>Domestic</b>	<b>Works</b>	<b>Lighting</b>			
1.	Koriya	4.30	1.40	92.10	1.59	0.40	0.21	100
2.	Surguja	20.48	3.77	66.27	0.79	7.66	1.03	100
3.	Bilaspur	30.99	5.55	53.15	1.51	8.07	0.73	100
4.	Korba	8.14	1.95	86.46	0.60	2.44	0.42	100
5.	Janjgeer-Champa	24.98	2.20	47.94	0.48	24.02	0.38	100
6.	Jashpur	28.66	4.72	42.21	2.00	21.49	0.91	100
7.	Raigarh	70.04	7.79	9.58	3.21	7.89	1.48	100
8.	Kawardha	30.85	4.37	47.38	2.09	14.29	1.02	100
9.	Rajnandgawn	40.30	4.08	5.87	1.19	47.76	0.80	100
10.	Durg	21.00	5.26	63.81	1.47	7.84	0.63	100
11.	Raipur	10.68	1.63	74.43	0.52	12.26	0.47	100
12.	Mahasamund	48.93	3.79	10.78	0.88	35.00	0.62	100
13.	Dhamtari	22.09	2.68	10.46	0.54	63.41	0.82	100
14.	Kanker	39.74	6.57	39.04	2.19	11.56	0.89	100
15.	Bastar	28.14	2.80	56.83	0.78	10.81	0.64	100
16.	Dantewada	10.96	2.86	85.04	0.27	0.57	0.30	100
	<b>Chhattisgarh</b>	<b>18.16</b>	<b>3.16</b>	<b>64.75</b>	<b>1.00</b>	<b>12.35</b>	<b>0.58</b>	<b>100</b>

**Table A7: District-Wise Electrified Villages**

		<b>Number of Electrified Villages</b>	<b>Percentage to Total Villages</b>
1.	Koriya	491	75.89
2.	Surguja	1664	94.17
3.	Bilaspur	1539	97.59
4.	Korba	638	83.4
5.	Janjgeer-Champa	890	99.89
6.	Jashpur	1370	95.67
7.	Raigarh	643	84.16
8.	Kawardha	1542	96.86
9.	Rajnandgawn	826	87.04
10.	Durg	1778	98.61
11.	Raipur	2000	94.34
12.	Mahasamund	1109	99.19
13.	Dhamtari	561	89.76
14.	Kanker	1327	97.94
15.	Bastar	889	93.28
16.	Dantewada	808	66.89
	<b>Chhattisgarh</b>	<b>18075</b>	<b>91.66</b>

## **Annexure 1: Guidelines for Field Workers**

### **Surveys of Rural Households and Urban Slum Households**

- 1. Introduction**
- 2. Concepts and Definitions**
- 3. Some Important Steps**
- 4. Instructions for Survey of Villages**
- 5. Instructions for Rural Household Questionnaire**
- 6. Instructions for Urban Slum Survey**

**April 2003**  
**NIPFP- Cida Project**  
**INDIA: FISCAL REFORMS FOR POVERTY REDUCTION**  
**New Delhi**

## 1. Introduction

This survey in a general sense is all about the poor. Their activities, occupations, income accruing from different sources and expenditure on food and other necessities are to be investigated. The objectives of the survey however, are concerned not merely with their level of living but also with the situation prevailing in respect of their education, health, water, sanitation, law and personal security, awareness of the political system and lastly and importantly the benefits they have received from the various Government schemes.

### Usefulness of Survey Results

The results would throw light on the conditions under which the poor carry on their daily existence, the constraints they are subject to, their expectations from the government and their perception of poverty. Poverty- reduction programmes have been launched by the government since long. Insufficiencies if any, of the government measures including those by the local panchayats to uplift the lot of the poor would be revealed. The adequacy or otherwise of the on-going government schemes will be studied in the light of which reforms could be formulated and placed before the planners.

### Need for Sample Survey

It is obvious that each and every poor household cannot be contacted for data collection because of the cost involved, enormous time it would take and the difficulties of organization. A fraction of the population is therefore, surveyed for collection of desired information. There are definite rules for selection of the sample. The results of an arbitrarily selected sample cannot be generalized. It is to be noted therefore, that arbitrary or subjective criteria are not used in sample selection. A sample survey carried out according to specified principles of probability sampling (or in short, as a random sample) is the one from which it is possible not only to estimate the values of characteristics for the population but also to get valid estimates of the sampling errors. These sampling errors provide in turn the confidence limits that contain the parameters being estimated with a high probability. In other words, we get the margin of uncertainty of the estimates.

### Control of Errors

In any survey it should be our objective to minimise the errors. Since we are surveying a part of the population, the estimate obtained for any characteristic from this survey may not be equal to the true value of the population parameter; first because of the sampling fluctuations and secondly due to the other factors like coverage errors, response and ascertainment errors, processing errors. There are therefore, two types of errors:

- i. Sampling Error: This error is in-built when a particular method of random sampling is adopted. There are various methods of reducing this type of error.
- ii. Non-Sampling Error: This category of error comprises a whole lot of possible sources. In particular, the investigator should pay attention to errors arising in the field out of
  - a) wrong understanding of concepts and definitions
  - b) incorrect identification of sampling unit
  - c) numerical errors in recording
  - d) faulty selection of households
  - e) incorrect classification of households while stratifying
  - f) wrong way of putting questions to the respondent by putting words in respondent's mouth or in short, defective interviewing technique and so on

The investigator has to be careful right from the start of identifying the village from the sample list to the final submission of the filled in questionnaire. In what follows some of the important concepts and definitions, heavily drawn from the National Sample Survey Organization, are explained.

In a later section some of the important steps are given for the special attention of the investigators. The steps may be followed to reduce the non-sampling errors. Lastly, the salient points of the household questionnaires are explained, The instructions given must be studied and followed.

## **2. Concepts and Definitions**

### **Household**

A group of persons normally living together and taking food from a common kitchen will constitute a household. The members of a household may or may not be related by blood to one another. Therefore, family and household are not necessarily interchangeable. The number of normally resident members of a household is its size; it will include temporary stay-aways but exclude temporary visitors and guests. In deciding the composition of a household, more emphasis is to be placed on 'normally living together' than on 'ordinarily taking food from a common kitchen'. A resident employee or domestic help or a paying guest will be considered as a member of the household with whom he resides even though he is not a member of the family. Floating population that is, persons without any normal residence will not be listed. But households residing in open space, roadside shelter, under a bridge etc. more or less regularly in the same place will be listed.

### **Economic Activity**

Any activity that is performed for production of goods and services for market for pay or profit is defined as an economic activity. The non-market activities like production of agricultural produce for own consumption and those relating to own-account production of fixed assets like construction of own houses; machinery, tools for household enterprise are also considered economic activities.

### **Unusual Activity**

The economic activity or non-economic activity on which a person spent relatively longer time during the 365 days preceding the date of survey is considered the usual activity status of the person. The broad principal usual activity status could be one of the three categories: 'employed' (working); 'unemployed' (available for work) and 'not in labour force'. The first category includes both salaried/wage earners and self-employed in household enterprises. In the second category are those who are not working but available for work. The third category includes those who are not involved in any economic activity *viz.*, students, domestic help, pensioners and so on.

### **Status Code**

For each adult and child, the status code has to be given. While during the 365 days preceding the date of survey, if a person did not have any income, the status code will by definition be 0. The rest of the members will be divided into 2 categories: working and non-working. The sub-categories are self-explanatory; a few are however, explained.

### **Self-Employed**

Persons who operate their own farm or non-farm enterprises or are engaged in a profession or a trade on own account or with a few partners are self-employed in household enterprises.

### **Salaried/Wage Earning**

Persons in others' farms or non-farm enterprises and getting in return salary or wages on regular basis and not on daily or periodic renewal of work contract are only to be considered. The persons may be part time or full time workers.

### **Casual Worker**

A person, getting wage in return of his casual employment in others' farm or non-farm enterprises according to the terms of daily or periodic work contract is a casual wage labourer.

### **Agricultural Labour**

A person will be treated as a wage-paid manual labourer in agriculture or an agricultural labourer if he/she follows one or more of the following agricultural occupations in the capacity of a labourer on hire or on exchange, whether paid wholly in cash or in kind or partly in cash and partly in kind:

- i. farming including cultivation and tillage etc,
- ii. dairy farming
- iii. production, cultivation, growing and harvesting of any horticultural commodity
- iv. raising of livestock, bees or poultry
- v. any practice performed on a farm as incidental to or in conjunction with farm operations

### **Public Distribution System (PDS)**

It means the distribution of some essential commodities by the government at subsidized rate through ration shops, fair price shops and control shops. These shops may be owned by the government, local self- government, a government-undertaking etc. For kerosene, PDS will also include depots selling kerosene at controlled prices.

### **Slum**

A slum is a compact area with a collection of poorly built tenements, mostly of temporary nature, crowded together usually with inadequate sanitary and drinking water facilities in unhygienic conditions. Such an area will be considered as a slum if at least 20 households live in that area for the purpose of this survey. Some areas are notified as slums by the respective municipalities, corporations, local bodies or development authorities. In this survey, all the slums whether notified or not will come within the purview of the survey.

### **Squatter Settlement**

Sometimes an area develops into an unauthorised settlement with unauthorised structures put up by 'squatters'. Squatter settlement will include all slum like settlements that do not have the stipulated number of 20 households.

## **3. Some Important Steps**

### **Proper Identification of the Boundaries**

*a. First Stage Unit (FSU):* Districts being the FSUs, boundaries are fairly distinguishable. Even then in cases of doubts, the maps at the district headquarters may be seen in consultation with the officials. The problem may arise only in cases of sample villages in the rural sector falling in the fringe areas of two or more adjacent districts. There should not be any problem in identification of the FSUs that is, the sample towns in the urban sector.

*b. Second Stage Unit (SSU):* The investigator has the important task of identifying the exact boundaries of the SSU (sample village) as per the particulars supplied in the list.

**Problem of Big Villages:**

The investigator will have to decide after identifying the boundaries of the SSU whether the listing of the whole village is possible or not. In order to avoid arbitrariness, the following procedure is to be adopted to divide large villages into a number of hamlet groups and then selecting one of them at random for survey purposes:

Plains		Hilly Areas	
Present Population of the Sample Village	Number of Hamlet Groups	Present Population of the Sample Village	Number of Hamlet Groups
Less than 1200	Nil	Less than 600	Nil
1200 – 1799	3	600 – 999	3
1800 – 2399	4	1000 – 1199	4
2400 and more	5	1200 and more	5

The hamlets will be formed in such a way that all the hamlets are more or less of equal population content. For those villages for which 3 hamlets have been formed, one will be selected at random. But for larger villages, two hamlets will be selected at random and two questionnaires will have to be filled up, which means the listing operations also will have to be done twice, one for each of the selected hamlets. The number of hamlets must be noted in the relevant item of the questionnaire.

A freehand sketch-map of the village showing the boundaries of the hamlets should be drawn on a separate sheet and attached with the village questionnaire. It need not be drawn to scale. The selected hamlet is to be shaded.

#### **Listing of Households**

Once the boundaries of the sample village are identified, as a rule, the listing of households should be taken up from the north-west corner of the village, moving in a serpentine manner towards the southern part of the village taking care not to miss out any household.

The sampling serial number of the village as given in the sample list should be copied properly in the appropriate item. As will be observed from the structure of the listing schedule, the households are to be stratified into two strata. For identifying the poor in the village, a twin criteria is used: its vulnerability and its placement in village records as falling below the poverty line. Those households designated as either landless or agricultural labour or marginal farmers or SC or ST or headed by women will be taken as the vulnerable group and if so, a tick mark is to be given in the column. Those households having tick marks both in 'vulnerable' and 'BPL' will be included in the first stratum. All the other households will feature in the second stratum. In the subsequent two columns, the households will be given separately the running sampling serial numbers for sampling. From stratum 1 eight households will be selected at random and from stratum 2 two households.

The total numbers of households in the two strata are to be noted in relevant items in the first block.

#### **Substitution of Villages (SSU's)**

It may happen that a sample ssu could not be identified or traced or it may be a restricted area like military barracks or it could not be reached despite best of efforts. In such cases the ssu has to be substituted by another from the Sample List provided. The reasons for substitution are to be given in codes:

Original sample ssu	not identifiable/ traceable ---1
	not accessible ----- 2
	restricted area ----- 3
	others (specify) ----- 4

The name of the substitute village and its sampling serial number are to be given on the cover page of the questionnaire and also the reason code.

## **Survey Codes**

There could be three possibilities:

- i. selected village has been surveyed -----1
- ii. selected village is a casualty but a substitute village has been surveyed--2
- iii. selected village is a casualty and no substitute has been surveyed --- 3

In the third case it is assumed that efforts have been made to go for the next serial number in the list of substitute villages in case the substitute village happens to uninhabited, not accessible or unidentifiable.

The survey codes are to given on the cover page of the questionnaire.

### **Sub-Sample Number**

The total sample has been divided into two subsamples to be surveyed independently by two different parties of investigators. It is very necessary that the subsample number is given on the cover page.

### **Shortfall in the Number of Households**

If the number of households in any of the two strata is less than the required number to be surveyed, all the households in the concerned stratum are to surveyed.

### **Use of Random Number Tables**

The layout of the two digit random numbers is in the form of 50 rows and 20 columns in a page. The leaflet given to the investigator will contain two pages of 20 columns each, the columns given a running serial number. The nth column will be consulted where n is the two digits of the sampling serial number. For successive draws, proceed down the column and if after rejections, there is a shortfall in the required random numbers, move to the next column.

## **4. Instructions for Survey of Villages (R1)**

All the information sought for in the cover page are to be given; the information for the sample village are to be obtained from the sample list. The survey code is to be given from among the code list given at the bottom. If a substitute village is surveyed, the reasons are to supplied in codes.

### **Page 1**

The first four items of village identification are to be filled up from the sample list. If hamlets are formed because of the large size of the sample village, it is very necessary to record the total number of hamlets formed and the name of the selected hamlet. If two hamlets are selected, for each hamlet one village questionnaire is to be filled up with hamlet no. added in item 5 ii) and a footnote at the bottom.

### **Page 2, item 2.01**

Primary schools have classes I to V. Non-formal schools claiming to be primary schools are not to be recorded.

The information on items 2.03 to 2.11 as also on facilities are to be collected as on date of survey.

### **Page 3, item 3.01**

Secondary schools have classes from VI to VIII.

The information on items 3.03 to 3.11 as also on facilities are to be collected as on date of survey.

In a school having classes I to X, the details as per format of the primary section and the secondary section only are to be given.

**Page 4**

Gram Panchayat and Village Panchayat are synonymous. The items are self-explanatory.

**Pages 5: item 5.05**

‘Sarpanch’ in Madhya Pradesh is the same as ‘Pradhan’ in Uttar Pradesh. Other items are self-explanatory.

**Page 6: items 6.01, 6.05, 6.09 and 6.13**

Large farmers are those who operate holdings of 10 hectares or more, ‘medium’ 2 to 6 hectares, ‘small’ 1 to 2 hectares and ‘marginal’ less than a hectare.

**Page 7**

Self Help Groups are to be included in others (7.12)

Apex organisation is the one at the State level having control over the community and cooperative activities.

Mode of financing: government-1; bank-2; cooperative credit societies-3; other institutions-4

**Page 8**

The statistics to be collected should be obtained from a reliable source e.g., the Sarpanch or Village Pradhan preferably looking into the register(s) he may be maintaining. For classifying the number of households according to income ranges too, the investigator may have to start (by asking the village pradhan) with the richest class ‘above Rs.20000’ and noting the frequency (no.) on a separate sheet. This procedure may be repeated for the next two lower size classes. The lowest class that is, 0-5000 will be the remainder. This procedure would be needed because the statistics on household income may not be available in village records.

**5. Instructions for Rural Household Questionnaire (R3)**

**Page 1**

**Household Identification:** Items 1.01-1.04 are to be copied from the Sample List whereas items 1.05-1.07 from the Listing Schedule. Item 1.08 is to be filled by counting the member codes (item 1.09).

**Demographic & other particulars:** Item 1.09: Member ID code

The existing version as appearing at the bottom of Page 1 is to be changed as : ‘List adults (completed 18 years) in sequence from eldest to youngest as A1,A2,-----and pre-adults and children C1, C2 -----respectively’

The usual activity during last year of the economically active members and those who were not, are to be entered in 1. 12 in codes (as explained in Concepts & Definitions).

Members not having any income during last 365 days are to be given 0 in status code.

**Page 2**

**Occupation and Income (last year):**

**Income from paid employment:** This block is to be filled up for all those members whose status code is 2 that is, salaried/wage earning. The appropriate ID code is to be mentioned.

**Item 2.03 to 2.05**

If a person works for 4 hours or more during a day, he will be considered to be a full time worker for the entire day.

If a member worked during last year less than full time, item 2.02 will be left blank but the amount received in cash as salaries and allowances (if any) will be recorded in item 2.03, value of benefits in kind in item 2.04 and hence the total of the two in item 2.05. If however, a member worked full time for some days and less than full time for some period, the total salary, allowances and total value of benefits in kind received for these two periods will be recorded in respective columns.

**Income from self-employment activities (last year):** In 2.06 first the ID code of the member is to be written and then the appropriate occupation code. For perennial non-agricultural activities, 2.07 and 2.08 may be left blank; the value of output may be entered in the total column i.e. 2.09

**Estimated value of output 2.14 (Total)** = 2.09(total) - {2.10(total) + 2.11 (total)}

**Net Income 2.18(total)** = 2.14(Total) - 2.17 (Total)

**Total income of the household last year 2.21:** This will be equal to 2.05(total) + 2.18(total) + 2.19 + 2.20

As the erstwhile members who had migrated to places outside the village are no longer members of the household the remittances sent by them should not be included.

### Page 3

#### **Assets and Liabilities**

**Rented House:** In this case when the ownership code is 3 in 3.01, expenditure on rent **last month** is to be given in 3.03

In the blank space below, introduce a new item 3.03a to record the amount spent on cesses and taxes paid by the household as a domestic consumer. Only taxes and cesses are included which are considered to be levied on the household as a consumer unit. Road cess, chowkidari tax, municipal rates are some examples.

License fees are paid against firearms, vehicles etc. For taxes to be paid monthly/quarterly/annual basis entries will be the amount last paid divided by the number of months for which paid. Professional tax or income tax will not be taken into account.

Item 3.04 that is, value of house should include cost of land.

**Assets:** The particulars of all assets including land, livestock and consumer durables are to be collected **as on the date of survey**.

#### **Borrowing and Debt:**

Source of borrowing: Introduce Self Help Group as code 8

The initial amount of loan as at the beginning of last year is to be recorded by sources from where the loan was procured. The loans taken during last year for agricultural activities are to be separately recorded while the total loan in the next column includes all types of loans taken for agricultural and non-agricultural activities and personal ones.

Outstanding loan at the end of the last year will be the sum of 'initial' + 'total loan during the year' - 'repaid during the year' as shown in column heading of 3.17

Expenditure on social ceremonies will be given in 3.18.

The relevant code (3.19) for mortgage taken for this purpose, if any will be ticked.

#### **Page 4**

##### **Expenditure on Food Consumption**

The expenditures on the listed items of food consumption in Rs.0.00 are to be collected for last 30 days. These expenditures for each item are broken up by source that is, spent on purchase from PDS (4.01) and market (4.02). If the consumption is from self-produced stock or received in lieu of work under the ' food for work' scheme, the imputed value of the quantity consumed has to be recorded in 4.03 or 4.04. Based on the consumption expenditure for one month (4.06), the estimated total annual expenditure on food (4.07) is to be obtained after including any abnormal expenditure say, on weddings or social ceremonies during last year.

#### **Page 4 contd.**

##### **PDS**

The break up of total quantities procured (4.08) in respect of the four items is to be given in 4.09 to 4.12 that is from PDS, market, self-produced or 'Food for work' during last month; to assess the price difference between PDS and market, price/ unit for each is also to be obtained in Rs. 0.00

The questions asked in respect of the quality of the commodities from PDS are self-explanatory.

Expenditure on Clothings & Footwear:

The investigator has to go into the detailed item list provided to obtain the aggregate figures.

Item head Personal expenses: The title should be changed to 'expenses on miscellaneous goods and services' but expenses on conveyance, medical and post & telephone will be excluded from the scope of this item. Expenses in cash and imputed value of expenses in kind for non-productive purposes are to be recorded.

Sundry articles will include electric torch, bulb, batteries, earthenware, glassware, plastic goods, coir, rope, washing soap, soda, agarbatti, insecticide etc.

Consumer services will include those of domestic servant/cook, sweeper, barber, washerman, tailor, priest etc. Repair charges of non-durables are to be included if the goods are used for domestic consumption and not for productive purpose.

#### **Page 5**

**The information sought for on water supply and sanitation should pertain to the situation as on date of survey except for the total cost including maintenance which should be obtained for last month.**

#### **Pages 6-7**

Information are to be collected for both adults and children though the structure of questions for the latter is more detailed. The items are self-explanatory except attendance last week (7.04) for children attending school which is to be calculated upto 2 places of decimal.

As explained in the footnote, this in fact is a ratio of number of days attended last week to no. of days school was open. The maximum value of this ratio is 1.00

Item 7.11: The codes for transport may be taken from Page 2 of R1. It may be noted that 'no transport' will be the same as 'on foot'

Benefits from Government, items 7.18-7.25: The reference period for obtaining or assessing the benefits is last year. If a child got some preference in admission, code 1 is to be

entered in 7.22, otherwise code 2. The amount by way of scholarship during last year is to be given in item 7.18. Since for each child the class of study is given in 7.01, the books received free of cost may be seen and the total calculated amount may be entered in 7.19. For free uniform, the number of sets received free may be multiplied by the price ascertained from any knowledgeable person in the school and entered in 7.20. For mid-day meals, item 7.21, the cost may again be ascertained from the school authorities. If the school happens to be in another nearby village, the price of the mid-day meal may be ascertained from the 'mukhia'. The total of 'total benefits' for all children is to be given in 7.25

### **Page 8**

Item 8.05 will include other expenses incurred on transport and for boarding and lodging required for treatment outside the village.

### **Women's Antenatal and Postnatal Care**

This block is to be filled up for currently married women and questions are to be addressed in respect of the last pregnancy. BP means blood pressure, HB haemoglobin, TT tetanus toxoid; LB means live birth, SB still birth, AB aborted

Child's Health: It is expected that the investigator is familiar with the diseases for which a child is immunized. Hep is the abbreviation used for Hepatitis.

### **Page 9**

Expenditure on Fuel & Light: The consumption of electricity (9.05) will be in units as per the bill of last month. For gas (9.07) however, the household will be asked the number of days a cylinder (14.5 kg.) lasts. Based on that the consumption for 30 days will have to be calculated. In respect of cowdung, wood, twigs/dry leaves, efforts may be made to get the consumption in kg.

### **Electricity**

Items 9.05 & 9.06: Electricity and diesel consumed by the household during 30 days prior to the date of survey will be recorded. The consumption for other purposes like agriculture is not to be included

Items 9.20 – 9.24: Delete monthly cost (Rs.) above 9.20. The codes for 'how connected' will be recorded against the box below 9.20. Codes for alternative means will be given in 9.21 and its monthly cost in 9.23. Against item 9.22 will be recorded the estimated annual cost of electricity and alternatives. Annual cost of alternatives alone will be recorded in 9.24.

Total expenditure on intoxicants and gambling: In **9.31** the total of drinking, pan, tobacco and gambling for all the members will be recorded.

### **Page 10**

This is a summary block providing household expenditure culled from different pages. Introduce 'cesses and taxes (3.03a)' just below Rent (3.03) and label this as 10.15a

Item 10.37 refers to annual column and not the monthly column.

### **Page 11: Self-explanatory**

### **Page 12**

Law matter: The total of personal costs during last 12 months will be recorded in the box against 12.02, the breakdowns that is, spent on lawyer, court fees and others to be given separately.

The rest of the items are self-explanatory except item 12.15 where if the particular household did not need approach police or jail authorities, code '0' is to be entered; otherwise the codes for 'time taken' are to be consulted.

### **Page 13**

Item 13.01 & 13.03: In case of more than one mode of travel used, the most frequently mode used during last month is to be given

**Migration** The incidence and reasons of out-migration of members during last year are taken up in 13.08- 13.10 to know the push factor. On the contrary, the pull of the particular village is also sought to be examined by getting the details of the in-migrants in the household as members.

There are two sets of codes for mode of transport, one for within the village and the other for outside the village. Care is to be taken to use the appropriate set for use in 13.01 or 13.03.

For items 13.09 and 13.11 the code list given for 'migration' is to be consulted.

Migration code: A nearby town means urban area near the village having less than 1 lakh of population and a nearby city 1 lakh or more.

### **Page 14**

**Elections** Details are to be collected on the members eligible to vote, in possession of voter identity card, when the eligible members last voted for Lok Sabha, Vidhan Sabha, Panchayat. The household's opinion of the services rendered by the Panchayat is also sought on individual public services

For item 14.36, the months are to be entered in two digits for example, the month of may be recorded as 05.

### **Page 15:**

Member ID code is to be given in the third column.

Out of the several benefits to the particular member, only two most important ones are to be given in fourth and fifth columns as indicated by the informant.

Item 15.22: For schemes like 'Annapurna', another code may be added: 'getting food grains-12' and another 'others-13'

## **6. Instructions for Urban Slum Survey (U1-U3)**

**Schedule 0.1:** Listing of Slums(SL) and Squatter Settlements(SQ)

**Schedule 0.2:** Listing of Households in Sample Slum

The investigator will first approach the Municipal Board or the Municipal Corporation or any such local body for obtaining a copy of the map of the selected town giving the location of the slums. While covering the entire town methodically, the slums will be serially numbered and the locations of squatter settlements noted and also serially numbered. These will be filled up properly in the 'Listing Schedule for slums(SL) & squatter settlements(SQ)' for selection of the required number of sample SLs and SQs in the first stage. In the second stage, the 'Listing Schedule for households' will be filled up for each sample SL and SQ for selection of households. In both stages the selection will be simple random sampling without replacement. For this purpose the random number tables given is to be used, instructions for which are explained in the section 'Some important steps'.

In Sch 0.2, the sampling particulars of the selected slum will be copied from Sch 0.1 and then the particulars of the selected slum as noted in the schedule will be collected. The items are self-explanatory.

### **Urban Household Questionnaire**

As the household questionnaires for the rural household and the urban slum household are more or less the same, the clarifications and amendments as indicated for the former are to be noted for the latter too. The clarifications wherever necessary, are given below.

#### **Page 1**

The identification particulars are to be copied from Schedule 0.2. The format for filling of demographic block is the same as that of the rural counterpart.

#### **Page 2**

**Occupation and Income:** The occupation codes for the urban slum households are different from the rural codes. Moreover, the format of collection of data of this block is different. Slum dwellers may have more than one occupation and hence the distinction between primary and secondary occupation. The occupation on which a person devotes major time will be treated as the primary occupation. For children, two separate sets of occupation are listed: hazardous and non-hazardous. Data are to be collected on child labour for both of these sets.

Item 2.13: Some of the hazardous occupations for the children are carpet weaving, glass blowing, cotton ginning, dealing with cracker-preparation and so on

Gross income (2.17) = Total (2.04) + Total (2.08) + Total (2.12) + Total (2.16)

Net income (2.19) = 2.17 - 2.18

**Pages 3-12** Same as in the Rural questionnaire

#### **Page 13**

**Migration History:** Since there is a heavy influx of migrants from villages of different States in urban areas to form a major component of the slum population of any town, details on their native place, whether settled permanently in urban areas, frequency of visits to the original village, frequency and amount of remittances, if any sent to the village etc are to be collected.

**Page 14:** Same as in Rural

**Page 15:** Except for the change in the list of Government Schemes for the urban sector as compared to rural, the essence remains the same that how far the schemes have benefited the poor people.

# INDIA: FISCAL REFORMS FOR POVERTY REDUCTION

## PAPER 5: CASE STUDY OF UTTAR PRADESH

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## **Preface**

This study has been undertaken by the National Institute of Public Finance and Policy at the instance of the Canadian International Development Agency (CIDA), Canada.

The study team consists of D. K. Srivastava, S. K. Sanyal, C. Bhujanga Rao, and Pinaki Chakraborty. Opinions and analyses here are those of the authors. The members of the Governing Body of the National Institute of Public Finance and Policy are in no way responsible for these.

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## **PAPER 5: CASE STUDY OF UTTAR PRADESH**

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# **INDIA: FISCAL REFORMS FOR POVERTY REDUCTION**

## **PAPER 5: CASE STUDY OF UTTAR PRADESH**

### **Chapter 1: INTRODUCTION**

This paper is the third part of a seven-part study that examines the role of fiscal policy in reducing poverty in India. This paper focus on the state of Uttar Pradesh and examines the case of redesigning and refocusing government spending in Uttar Pradesh to improve its impact on poverty alleviation in the context of fiscal processes, directly through the provision of services and income support programmes, and indirectly through their impact on inflation and growth process. Here, we consider how government spending needs to be restructured in the context of economic reforms to serve both efficiency and equity objectives, particularly the objective of poverty reduction.

The undivided Uttar Pradesh (UUP) was the most populous with 16.7 percent of the all-states' population in the 1991 census. Its fiscal size, as measured by the volume of government expenditure (revenue and capital) constituted 18.44 percent of its GSDP in 1999-00 ranking seventh in ascending order of 15 major States in India. This, however, constituted only 11.24 percent of the all-state aggregate government expenditure. High population density, large agricultural sector, narrow industrial base and relatively low literacy rate constrain the growth of the economy of Uttar Pradesh, and in turn, the health of state finances.

In November 2000, Uttaranchal was carved out from the erstwhile Uttar Pradesh. The data analysis done here pertains to the undivided Uttar Pradesh. In the Vedic age Uttar Pradesh was know as Brahmarshi Desha or Madhya Desha. Under the British administration, Agra and Oudh were combined into one province and named United Provinces of Agra and Oudh in 1902. This was shortened in 1935 to United Provinces. In January 1950, the United Provinces was renamed as Uttar Pradesh (see, India 2003). On 9<sup>th</sup> November 2000, Uttaranchal was carved out of Uttar Pradesh to form a separate state.

Uttar Pradesh is bound by Uttaranchal and Himachal Pradesh in the north, Haryana in the west, Madhya Pradesh in the south and Bihar in the east. Uttar Pradesh can be divided into four distinct regions (i) Western, (ii) Central, (iii) Eastern, and (iv) Southern. There are historical differences between these regions. Western, Central and Eastern regions are densely populated and fall within the indogangetic plains which are endowed with fertile soil. The Southern region falls in the Central Indian plateau and receives low rainfall and rocky terrain.

The undivided Uttar Pradesh had 68 districts while the reorganised Uttar Pradesh has 70 districts. There are 11 Nigams and 300 tehsils, 809 C.D. Blocks, 701 urban units and 1,07,166 villages. As per the 2001 Census, Uttar Pradesh is the largest state, in terms of population (16,605 crore) and spread over an area of 2,40,928 sq. km. with Lucknow being the state capital. However, in terms of area Uttar Pradesh is at fifth place after Rajasthan, Madhya Pradesh, Maharashtra and Andhra Pradesh.

In terms of population Uttar Pradesh contributes 16.17 percent to the total population of the country. The density of population in 2001 is 689 per sq. km. as compared to 344 per sq. km. for all India. Sex ratio is 898 females per 1000 males as compared to 933 for all India. The rate of literacy was 57.36 percent for Uttar Pradesh as a whole. In the case of males, it was 70.23 percent and for females it was 42.94 percent. The share of number of poor in Uttar Pradesh in all India number of poor for the year 1999-00 was 21 percent.

Agriculture is the main occupation of 78 percent of the population in the state. The bulk of production of minor minerals and some of the major minerals like limestone, silica-sand, magnesite, pyrophyllite and diaspore are mostly with the private sector. Important mineral base industries include large cement plants in Sonbhadhra. On the infrastructure front, Uttar Pradesh Power Corporation, Uttar Pradesh State Power Generation and Uttar Pradesh Hydel Power Corporation have been formed by reorganising Uttar Pradesh State Electricity Board on 14<sup>th</sup> January 2000. The total road length in the state is 1,03,785 km. This includes 3,774 km. of national highways 7,392 km. of state highways, 9,111 km. of important district roads, 25,246 km. of other district roads and 72,931 km. of rural roads. Lucknow is the main junction of the northern railway network.

Life expectancy at birth or longevity is an overall indicator of the economic and social well being of the people. The life expectancy of people increases as the society progresses. The demographic and gender related indicators is shown in Table 1.1.

**Table 1.1: Few Economic Indicators**

State	Life Expectancy at Birth (2001-06) (2000)		Infant Mortality Rate (Per 1000 Live Births) (2000)			Birth Rate (Per 1000) (2000)	Death Rate (Per 1000) (2000)	Sex Ratio (Female Per '000 Male (2001))
	Male	Female	Male	Female	Total			
Uttar Pradesh	63.54	64.09	81	87	83	32.8	10.3	898
<b>All India</b>	<b>63.87</b>	<b>66.91</b>	<b>67</b>	<b>69</b>	<b>68</b>	<b>25.8</b>	<b>8.5</b>	<b>933</b>

Source: *Economic Survey 2002-03, National Human Development Report 2001*, Planning Commission.

In the case of Uttar Pradesh, the male life expectancy of 63.54 compares favourable with the all India, while in the case of female life expectancy 64.09 is well below the all India average. In general, the poor income states seem to have lower life expectancy of both male and female as compared to the developed states.

Infant mortality rate (for the year 2000), measured in terms of death per thousand of children below 6 years, shows that in Uttar Pradesh, it is 83 as compared to all India figure of 68. Both male and female infant mortality rates are higher than the all India average. In terms of birth rate, Uttar Pradesh stands first and in terms of death rate it stands second. The rates are well above the all India average. Even in terms of sex ratio (measured in terms of the number of female per thousand males) it is 898 as compared to all India ratio of 933. This shows the gender inequality in the state.

Over the years there has been a continuous rise in the literacy rates in India. The Census of India defines the literacy rate as proportion of literatures to total population in the life age group 7-years and above. The overall literacy rates increased from 16.6 percent in 1951 to 65.38 percent in 2001. In Uttar Pradesh the literacy rate is the second lowest (57.36 percent) among the 15 major states (Table 1.2).

**Table 1.2: Literacy Rate and Infrastructure Facilities**

State	Literacy Rate (2001)	Access to Safe Drinking Water 1991 (Percent)	Per Capita Cons. Of Electricity (kwh) (1999-00)	Index of Social and Economic Infrastructure (1999)
Uttar Pradesh	57.36	62.24	175.80	101.23
<b>All India</b>	<b>65.38</b>	<b>62.30</b>	<b>354.75</b>	<b>N.A.</b>

Source: *Economic Survey 2002-03, Ministry of Finance, National Human Development Report 2001*, Planning Commission and *Tenth Five Year Plan (2002-07)*, Planning Commission.

As per Census of India, if a household has access to drinking water supplied from a tap, hand pump/tubewell within or outside the premises, it is considered as having access to safe drinking water. As per this definition Uttar Pradesh has done well and about 62 percent of the households have access to safe drinking water. It compares favourable with the all India average of 62.3 percent. In Uttar Pradesh safe drinking water seems to have insignificant bearing on the infant mortality rate, death rate, longevity and productivity.

The per capita consumption of electricity in Uttar Pradesh was 175 kwh as compared to the national average of 354.75 kwh. The inter-state differences in per capita consumption of power have been widening over the years. The inter-state variation, measured in terms of standard deviation in absolute terms, was only 87 in 1974-75, but rose to 108 in 1980-81, 219 in 1989-90, and 553 in 1996-97 and touched 920 in 1999-00 (Tenth Five Year Plan, Planning Commission).

The Eleventh Finance Commission has provided an Index of Social and Economic Infrastructure for the year 1999. This index brings out a composite profile of the availability of physical, social and institutional infrastructure in the states. Uttar Pradesh index of 101.23 is way above the other lower income states.

This paper is organised into 8 Chapters. Chapter 2 examines the poverty profile of Undivided Uttar Pradesh. Chapter 3 deals with poverty and growth in Uttar Pradesh and compares it with all India. Chapter 4 looks at the fiscal profile of the state at the policies for poverty reduction under fiscal stress. The inter-district poverty profile of Uttar Pradesh is examined in Chapter 5. Chapter 6 reviews fiscal policies aimed at poverty reduction. Analyses of survey results are presented in Chapter 7. Chapter 8 summaries the findings and conclusions.

## Chapter 2: POVERTY INTER-STATE AND INTRA-STATE PERSPECTIVE

### 2.1 Introduction

In this chapter a comparative perspective of poverty in Uttar Pradesh vis-à-vis all India is presented. This chapter is organised into six sections. In Section 2 poverty profile in Uttar Pradesh is presented. Section 3 highlights the inter-state poverty profile vis-à-vis the all India. Section 4 examines the calorie deprivation in some selected states. Section 5 looks at the inter-regional perspective of poverty in Uttar Pradesh. Section 6 summarises the observations.

### 2.2 Poverty Profile in Uttar Pradesh

*The overall percentage of population below the poverty line in Uttar Pradesh has declined over the four decades. However, it has been observed that the share of poor in Uttar Pradesh in the all India number of poor has increased. The adjusted poverty estimates (Deaton and Dreze) of Uttar Pradesh are well below the official estimates. Both Human Poverty Index and Head Count Ratios of Uttar Pradesh are above the all India average. The poverty gap index and poverty gap squared show a decline for both rural and urban population.*

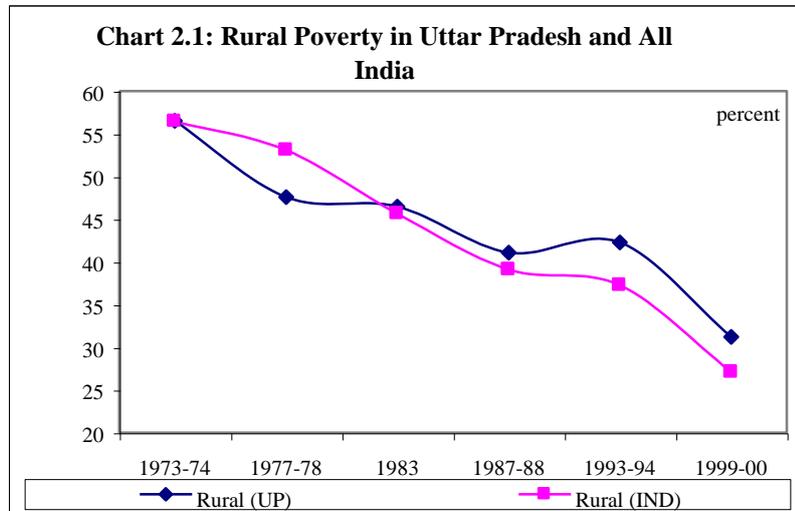
As per the official (Planning Commission) estimates, the percentage of rural population below poverty line in Uttar Pradesh has declined from 56.53 percent in 1973-74 to 41.10 percent in 1987-88 and by the end of 1999-00, it further fell to 31.22 percent. Despite the decline in rural poverty in Uttar Pradesh the percentages are well above the all India average (Table 2.1). Uttar Pradesh has fared better than the other poor states like Bihar, Orissa and Madhya Pradesh.

**Table 2.1: Percentage of Population Below Poverty Line: Head Count Ratio**

	1973-74	1977-78	1983	1987-88	1993-94	1999-00
<b>Uttar Pradesh</b>						
Rural	56.53	47.60	46.45	41.10	42.28	31.22
Urban	60.09	56.23	49.82	42.96	35.39	30.89
Combined	57.07	49.05	47.07	41.46	40.85	31.15
<b>All India</b>						
Rural	56.44	53.07	45.65	39.09	37.27	27.09
Urban	49.01	45.24	40.79	38.20	32.36	23.62
Combined	54.88	51.32	44.48	38.86	35.97	26.10

Source: Planning Commission (2002).

Chart 2.1 shows the temporal change in rural poverty in Uttar Pradesh vis-à-vis all India. The poverty levels have declined over the years. However, prior to 1983 rural poverty in Uttar Pradesh was below the all India level. But thereafter rural poverty HCR in Uttar Pradesh is above the all India level.



The urban poverty in Uttar Pradesh in 1999-00 was half of what it was in 1973-74. There has been a 30-point decline over the four decades. The gap between the all India urban poverty and Uttar Pradesh figures has narrowed down over the years. The gap in 1999-00 was little above 7-points (see Table 2.1). A general observation is that rural poverty decreased faster than that of urban poverty for most of the states.

Chart 2.2 captures the profile of urban poverty in Uttar Pradesh vis-à-vis the all India. The gap has narrowed down over the years from 1973-74 to 1993-94, but again widened in 1999-00 though there has been an overall decline in urban poverty.

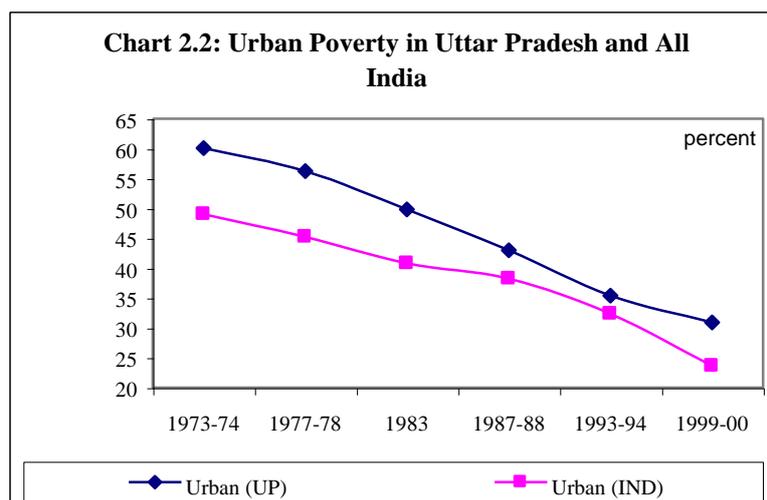
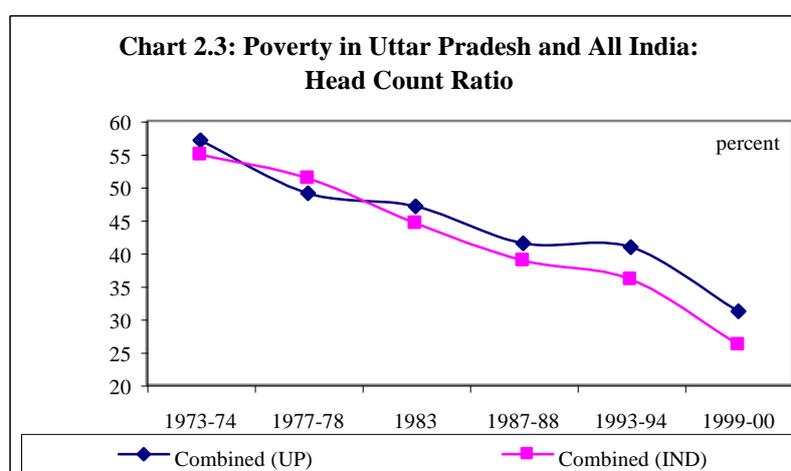


Chart 2.3 presents the combined (rural and urban poverty) picture in term of the head count ratio in Uttar Pradesh vis-à-vis all India. The combined poverty level in Uttar Pradesh criss-crossed the all India level from 1973-74 to 1983, but thereafter, the poverty gap increased upto 1993-94 and the gap came down during 1993-94 to 1999-00.



The overall percentage of population below the poverty line in Uttar Pradesh has declined over the four decades. In Uttar Pradesh, the BPL population came down by about 26-points from 57.07 percent in 1973-74 to 31.15 percent by 1999-00. As compared to 28-points declined at all India level from 54.88 to 26.1 percent in the corresponding period.

Despite the fall in the population below poverty line over the decades, the number of poor in Uttar Pradesh as percentage of number of poor in India has increased (see Table 2.2).

**Table 2.2: Share of Number of Poor in Uttar Pradesh in All India Number of Poor**

	(Percent)					
	1973-74	1977-78	1983	1987-88	1993-94	1999-00
Rural	17.22	15.42	17.78	18.53	20.33	21.32
Urban	14.28	15.00	15.32	14.20	14.18	17.59
Combined	16.67	15.34	17.24	17.47	18.87	20.36

Source (Basic Data): Government of India, Press Information Bureau, Poverty Estimate Press Releases, March 11, 1997 and February 22, 2001.

Deaton and Dreze (2002) have reworked out the poverty estimates<sup>1</sup> for the years 1987-88, 1993-94 and 1999-00. Table 2.3 shows the state specific head count ratios using the official methodology and adjusted estimates. The official estimates of poverty line given in

<sup>1</sup> The adjusted estimates use price indexes computed from the unit record data, and correct for the changes in questionnaire design in the 55<sup>th</sup> Round.

this study are slightly different from that of Planning Commission. The Commission used interpolation method while Deaton and Dreze make computations from the unit record data and recalculate the poverty lines. The adjusted poverty estimates of Uttar Pradesh are well below the official estimates as can be seen from Table 2.3. In general rural poverty decreased much faster than that of urban poverty.

**Table 2.3: State Specific Head Count Ratios and Poverty Gap Indexes**

States	(Percent)					
	Official Methodology			Adjusted Estimates		
	1987-88	1993-94	1999-00	1987-88	1993-94	1999-00
<b>State Specific Head Count Ratio</b>						
<b>Uttar Pradesh</b>						
Rural	41.9	42.3	31.1	34.9	28.6	21.5
Urban	44.9	35.1	30.8	29.3	21.7	17.3
<b>All India</b>						
Rural	39.4	37.1	26.8	39.0	33.0	26.3
Urban	39.1	32.9	24.1	22.5	17.8	12.0
<b>State Specific Poverty Gap Indexes</b>						
<b>Uttar Pradesh</b>						
Rural	9.9	10.4	5.8	7.5	5.8	3.9
Urban	12.2	9.0	6.6	6.3	4.6	3.3
<b>All India</b>						
Rural	9.4	8.4	5.2	9.2	7.0	5.2
Urban	10.4	8.3	5.2	4.8	3.7	2.3

Source: Deaton and Dreze (2002).

- Notes: 1. The head count ratios labelled “official methodology” are computed from the unit record data using the official poverty lines, as well as the official procedures for assigning poverty rates (or poverty lines) to small states. We have also followed the official treatment of Jammu & Kashmir. The all India poverty rates are computed by adding up the number of poor in each state and dividing by the total population. Because the Planning Commission uses interpolation rather than computations from the unit record data, there are minor differences between these numbers and those published in the official releases. The adjusted estimates are computed as described in the text (and more fully in Deaton and Tarozzi, 2001), and Deaton, 2001); they use price indexes computed from the unit record data, and correct for the changes in questionnaire design in the 55<sup>th</sup> Round. The final column is a somewhat refined version of the corresponding column in Deaton (2001). The estimates for Jammu & Kashmir are calculated directly, and not by assuming the poverty line or poverty rate for any other state (as in the official methodology).
2. The poverty gap indexes labelled “official methodology” are computed from the unit record data using the official poverty lines, and using rules for assigning poverty gap indexes to small states (and to Jammu & Kashmir) that mirror the rules used by the Planning Commission for computing the official head count ratios. The adjusted indexes use the recomputed price indexes to update the poverty lines, and correct for the changes in questionnaire design in the 55<sup>th</sup> Round. All numbers are directly computed from poverty lines and unit record data for each state, and the all India estimates are calculated as weighted averages of the state estimates.

Deaton and Dreze also computed the state specific poverty gap indexes for the years 1987-88, 1993-94 and 1999-00 separately for rural and urban sectors. The adjusted rural and urban poverty gap index for Uttar Pradesh was well below the official methodology (Table 2.3). In the case of all India for the year 1999-00 the rural poverty gap index was 5.2 percent for both official methodology and adjusted estimates. In the case of urban poverty gap index official methodology showed 5.2 percent while the adjusted estimates were 2.3 percent.

Table 2.4 shows the state specific poverty lines for rural and urban areas for 1999-00 and also the adjusted estimates of poverty line for rural and urban by Deaton and Dreze. In the case of Uttar Pradesh, the urban poverty line is nearly 24 percent higher than the rural poverty line while at all India it was about 39 percent. The adjusted poverty line is lower than the actual poverty line.

**Table 2.4: State Specific Poverty Lines in 1999-00 (Rs. Per Capita Per Month)**

State	Rural	Urban	Difference as Percentage of Rural	Rural Poverty Line as Percentage of All India	Urban Poverty Line as Percentage of All India	Adjusted Poverty Line (Rural)	Adjusted Poverty Line (Urban)
Uttar Pradesh	336.88	416.29	23.57	102.85	91.67	280.49	320.42
<b>All India</b>	<b>327.56</b>	<b>454.11</b>	<b>38.63</b>	<b>100.00</b>	<b>100.00</b>	<b>303.52</b>	<b>349.22</b>

Source (Basic Data): Government of India, Press Information Bureau, Poverty Estimate Press Releases, February 22, 2001 and Deaton and Dreze (2002).

Table 2.5 shows a comparison of the Human Poverty Index (HPI)<sup>2</sup> and the Head Count Ratios of Uttar Pradesh and All India. It can be seen that HPI for Uttar Pradesh is 46.65 percent as compared to all India index of 37.42 percent. Similarly, the HCR (combined) is 40.85 percent as compared to all India 35.97 percent. Both HPI and HCR of Uttar Pradesh are above the all India average.

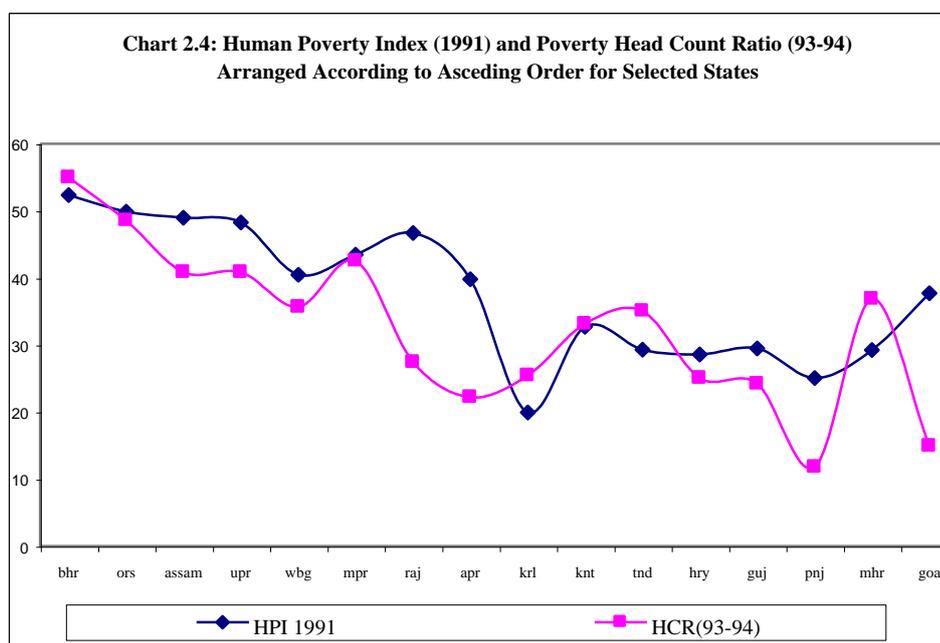
**Table 2.5: Human Poverty Index, 1991 and Head Count Ratios, 1993-94**

State	Human Poverty Index 1991	HCRs (Combined) (Percent) 1993-94
Uttar Pradesh	46.65	40.85
<b>All India</b>	<b>37.42</b>	<b>35.97</b>

Source: *Economic Survey 2002-03, National Human Development Report 2001, Planning Commission and Tenth Five Year Plan (2002-07)*, Planning Commission.

<sup>2</sup> The HPI is a composite of variables capturing attainments in three dimensions of human development, viz., economic, education and health. These have been captured by proportion of population below poverty line, proportion of population without access to drinking water/sanitation/electricity, medical attention at birth/vaccination and proportion of living in kutch houses; proportion of illiterate population and children not enrolled in schools; and proportion of population not accepted to survive beyond age 40.

Human poverty index is higher than the poverty head count ratio for the lower income groups in general. Only for a few of the better off states head count ratio is higher. So while generally they are highly correlated, the magnitude is not known. Moreover, head count ratio does not capture all the relevant aspects of poverty. Chart 2.4 shows the human poverty index (1991) and poverty head count ratio (1993-94) arranged according to ascending order for selected states.



Human development index<sup>3</sup> for Uttar Pradesh in 1991 was 0.314 as compared to 0.381 for all India. In 2001 Uttar Pradesh human development index was 0.388 as compared to 0.472 for all India. Uttar Pradesh was ranked 14<sup>th</sup> (of 15 major states) in 1991 and improved its position to 13<sup>th</sup> in 2001 (Table 2.6).

**Table 2.6: Per Capita Income and Human Development Index**

States	Per Capita Income (Rs.) 2000-01	HDI for India 1991	Ranking	HDI for India 2001	Ranking
Uttar Pradesh	6984	0.314	14	0.388	13
<b>All India</b>		<b>0.381</b>		<b>0.472</b>	

Source: *Economic Survey 2002-03, National Human Development Report 2001*, Planning Commission and *Tenth Five Year Plan (2002-07)*, Planning Commission.

<sup>3</sup> The HDI is a composite of variables capturing attainments in three dimensions of human development, viz., economic, education and health. These have been captured by per capita monthly expenditure adjusted for inequality; a combination of literacy rate and intensity of formal education; and a combination of life expectancy at age 1 and infant mortality rate.

Sundaram and Tendulkar (2003) examine the poverty situation in 15 major states across four distinct dimensions of head count ratio, size of the poor population, depth and severity for the rural, the urban and the total population. These results are summarised for few states in Tables 2.7 and 2.8.

Table 2.7 presents the estimates of head count ratio and the size of population at three points of time *viz.*, 1983, 1993-94 and 1999-00. For 1993-94 there are two sets of estimates. One on a uniform reference period of 30 days for all items of expenditure and the other a mixed reference period computed from unit record data that are comparable with the 55<sup>th</sup> round consumer expenditure survey results.

**Table 2.7: Head Count Ratios and the Size of Poor Population on Uniform and Mixed Reference Periods: 1983-1994-2000**

States	HCR on URP (Percent)		HCR on MRP (Percent)		Number of Poor (000) on URP		Number of Poor (000) on MRP	
	1983	1993-94	1993-94	1999-00	1983	1993-94	1993-94	1999-00
<b>Rural Population</b>								
Bihar	70.43	65.73	64.28	51.49	45203	53316	52140	47871
Orissa	65.04	59.57	58.11	56.27	15725	16951	16536	17299
Assam	49.21	57.85	52.60	53.41	8391	12046	10952	12202
Uttar Pradesh	49.76	39.14	38.38	25.50	47481	46352	45973	34293
Madhya Pradesh	54.03	36.65	32.23	32.93	23572	19615	17249	19640
Rajasthan	41.99	26.25	21.71	11.39	11979	9544	7893	4791
West Bengal	65.86	53.37	53.18	44.18	27744	27546	27448	25048
<b>15 States (wt. Avg.)</b>	<b>51.27</b>	<b>43.01</b>	<b>40.97</b>	<b>31.86</b>	<b>271560</b>	<b>275192</b>	<b>262824</b>	<b>224049</b>
<b>Urban Population</b>								
Bihar	51.29	46.30	41.15	44.11	4754	5711	5076	6280
Orissa	52.54	38.49	37.62	41.92	1755	1755	1715	2235
Assam	21.02	10.36	7.18	9.58	405	281	195	313
Uttar Pradesh	48.14	34.84	34.42	31.75	10377	10424	10299	11268
Madhya Pradesh	51.95	46.62	44.29	38.89	5988	7742	7355	7633
Rajasthan	37.22	32.30	28.64	15.72	2901	3512	3114	2011
West Bengal	28.83	21.41	18.32	12.95	4424	4219	3610	2850
<b>15 States (wt. Avg.)</b>	<b>40.61</b>	<b>33.05</b>	<b>31.14</b>	<b>24.58</b>	<b>65273</b>	<b>73148</b>	<b>68913</b>	<b>63018</b>

Sources: (1) Tendulkar, Sundaram and Jain (1993) for 1983; (2) Sundaram and Tendulkar (2003).

Notes: (1) Population-weighted averages for the fifteen states.

(2) HCRs: Headcount Ratios; URP: Uniform Reference Period of 30 days for all items of Cons. Exp.; MRP: Mixed-Reference Period of 30 days for all items other than clothing, footwear, education, medical (institutional) and durable which have a reference period of 365 days.

(3) Figures for 1993-94 and 1999-2000 are based on calculations of the authors from the unit level records for the 50th and 55th rounds.

In terms of the head count ratio poverty has shown a decline between the period 1993-94 and 1999-00 as per the weighted average for 15 states both for rural and urban population. In the case of Uttar Pradesh the decline in the rural population has been by about 13 percentage points as compared to 9 percentage points for the weighted average of the 15 states. While in the case of urban population poor declined by 2.67 percentage points as

compared to 6.56 percentage points for the 15 states as a whole. In the case of rural population two states namely Assam and Madhya Pradesh show an increase in the rural poor, though the increase is less than one percentage point. In the case of urban population there is an increase in the poor in Bihar, Orissa and Assam but Madhya Pradesh shows a decline of little more than 5 percentage points.

In terms of the number of rural poor in Uttar Pradesh there has been a decline of 11.68 million between 1993-94 and 1999-00. While for the 15 states as a whole the poor decline from 262.8 million to 224.0 million. Orissa joins Assam and Madhya Pradesh in recording a rise in the number of poor. In the case of number of urban poor in Uttar Pradesh there has been an increase of 9.6 million between 1993-94. Except for Rajasthan and West Bengal, all the other low-income states have increase in urban poverty. However, for the 15 state the urban poor declined by 68.9 million to 63 million in 2000, a decline of 6 percentage points.

Table 2.8 presents the poverty gap index (PGI) and poverty gap squared (FGT\*) on uniform and mixed reference periods for the year 1983, 1993-94 and 1999-00.

**Table 2.8: Poverty Gap Index and FGT\* on Uniform and Mixed Reference Periods: 1983-1994-2000**

States	PGI on URP		PGI on MRP		FGT* on URP		FGT* on MRP	
	1983	1993-94	1993-94	1999-00	1983	1993-94	1993-94	1999-00
<b>Rural Population</b>								
Bihar	0.2355	0.1820	0.1655	0.1099	0.1015	0.0671	0.0580	0.0335
Orissa	0.2078	0.1529	0.1394	0.1478	0.0907	0.0551	0.0473	0.0534
Assam	0.0997	0.1264	0.1055	0.1236	0.0294	0.0380	0.0306	0.0419
Uttar Pradesh	0.1337	0.0922	0.0845	0.0438	0.0525	0.0305	0.0265	0.0116
Madhya Pradesh	0.1542	0.0821	0.0668	0.0646	0.0602	0.0277	0.0212	0.0190
Rajasthan	0.1226	0.0517	0.0391	0.0170	0.0496	0.0155	0.0110	0.0041
West Bengal	0.2238	0.1259	0.1212	0.0959	0.1015	0.0412	0.0386	0.0311
<b>15 States (wt. Avg.)</b>	<b>0.1491</b>	<b>0.1039</b>	<b>0.0933</b>	<b>0.0653</b>	<b>0.0603</b>	<b>0.0361</b>	<b>0.0308</b>	<b>0.0202</b>
<b>Urban Population</b>								
Bihar	0.1494	0.1157	0.1022	0.1061	0.0575	0.0415	0.0362	0.0357
Orissa	0.1531	0.1022	0.0967	0.1040	0.0596	0.0373	0.0340	0.0362
Assam	0.0392	0.0131	0.0106	0.0186	0.0110	0.0031	0.0027	0.0054
Uttar Pradesh	0.1327	0.0894	0.0848	0.0699	0.0498	0.0323	0.0294	0.0216
Madhya Pradesh	0.1363	0.1270	0.1131	0.0968	0.0495	0.0470	0.0409	0.0338
Rajasthan	0.0953	0.0732	0.0637	0.0287	0.0344	0.0238	0.0203	0.0073
West Bengal	0.0662	0.0405	0.0354	0.0226	0.0231	0.0125	0.0108	0.0061
<b>15 States (wt. Avg.)</b>	<b>0.1083</b>	<b>0.0837</b>	<b>0.0747</b>	<b>0.0544</b>	<b>0.0406</b>	<b>0.0301</b>	<b>0.0263</b>	<b>0.0176</b>

Source: (1) Tendulkar, Sundaram and Jain (1993), (2) Sundaram and Tendulkar (2003).

Notes: PGI: Poverty Gap Index; FGT\*: Squared poverty gap.; URP: Uniform Reference Period of 30 days for all items of Cons. Exp.; MRP: Mixed-Reference Period of 30 days for all items other than clothing, footwear, education, medical (institutional) and durable which have a reference period of 365 days.

In the case of Uttar Pradesh both the PGI and FGT\* show a decline for both rural and urban population. The results are in line with the distribution-sensitive measure with the changes in the head count ratio noted earlier. The PGI for Uttar Pradesh declined from 0.0845 to 0.0438 for the period 1993-94 to 1999-00 and FGT\* declined from 0.0265 to 0.0116 for the rural poor. While for urban from 0.0848 to 0.0699 for PGI and from 0.0294 to 0.0216 for FGT\*. For the 15 states PGI (on MRP) declined from 0.0933 to 0.0653, while FGT\* declined from 0.0308 to 0.0202 for rural. For the 15 states PGI (on MRP) declined from 0.0747 to 0.0544, while FGT\* declined from 0.0263 to 0.0176 for urban poor population.

In the case of Madhya Pradesh which recorded a small rise in rural head count ratio and also the number of poor showed a decline in both PGI and FGT\*. Which implies that a marginal rise in the head count ratio was associated with a decline in both depth and the severity of rural poverty. In the case of Orissa there has been an concomitant increase in both the depth and the severity of rural poverty. In the case of Assam and Orissa show a rise in poverty. In the case of Bihar PGI shows a rise while there is a decline in FGT\*.

### **2.3 Calorie Deprivation**

*The nutritional requirements vary not only with climate but also with gender, age and activity status. It is observed that though the income poverty has declined, the calorie deprivation has increased over the years. The choice of norm used to calculate head count ratios of calorie deprivation significantly influence the magnitude of deprivation and also the direction of change.*

In the above discussion it is seen that poverty has shown a decline between 1993-94 and 1999-00. Has this decline improved the calorie intake of the poor? Meenakshi and Viswanathan (2003) observe that while the magnitude of the income poverty has declined, that of calorie deprivation has increased during this period. They examine the measurement of calorie deprivation in rural areas. They show that the choice of norm used to calculate head count ratios of calorie deprivation significantly influences not only the magnitude of deprivation but also the direction of change. The direction of change is sensitive to the poverty measure. The study focused on rural areas of 16 states and observed the changes between 1983 to 1999-00. The nutritional requirements vary not only with climate but also with gender, age and activity status.

Table 2.9 shows the average calorie intake, calorie deprivation and income poverty of some selected states.

**Table 2.9: Calorie Intake and Poverty in Selected States**

States	Average Calorie Intake Per Capita Per Day (kcal)		Median Calorie Intake Per Capita Per Day (kcal)		Head count Ratios (Percent Consuming Below 2400 Calories Per Day)		Head count Ratios of Poverty (Percent with BPL Incomes)	
	1983	1999-00	1983	1999-00	1983	1999-00	1983	1999-00
	Bihar	2189	2121	2081	2034	67.6	74.9	60.5
Orissa	2103	2119	1995	2051	70.9	74.6	66.2	48.0
Uttar Pradesh	2399	2327	2252	2176	58.4	64.5	50.8	31.2
Madhya Pradesh	2323	2062	2175	1932	62.5	78.4	53.7	37.1
Rajasthan	2433	2425	2324	2292	54.2	56.7	46.7	13.7
West Bengal	2027	2095	1902	2009	76.0	75.6	66.7	31.9

Source: Meenakshi and Vishwanathan (2003).

It is observed that the average intake in the poor states except for Rajasthan has been below 2400 calories in 1983 and 1999-00. In 1999-00 the intake has declined in Bihar, Uttar Pradesh, Madhya Pradesh and in Rajasthan. In terms of median intakes in both years were lower than the average intakes and these too showed a decline between 1983 and 1999-00. These have resulted in increased head count ratios of calorie deprivation as can be seen from Table 2.9. Meenakshi and Vishwanathan observe that the depth and severity of calorie deprivation has declined in many when a 2200 or lower norm is used and in all states if the median is used. They also observe that the poorest 20 percent of the population has the largest percentage of people below the norm, and this decreases as one moves up the income quintiles.

#### **2.4 Average Monthly Per Capita Expenditure**

*Per capita monthly consumption expenditure in the rural areas in Uttar Pradesh is not only lower than that of the urban areas but the gap between the two is widening.*

It could be seen from Table 2.10 that state's per capita monthly consumption expenditure in rural areas not only continues to be lower than that of the urban areas but the gap between the two also shows an increasing trend. It is quite disquieting to note that a moderate gap of Rs. 33.59 between these expenditures in 1983 has virtually doubled (Rs. 68.06) in 1987-88. This rate of increase has become still more sharper in 1997 when gap has widened to Rs. 157.21, which is more than double the corresponding figure of 1987-88. The

rural-urban disparity in the state increased from 1:1.32 in 1983 to 1:1.46 in 1987-88. However, it has declined to 1:1.40 in 1997. Even this level is quite high compared to that of 1983.

**Table 2.10: Average Monthly Per Capita Consumer Expenditure in Uttar Pradesh and India**

Items/Periods		1983 (38 <sup>th</sup> Round)	1987-88 (43 <sup>rd</sup> Round)	1997 (53 <sup>rd</sup> Round)
<b>1. Per Capita Consumer Expenditure</b>				
Uttar Pradesh	Rural	104.25	148.67 (42.6)	390.26 (162.5)
	Urban	137.84	216.73 (57.2)	547.47 (152.6)
India	Rural	112.31	158.10 (40.8)	395.01 (149.8)
	Urban	165.80	249.93 (50.7)	645.44 (158.2)
<b>2. Gap in Rural-Urban Expenditure in U.P.</b>		<b>33.59</b>	<b>68.06</b>	<b>157.21</b>
<b>3. Gap of Expenditure in U.P. from All India Average</b>				
	Rural	8.06	9.43	4.75
	Urban	27.96	33.20	97.97

Note: Bracketed figures denote percentage increase over the previous period.

In comparison to all India average, the gap between the per capita monthly expenditure in rural areas of U.P. and India, which was Rs. 8.06 in 1983, increased to Rs. 9.43 in 1987-88, but fell to nearly half in 1997 being Rs. 4.75. However, corresponding differentials for urban areas have substantially increased from Rs. 27.96 in 1983 to Rs. 33.20 in 1987-88 and further to Rs. 97.97 in 1997 which amounts to a three and a half times increase from that of 1983. Thus, in contrast to rural areas, the percentage increase in per capita monthly expenditure in urban areas at the country level, particularly in 1997 has been higher than that of U.P.

Inter-state data of per capita monthly consumer expenditure also indicate wide disparities among rural and urban segments of population. Although, there has been fluctuations in the gap between per capita monthly consumption expenditure of rural and urban areas of various states, yet the latest available data relating to 53<sup>rd</sup> round of NSS (1997), place Punjab on the top where rural monthly expenditure in comparison to that of urban areas was found to be minimum, i.e., Rs. 83 followed by Haryana, i.e., Rs. 119, Rajasthan (Rs. 156) and U.P. (Rs. 157). As against this, in the State of Maharashtra, the per capita monthly expenditure in rural areas shows maximum shortfall of Rs. 387 followed by

Karnataka (Rs. 226), Orissa (Rs. 264) and Kerala (Rs. 225) against the corresponding all India average Rs. 350.

## **2.5 Poverty: An Inter-Regional Perspective**

*The regional trends in poverty in Uttar Pradesh show that incidence of poverty is lower for all regions in 1999-00 as compared to 1993-94. There has been a marginal decline of incidence of poverty in the Eastern and Southern regions which were historically the backward areas. Districts in the central and particularly northeastern region of the state receive a higher per capita share of foodgrains.*

The regional trends in poverty in Uttar Pradesh over periods 1993-94 and 1999-00 are shown in Table 2.11. This table is based on World Bank Study (2002) on Poverty in India: The Challenge of Uttar Pradesh. The incidence of poverty in 1999-00 for all the regions is lower as compared to the situation in 1993-94. The incidence of overall poverty in three regions, viz., Central, Eastern and Southern is way above the Uttar Pradesh average of 40.9 in 1993-94. In comparison in 1999-00 two regions, viz., Central and Eastern are above the Uttar Pradesh average of 31.0. A comparison among the regions between the two years indicates that there is a marginal decline of incidence of poverty in the Eastern and Southern regions which were historically the backward areas. Another observation is that both Central and Eastern Uttar Pradesh have a disproportionate share of Uttar Pradesh's poor relative to their population shares. They account for 67 percent of the total poor in Uttar Pradesh.

A comparison of the region poverty incidence and allocation of foodgrains under the public distribution (Table 2.12) shows that while poverty level appear to have declined from 40.9 in 1993-94 to 31.0 in 1999-00, the percent of below poverty line households during the years 1997-98 and 2000-01 has shown a raise from 36.9 to 39.1 percent. Districts in the Central and particularly northeastern region of the state receive a higher per capita share of foodgrains (World Bank, 2002).

The decline in poverty incidence in the 1980s and the early 1990s was almost evenly distributed across regions (Table 2.13). The Gini coefficient is lower around 0.3 for the two periods. The per capita consumption for the Himalayan and Western region has been above overall Uttar Pradesh in the eighties and the nineties.

**Table 2.11: Regional Trends in Poverty**

Region	Incidence of Poverty 1993-94			Percentage of	
	Urban	Rural	Overall	Population	Poor
Himalayan	12.7	24.8	22.5	4	2
Western	31.1	29.3	29.8	36	27
Central	33.9	50.2	46.7	18	20
Eastern	38.6	48.8	47.5	37	42
Southern	74.4	67.4	68.9	5	9
<b>Uttar Pradesh</b>	<b>35.1</b>	<b>42.3</b>	<b>40.9</b>	<b>100</b>	<b>100</b>

Region	Incidence of Poverty 1999-00				Percentage of		
	Urban		Rural		Overall	Population	Poor
	Official	Corrected	Official	Corrected			
Himalayan	14.1	19.7	15.6	18.1	15.2	4	2
Western	30.0	30.5	21.7	22.5	23.9	36	27
Central	33.4	30.0	42.2	43.0	39.7	18	24
Eastern	31.1	33.7	36.4	40.3	35.9	37	43
Southern	40.9	38.1	20.9	38.1	24.4	5	4
<b>Uttar Pradesh</b>	<b>30.7</b>	<b>30.4</b>	<b>31.1</b>	<b>33.7</b>	<b>31.0</b>	<b>100</b>	<b>100</b>

Sources (Basic Data): 1. 1993-94, 1999-00 NSS, 2. World Bank (2002).

**Table 2.12: Regional Poverty Incidence and Allocation of PDS Subsidies**

Region	Poverty Incidence	Percent of BPL Households		Poverty Incidence	Percent of BPL Households	
	1993-94 NSS	(1997-98)		1999-00 NSS	(2000-01)	
	Percent Individuals	Percent Households	Adjusted Ratio	Percent Individuals	Percent Households	Adjusted Ratio
Himalayan	22.5	39.6	1.76	-	-	-
Western	29.8	23.5	0.79	23.9	20.1	0.84
Central	46.7	48.5	1.04	39.7	46.2	1.16
Eastern	47.5	40.7	0.86	35.9	48.5	1.35
Southern	68.9	36.8	0.53	24.4	42.0	1.72
<b>Uttar Pradesh</b>	<b>40.9</b>	<b>36.9</b>	<b>0.90</b>	<b>31.0</b>	<b>39.1</b>	<b>1.26</b>

Sources (Basic Data): 1. NSS 50<sup>th</sup> Round, NSS 55<sup>th</sup> Round, UP/Bihar Survey, 2. World Bank (2002).

Notes: Poverty Incidence: Percentage of individuals living below the Expert Group-recommended poverty line.

% of BPL households: Percentage of households below the poverty line (BPL).

Adjusted Ratio: BPL/NSS poverty rate, adjusted to take into account lower overall BPL rates compared to NSS estimates.

**Table 2.13: Regional Poverty Profile**

Region	1983 (NSS 38 <sup>th</sup> Round)					1993-94 (NSS (50 <sup>th</sup> Round))				
	Mean* Consumption	Gini Co-efficient	Poverty Measures			Mean* Consumption	Gini Co-efficient	Poverty Measures		
			Incidence H	Depth P1	Severity P2			Incidence H	Depth P1	Severity P2
Himalayan	179	0.331	26.8	0.059	0.028	345	0.280	22.5	0.042	0.010
Western	177	0.398	38.7	0.111	0.051	344	0.304	29.8	0.065	0.021
Central	145	0.340	53.3	0.167	0.076	276	0.305	46.7	0.129	0.047
Eastern	131	0.379	54.3	0.150	0.063	263	0.274	47.5	0.116	0.039
Southern	106	0.281	68.5	0.222	0.091	224	0.292	68.9	0.204	0.081
<b>Uttar Pradesh</b>	<b>156</b>	<b>0.383</b>	<b>48.1</b>	<b>0.139</b>	<b>0.061</b>	<b>296</b>	<b>0.302</b>	<b>40.9</b>	<b>0.101</b>	<b>0.035</b>

Source (Basic Data): World Bank (2002).

Note: \* In current rupees (i.e., survey year) per capita per month.

Poverty Measures estimated using the poverty lines recommended by the Expert Group. The poverty measures presented are the first three of the FGT class poverty measures corresponding to P = 0, 1, and 2.

The recently available below poverty line rural estimates (Department of Rural Development) for the state shows that the level of poverty varies across the regions, with poverty rising from West to East (Table 2.14). The reference period is for 1997-98. Poverty level is high in the Central, Eastern and Bundelkhand regions, and is the highest in Central region. The share of region-wise number of rural families below poverty line (BPL) in the total number of rural families BPL is about 5 percent in Bundelkhand, 20 percent in Western region, 25 percent in Central region, and above 49 percent in Eastern region. The methodology for National Sample Survey and those of Department of Rural Development are different and non-comparable.

**Table 2.14: Region-Wise Split of Below Poverty Line Population in Rural Uttar Pradesh (1997-98)**

<b>Regions</b>	<b>Number of Rural Families</b>	<b>Number of Rural Families BPL</b>	<b>Share of BPL Families in Rural Families (Percent)</b>	<b>Share of Poor in Total Poor Population</b>
Bundelkhand	1033332	371997	36.00	5.19
Eastern	8476267	3538479	41.75	49.39
Central	3733363	1810435	48.49	25.27
Western	6153085	1444081	23.47	20.15
<b>Uttar Pradesh</b>	<b>19396047</b>	<b>7164992</b>	<b>36.94</b>	<b>100.00</b>

Source: BPL Survey, Ministry of Rural Development, Government of Uttar Pradesh.

Valerie and Barbara (2003) have analysed changes in poverty by looking at the regional composition of the bottom quartile of population. They observe some shifts in the regional distribution of the poor population between the periods 1993-94 to 1999-00. In 1999-00, the central and eastern regions still house a disproportionate share of UP's bottom quartile. However, relative to their population shares, there has been a decrease in the percentage of poor individuals living in the eastern and southern regions and a concomitant increase in the percentage of poor living in the western and central regions.

Jha and Sharma (2003) analysed the spatial distribution of rural poverty using 75 NSS regions for the quinquennial rounds of 1987-88, 1993-94 and 1999-00. They use Foster-Greer-Thorbecke measures of poverty. The results for various regions of undivided Uttar Pradesh are shown in Table 2.15.

**Table 2.15: Regional Rural Poverty in Uttar Pradesh**

	43 <sup>rd</sup> Round (1987-88)			50 <sup>th</sup> Round (1993-94)		
	PG0	PG1	PG2	PG0	PG1	PG2
<b>Uttar Pradesh</b>						
Himalayan	0.103681	0.015613	0.003662	0.154377	0.022842	0.005249
Western	0.279102	0.060823	0.019795	0.206388	0.038107	0.011027
Central	0.371178	0.082958	0.026483	0.428002	0.105891	0.036044
Eastern	0.446334	0.102042	0.033106	0.389746	0.086134	0.026877
Southern	0.510121	0.124988	0.041064	0.560225	0.15575	0.059494
<b>India</b>	<b>0.333</b>	<b>0.076252</b>	<b>0.026049</b>	<b>0.303</b>	<b>0.0657</b>	<b>0.021362</b>
	55 <sup>th</sup> Round (1999-00)			Poverty Changes Between 43 <sup>rd</sup> & 50 <sup>th</sup> Round		
	PG0	PG1	PG2	PG0	PG1	PG2
Himalayan	0.087823	0.011005	0.002101	-0.0507	-0.00723	-0.00159
Western	0.13643	0.022801	0.006469	0.072714	0.022717	0.008768
Central	0.307119	0.055586	0.015569	-0.05682	-0.02293	-0.00956
Eastern	0.236043	0.040679	0.0108	0.056589	0.015908	0.006229
Southern	0.145063	0.031125	0.010294	-0.0501	-0.03076	-0.01843
<b>India</b>	<b>0.192</b>	<b>0.035225</b>	<b>0.010136</b>	<b>0.030253</b>	<b>0.010456</b>	<b>0.004687</b>

Source: Jha, Raghendra and Anurag Sharma (2003).

Note: PG0 = Head Count Index of Poverty; PG1 = Poverty Gap; PG2 = Square Poverty Gap.

Due to non-comparability of 55<sup>th</sup> round results with the other rounds, he assesses the performance of poverty between 1987-88 and 1993-94. The negative changes in Head Count Index of Poverty (PG0), Poverty Gap (PG1) and Square Poverty Gap (PG2) in the Himalyan, Central and Southern regions indicates the worsening performance of these three regions. The positive changes in the Western and the Eastern regions is how improved performance.

## 2.6 Summary

The percentage of rural population below poverty line in Uttar Pradesh has declined over the years. The urban poverty in Uttar Pradesh declined by half of what it was in 1973-74. The gap between the all India urban poverty and Uttar Pradesh figures has narrowed down over the decades, it has been observed that the state of poor in Uttar Pradesh in the all India number of poor has increased. Alternative estimates of poverty for Uttar Pradesh are below the official estimates. Both in terms of the Human Poverty Index and the Head Count Ratio, Uttar Pradesh figures are above the all India average. In Uttar Pradesh, the decline in the rural poor population has been by about 13 percentage points as compared to 9 percentage points for the weighted average of the 15 states for the period 1993-94 to 1999-00. While in the case of urban population poor declined by 2.67 percentage points as compared to 6.56

percentage points for the 15 states as a whole. In the case of Uttar Pradesh both the PGI and FGT\* show a decline for both rural and urban population. The results are in line with the distribution-sensitive measure with the changes in the head count ratio. The incidence of overall poverty in three regions, viz., Central, Eastern and Southern is way above the Uttar Pradesh average of 40.9 in 1993-94. In comparison in 1999-00 two regions, viz., Central and Eastern are above the Uttar Pradesh average of 31.0. The average calorie intake in Uttar Pradesh has declined in 1999-00.

## Chapter 3: GROWTH AND POVERTY IN UTTAR PRADESH

### 3.1 Introduction

In this chapter a comparative perspective of growth and poverty for Uttar Pradesh is presented. This chapter is organised into six sections. Section 2 examines the structure of gross domestic product and sectoral shares. Section 3 brings an inter-state comparison of real per capita income. Section 4 discusses the growth profiles of Uttar Pradesh vis-à-vis other states. Section 5 examines the impact of growth on poverty. Section 6 summaries the findings.

### 3.2 Structure of Gross Domestic Product and Sectoral Shares

*Uttar Pradesh is pre-dominantly agriculture based economy but the share in the overall economy has come down over the years. The sectoral growth rates in real terms show wide fluctuations. The service sector is the fastest growing sector. The fluctuations in growth rates in the service sector are much lower than agriculture and industry.*

In the context of poverty, it is not only the level of income but also its composition, which is important. Gross State Domestic Product (GSDP) is categorized into three main sectors viz., agriculture, manufacturing and services. Agriculture includes forestry and logging, and fishing. Industry is taken to include manufacturing, mining and quarrying, electricity, gas and water supply. Services includes (i) construction, (ii) trade, hotels and restaurants, (iii) transport, storage and communication, (iv) financing, insurance, real estate and business services, and (v) community, social and personal services.

Table 3.1 indicates that Uttar Pradesh is predominantly that the share of agriculture is large but has tended to decline over the years. The service sector in Uttar Pradesh showed an increase in its share in GSDP to some extent. Its share in total GSDP increased from 42.95 to 46.79 percent during the 1990s. The share of industry has remained at a low level<sup>4</sup> with its share in total GSDP increasing from 18.01 percent in 1993-94 to 20.10 percent in 1997-98, and thereafter declining to 18.29 percent in 2000-01. The overall scenario does not change much if sectoral shares in the GSDP are worked out at constant prices (1993-94 prices).

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<sup>4</sup> When all the 25 states are considered it is observed that services sector accounts for 49 percent, agriculture for 28 percent and the balance by the manufacturing sector.

**Table 3.1: Structure of GSDP and Sectoral Shares**

	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01
<b>Composition of GSDP</b>								
Agriculture and Allied	39.03	37.97	36.42	37.01	34.55	34.27	34.43	32.35
Industry	18.01	20.02	20.27	20.39	20.10	19.77	18.79	18.29
Services	42.95	42.01	43.31	42.60	45.35	45.96	46.79	49.37
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
<b>Sectoral Real Growth Rates</b>								
Agriculture and Allied		2.92	1.59	9.24	-5.88	1.15	8.98	-1.71
Industry		17.32	4.21	16.91	-2.86	-0.57	-2.47	4.51
Services		3.56	5.33	9.05	5.61	3.39	7.14	7.89
Total		5.79	3.69	10.70	-0.41	1.79	5.83	3.85

Source (Basic Data): Central Statistical organisation.

The sectoral growth rates in real terms show wide fluctuations for all the sectors. Extreme volatility was observed in the growth rates of the industrial sector. The volatility in the growth of GSDP in industry also adversely affected the State finances, which is discussed in the subsequent chapter. The service sector grew from 3.56 percent in 1994-95 to 9.05 percent in 1997-98, declined to 3.39 percent in 1998-99 and thereafter rose to 7.89 percent in 2000-01. Fluctuations in the growth rates of the service sector are much lower than agriculture and industry.

### 3.3 Per Capita Income: An Inter-State Comparison

*Uttar Pradesh is ranked fourth lowest state in India in terms of real per capita income. In the nineties real per capita income of Uttar Pradesh grew at the rate of 4.5 percent, which makes it one of the low growth per capita income states. The gap in income between high and low income states, instead of converging is diverging indicating the growing spatial inequality in India.*

The real per capita income of Uttar Pradesh in relation to other States is presented in Table 3.2. The States are arranged in the ascending order of their per capita income in the year 2000-01. Uttar Pradesh ranked fourth lowest (among the 15 major States) in India. It is also to be noted that real per capita income of Uttar Pradesh grew at the rate of 4.50 percent during the 1990s which makes it one of the low growth per capita income States. The States per capita income growth of Uttar Pradesh was higher than that of Bihar, Orissa, and Assam. The real increase in per capita income is marginal from Rs. 5727 to Rs. 6638 during the period from 1993-94 to 2000-01. In 1999-00, the per capita income of Uttar Pradesh was

40.90 percent of that of Maharashtra (Rs.16228). The gap in income between high and low income states has increased.

**Table 3.2: Real Per Capita Income: An Inter-State Comparison**

States	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	TGR
Bihar	3403	3611	3034	3663	3433	3603	3669	3695	3757	1.33
Orissa	5608	5815	6022	5652	6303	6369	6602	6562	7039	2.42
Assam	6422	6476	6531	6602	6563	6456	6577	6673	6810	0.36
Uttar Pradesh	5727	5915	5989	6493	6341	6320	6543	6638		2.01
Madhya Pradesh	7366	7411	7692	8017	8239	8582	9272	8261	8704	2.75
Chhattisgarh	7619	7594	7667	7865	7988	8289	7881			
Rajasthan	7034	7034	8045	8169	8867	9627	9670	9716	9180	5.47
West Bengal	7458	7820	8254	8683	9253	9698	10226	10740	11386	5.43

Source (Basic Data): Central Statistical Organisation.

Note: TGR - trend growth rate for the period 1993-94 to 2000-01.

### 3.4 Sectoral Growth Profiles: Uttar Pradesh in Comparison with Other States

*In Uttar Pradesh the real rates of agriculture was marginally higher than the all state average rates of growth, the service sector also grew at a rate lower than the national average. The slow down in domestic and global demand appears to be the major factors constraining industrial growth*

In recent years there has been a deceleration in the rate of real growth, spread over agriculture, industry and even services. The performance of agricultural sector has been receiving considerable policy attention in the recent years, especially in the context of reaching the benefits of reforms to the widest sections of society. Low and variable growth of output, poor and declining yields, inadequacy of capital formation and infrastructure and degradation on natural resources due to inefficient cropping patterns have emerged as the major obstacles to rapid and sustained agricultural growth.

Table 3.3 shows the growth rate of GSDP over a nine-year period from 1993-94 to 1999-00. The state wise and sector-wise growth rates are presented for selected states.

The overall growth rate for all States has been around 5.8 percent. The growth of services sector is around 7.6 percent while that of manufacturing sectors around 6.9 percent and that of Agricultural is about 2.3 percent.

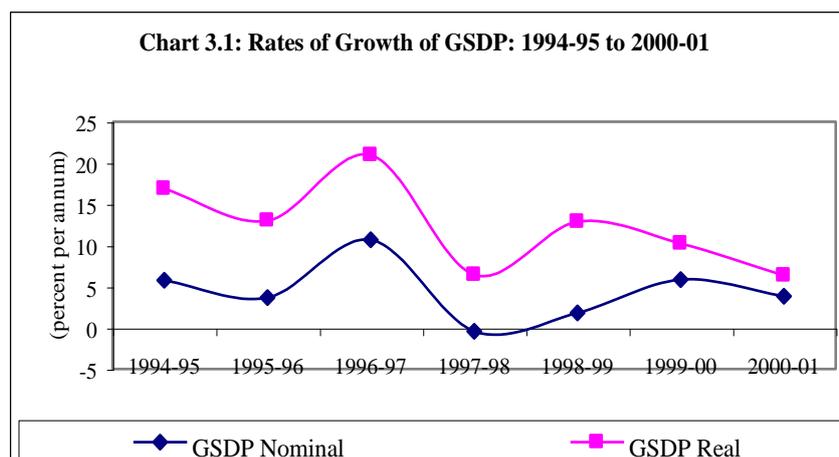
**Table 3.3: Growth Rate of GSDP at 1993-94 Prices**

States	Trend Growth Rate (1993-94 to 2000-01) (%)			
	Agriculture	Manufacturing	Services	Total
Bihar	0.75	6.44	7.05	4.13
Orissa	-0.49	6.89	5.89	3.90
Assam	-0.07	2.44	3.49	1.98
Uttar Pradesh	2.20	4.15	6.01	4.25
Madhya Pradesh	0.28	6.97	7.68	4.98
Rajasthan	2.68	10.34	8.16	6.88
West Bengal	3.61	6.51	9.38	7.09

Source (Basic Data): Central Statistical Organisation.

Table 3.3 indicates that the growth in agriculture is low as compared to the National Agriculture Policy announced on July 28, 2000, which intended achieving a growth rate of over 4 percent per annum in the agricultural sector. Even in the well to do states like Haryana, Punjab, Maharashtra the growth rates are below 2 percent per annum. Some states have achieved high growth rates particularly Rajasthan, and West Bengal. In Uttar Pradesh, the real rates of growth of agriculture was marginally higher than the all State average rates of growth, the service sector also grew at a rate lower than the national average. As the State economy is predominantly agriculture based, low growth in the agricultural sector can slowdown the growth of per capita income and reduction in poverty.

In the manufacturing sector there is widespread slowdown in electricity and all end based groups such as capital goods, intermediate goods, consumer goods both durable and non-durables. The slowdown in domestic and global demand appears to be the major factors constraining industrial growth. The growth rates in the manufacturing sector for the period 1993-94 to 1999-00 for the all states (Table 3.3) is below 7 percent. However, state like Rajasthan seems to have achieved over 10 percent growth rate. In the services sector generally the expectations has been of high growth rates. The growth for all states is about 7.6 percent. In Uttar Pradesh industry grew at 4.15 percent during this period. The overall GDSP growth rates both in nominal and real term is presented in Chart 3.1. Both real and nominal growth rates showed wide fluctuation within a range of 18 to -1 percent between 1981-82 and 1999-00.



### 3.5 Impact of Growth on Poverty

*In Uttar Pradesh the poverty ratio is much lower compared to that of other poor income states like Bihar, Orissa and Madhya Pradesh. The poor states in general are mainly dependent on growth in agricultural sector for their economic development and the poverty ratio is also high.*

Table 3.4 puts together growth performance and poverty reduction for selected states. Poor states in general are mainly dependent on agriculture sector for their economic development. The poverty ratio in these states is also high and particularly so in Uttar Pradesh. It is to be noted that Rajasthan has a lower poverty ratio as compared to the other poor states. However, in Uttar Pradesh, the poverty ratio is much lower compared to that of other poor income states like Bihar, Orissa and Madhya Pradesh.

**Table 3.4: Growth and Poverty**

States	Share of Agriculture in GSDP	Gr. Rate (1993-01) GSDP	Number of Poor BPL Rural Areas	Poverty Ratio Rural Areas
Bihar	38.64	4.13	19.48	44.30
Orissa	31.35	3.90	7.44	48.01
Assam	35.77	1.98	4.77	40.04
Uttar Pradesh	32.35	4.25	21.32	31.22
Madhya Pradesh	27.49	4.98	11.25	37.06
Rajasthan	26.05	6.88	2.85	13.74
West Bengal	29.67	7.09	9.32	31.85

The per capita income growth accelerated from about 1 percent per annum to above 3 percent per annum in the eighties (Bhalla, 2003). This trend persisted for the two decades. There is a consensus that per capita consumption (as measured by national accounts) is 50 percent higher in 1999-00 than in 1983. This estimate is based on per capita consumption growth of 2.5 percent per annum. Theoretical estimates of the elasticity of poverty reduction with respect to growth (head count elasticity) have been estimated by various authors. Ravallion and Datta (1996) estimated it to be about -1.3 for India and Collier and Dollar (2001) estimated it to be about -2 for developing countries. Given the Indian poverty level of 45 percent in 1983 and 50 percent growth in per capita consumption, the elasticity estimate of -1.3 yields a predicted head count ratio of 23 percent in 1999-00.

Bhalla observed that using the unit-level data for India covering the years 1983, 1987, 1993 and 1999, and disaggregating each state and its distribution into rural and urban component, the mean survey-based growth between 1983 and 1999 is 26.2 percent, and the elasticity of poverty reduction is -2.4. Bhalla also estimates elasticity by taking 105 state level urban/rural observations of changes in growth and poverty from 1987, 1993-94 and 1999-00. Based on this growth rate and elasticity, the predicted poverty level in 1999 is 24 percent. If the elasticity were -1.33, the predicted 1999 poverty level would be 31.8 percent. There are various problems in the above estimates. Bhalla (2003) introduced the concept of the 'shape of distribution elasticity (SDE). This helps to translated income and inequality changes into expected changes in poverty, via the following formula:

$$dp = ( g + i ) * SDE$$

where

dp: arithmetic change in the head count ratio of poverty

g: the (log) growth in average per capita consumption,

i: the (log)change in the share of consumption of the poor at or near the poverty line.

Table 3.5 presents SDE results for several states in India, with respective changes in their poverty rates over the 16-year period, 1983-99. Results are shown for rural, urban and pooled data for each of the state.

**Table 3.5: Growth Inequality-Poverty Connections: Rural, Urban, All India, 1983-99**

	Gini		Change in	Change in	Growth in Per	Total	SDE	Change in	Annual	HCR	HCR
	1983	1999	(1983-99)	(1983-99)	Capita	Growth	1983	Predicted	(1983-99)	1983	1999
					Consumption						
					(1983-99)	(1983-99)		(1983-99)			
<b>Rural India</b>											
Bihar	26.2	20.8	-23.1	7.1	18.6	25.7	0.8	-20.4	-20.9	65.3	44.4
Orissa	27.1	24.7	-9.3	3.2	22.8	26.0	0.8	-21.2	-20.0	68.5	48.4
Assam	20.0	20.3	1.5	-2.5	1.9	-0.6	1.3	0.9	-3.9	44.3	40.4
Uttar Pradesh	29.1	24.9	-15.6	8.1	11.9	20.0	0.9	-17.1	-16.0	47.4	31.4
Madhya Pradesh	29.7	25.4	-15.6	10.1	6.9	17.0	0.9	-14.4	-12.8	50.3	37.4
Rajasthan	34.6	21.3	-48.5	31.8	1.6	33.4	0.7	-24.7	-20.9	34.3	13.4
West Bengal	29.9	24.6	-28.0	14.3	26.2	40.5	0.8	-31.6	-32.8	64.3	31.5
<b>Urban India</b>											
Bihar	30.4	32.3	6.1	-2.9	10.1	7.2	0.8	-5.4	-3.8	38.0	34.2
Orissa	29.1	29.6	1.7	-0.7	-3.1	-3.8	0.9	3.4	2.3	41.2	43.5
Assam	26.1	32.5	21.9	-13.3	28.9	15.6	0.9	-13.7	-8.6	16.4	7.7
Uttar Pradesh	31.8	33.2	4.3	-3.1	22.6	19.5	0.8	-15.9	-14.2	45.3	31.1
Madhya Pradesh	30.0	31.9	6.1	-4.3	21.2	16.9	0.8	-13.7	-15.8	54.3	38.5
Rajasthan	33.8	28.5	-17.1	12.6	15.2	27.8	0.8	-21.6	-17.7	37.2	19.5
West Bengal	33.5	34.6	3.2	1.8	11.9	13.7	0.8	-10.3	-6.2	21.3	15.0
<b>All India</b>											
Bihar	27.8	24.1	-14.3	7.6	18.0	25.6	0.8	-20.3	-17.9	62.1	44.3
Orissa	28.4	27.8	-2.1	0.7	20.3	21.0	0.9	-17.8	-15.1	65.4	50.3
Assam	21.2	24.5	14.5	-7.1	7.3	0.2	1.2	-0.3	-4.9	41.3	36.5
Uttar Pradesh	30.2	28.2	-6.9	4.4	14.9	19.3	0.8	-16.3	-15.1	47.4	32.3
Madhya Pradesh	30.7	29.3	-4.7	3.5	11.3	14.8	0.9	-13.9	-10.2	51.5	41.3
Rajasthan	35.0	24.6	-35.3	27.0	5.2	32.2	0.7	-21.3	-19.7	36.1	16.3
West Bengal	32.8	29.8	-9.6	8.1	23.5	31.6	0.8	-24.8	-25.0	54.3	29.3

Source: Bhalla (2003).

### 3.6 Summary

Uttar Pradesh is predominantly agriculture-based economy but the share of agriculture has declined over the years. The sectoral growth rates in nominal terms show wide fluctuations for all the sectors. This volatility has adversely affected the state finances. In terms of per capita income Uttar Pradesh ranked fourth lowest among the 15 major states. It is observed that the gap income between high and low income states, instead of converging is diverging indicating the growing spatial inequality in India. In Uttar Pradesh, the real rates of growth of agriculture was marginally higher than the all state average rates of growth, the service sector grew at a rate lower than the national average. While in manufacturing sector, it grew at a higher rate than the national average. Poor states are generally associated with low growth rates and high poverty ratio. This is apt for Uttar Pradesh.

## Chapter 4: FISCAL PROFILE OF UTTAR PRADESH

### 4.1 Introduction

This chapter focuses on the fiscal profile of Uttar Pradesh. As finances of State government is critical to implement effective fiscal measures for the removal of poverty and basic capability improvement through required provision of public services, an analysis of the fiscal situation of the State assumes relevance. In Section 2 the fiscal imbalance in undivided Uttar Pradesh is discussed. Section 3 examines the core trends in state finances. Section 4 contains the disaggregated analysis of revenue receipts. Section 5 analyses the trends in revenue expenditures. The steady fall in capital expenditures is captured in Section 6. Structure of change in education vis-à-vis other states is analysed in Section 7. High revenue intensity in plan expenditures is discussed in Section 8. In Section 9 debt and contingent liabilities in undivided Uttar Pradesh are examined. Section 10 summarises the observations.

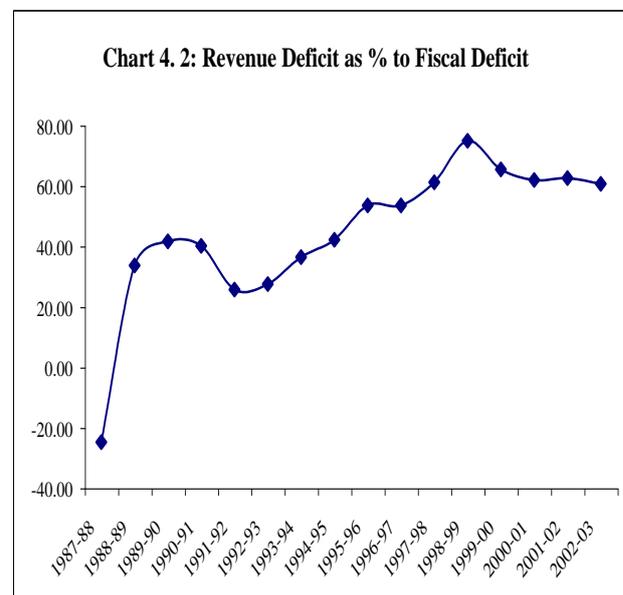
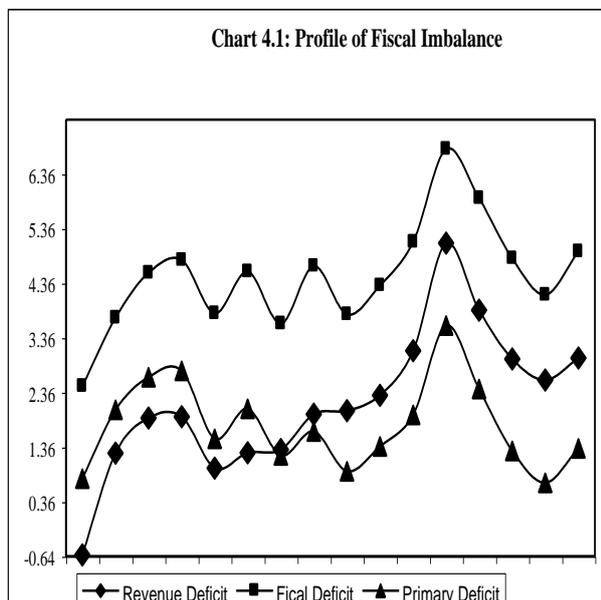
### 4.2 Fiscal Imbalance: Growing Deterioration

*The finances of UUP show marked deterioration in revenue and fiscal balance towards the end of the nineties. The profile of fiscal imbalance exhibits three distinct phases since 1987-88, characterised respectively by, onset of imbalance, modest improvement, and sharp deterioration. The quality of fiscal deficit has worsened considerably over this period. There is some improvement since 2000-01. In the reorganised Uttar Pradesh, there is some improvement in the fiscal balance in 2001-02 and 2002-03.*

The outstanding feature of UUP's finances was the mounting fiscal imbalance where the revenue surplus of 0.62 percent of GSDP in 1987-88 transformed into a deficit reaching a peak of 5.09 percent in 1998-99. In 1999-00, it improved to 3.87 percent of GSDP. The fiscal deficit increased from 2.47 percent of GSDP in 1987-88 to a peak of 6.81 percent in 1998-99. It marginally improved to 5.91 percent in 1999-00. The deteriorating fiscal situation can clearly be divided into three phases: the first from 1987-88 to 1990-91, the second from 1991-92 to 1995-96, and the last from 1996-97 to 1998-99. The year 1999-00 could possibly be seen, in this pattern, as the beginning of another improvement phase. In 1987-88, there was a revenue surplus of 0.62 percent of GSDP. It turned into a revenue deficit in the next year which continued to rise upto 1990-91. In the second phase, although the revenue account remained in deficit, the position of fiscal deficit visibly improved during 1991-92 to 1995-96 as shown in Chart 4.1. Since 1996-97, the profile of fiscal imbalance sharply

deteriorated with the rise in revenue as well as fiscal deficits. Further, the share of revenue deficit in fiscal deficit increased substantially indicating that the quality of fiscal deficit had also sharply deteriorated. In 1990-91, nearly 40 percent of fiscal deficit was claimed by revenue deficit. This share rose to nearly 75 percent in 1998-99, declining a little in the following year (Chart 4.2). It appears that in both phases fiscal deterioration started with salary revisions in tandem with the Fourth and Fifth Central Pay Commissions. The second phase of deterioration is sharper, combining the influence both of salary revision and interest payments which had risen following the steadily rising fiscal deficit combined with the rising cost of borrowing in the nineties. The dimensions of fiscal imbalance, based on some key fiscal indicators, are shown in Table 4.1.

The reorganised Uttar Pradesh came into effect in November 2000. For reorganised state data are available for 3 subsequent years. It may be noted from Table 4.1 that some of the impact of the revision of salaries and pensions and the related arrears had their maximum impact in 1998-99 and 1999-00. Therefore, some improvement in subsequent years has been on this account. In 2001-02, revenue deficit fell to 2.59 percent of GSDP as against a little more than 5 percent in 1998-99 and 3.87 percent in 1999-00. However, there was again a deterioration in 2002-03(RE) when it became 3 percent. The same pattern is noticeable for fiscal deficit and primary deficit. The positive impact in 2001-02 was also partly due to the award of the Eleventh Finance Commission where Uttar Pradesh could avail of larger transfers. As far as debt-GSDP ratio is concerned there is no noticeable improvement. It remained in the range of 34.7 percent upto 2002-03(BE).



**Table 4.1: Fiscal Imbalance: Key Indicators**

	(Percent to GSDP)											
	1987- 88	1990- 91	1994- 95	1995 -96	1996- 97	1997- 98	1998- 99	1999- 00	Mixed 2000- 01	New Uttar Pradesh		
										2001- 02	2002- 03RE	2003- 04BE
Revenue Deficit	-0.62	1.91	1.96	2.02	2.30	3.12	5.09	3.87	2.97	2.59	2.99	2.43
Fiscal Deficit	2.47	4.78	4.67	3.78	4.31	5.11	6.81	5.91	4.81	4.14	4.94	6.51
Primary Deficit	0.78	2.76	1.64	0.91	1.37	1.95	3.58	2.42	1.29	0.70	1.34	2.89
Revenue Deficit/ Fiscal Deficit	-24.86	40.04	42.02	53.43	53.38	61.03	74.76	65.35	61.78	62.45	60.55	37.30
Outstanding Debt	22.43	23.09	26.01	25.90	25.07	27.00	28.47	34.71	34.36	34.73	34.72	35.46

Sources (Basic Data): i. Finance Accounts of Uttar Pradesh & Budget Documents (2001-02, 2002-03, and 2003-04) of Uttar Pradesh.

ii. GSDP data as released by CSO.

Note: (-) denotes surplus.

In 1998-99, the ratio of UP's fiscal deficit to GSDP was 6.81 percent, which was the third largest among the non-special category (NSC) states, after Orissa and Rajasthan. The quality of fiscal deficit as measured by the ratio of revenue deficit to fiscal deficit (Chart 4.2) was however the worst in UUP. The ratio of revenue to fiscal deficit in UUP was 74.76 percent in 1998-99, which was the highest among the NSC states in that year. Thus, while the experience of growing fiscal imbalance during the nineties is shared by all states, UP's finances proved to be particularly vulnerable to the impact of rise in revenue expenditure claims on salaries, pensions and interest payments.

### 4.3 State Finances: Core Trends

*Relative to GSDP, every major component of revenue receipts, i.e., own tax revenues, central transfers, and own non-tax revenues fell during 1987-88 to 1999-00. This was accompanied by an unhealthy structural shift in expenditure, while interest payments, pensions and salary expenditures rose sharply, capital expenditure fell. In the reorganised Uttar Pradesh, there is some improvement in own tax revenues to GSDP ratio in 2002-03. However, the own non-tax revenues deteriorated over the years. The share of central taxes declined after 2001-02. The overall expenditure is budgeted to reach a level of 17.7 percent in 2003-04.*

During the period from 1987-88 to 1998-99, the revenues of the state relative to GSDP declined by about 3 percentage points from 12.43 to 9.96. There was an improvement in 1999-00. The relevant magnitudes are given in Table 4.2. Relative to GSDP, every major component of revenue declined during 1987-88 to 1998-99. For example, own tax revenues

fell by 0.47 percentage point and own non-tax revenues by 0.35 percentage points. The central transfers to the state fell by as much as 2.27 percentage points of GSDP, the fall in the share in central taxes being 1.21 percentage points, and that in central grants 1.06. Thus, partly of the state's own making, and largely due to the fall in central transfers, the revenues of the state government relative to GSDP depleted by a little more than 3 percentage points. In 1999-00, however, there was an improvement both in own revenue receipts and central transfers.

The general fall in revenue receipts was accompanied by a rise in expenditure from 15.16 percent of GSDP in 1987-88 to 17.22 percent in 1998-99, which further increased to 17.30 percent in 1999-00. Within this somewhat smaller increase in the ratio of aggregate expenditure to GSDP, a large structural change is hidden where committed expenditures like interest payments, pensions and salaries increased, and capital expenditure, as also non-interest and non-pension revenue expenditures, fell. Most of this was due to only two components of expenditure, namely, interest payments and pensions, which went up respectively by margins of 1.71 and 0.79 percentage points of GSDP between 1987-88 to 1999-00. In these cases, there was further deterioration between 1998-99 and 1999-00. In addition, capital expenditure became a casualty of the adjustment process, falling from 3.34 to 2.19 percent of GSDP over 1987-88 to 1999-00, a decline of 1.32 percentage points. Table 4.2 provides an overview of the salient changes in the fiscal profile of the state.

**Table 4.2: State Finance of Uttar Pradesh: An Overview**

	(Percent to GSDP)											
	1987-88	1990-91	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	Mixed 2000-01	New 2001-02	Uttar 2002-03	Pradesh 2003-04
Revenues	12.43	12.34	12.05	12.55	11.37	11.62	9.96	11.24	11.68	10.71	10.62	10.96
Own Tax Revenues	4.86	4.93	4.78	4.73	4.57	4.72	4.63	5.01	5.18	4.32	4.52	4.78
Own Non-Tax Revenues	0.95	0.60	0.78	1.48	0.72	0.63	0.65	0.86	0.92	0.75	0.64	0.57
Share in Central Taxes	4.40	3.63	3.90	4.40	4.44	4.84	3.41	3.99	4.27	4.27	3.99	4.01
Grants	2.22	3.18	2.59	1.95	1.65	1.42	1.27	1.39	1.31	1.38	1.48	1.60
Expenditures	15.66	17.69	17.53	16.47	15.84	16.96	17.22	17.30	16.63	15.01	15.70	17.70
Revenue Expenditure <i>of which</i>	11.81	14.25	14.01	14.58	13.67	14.74	15.05	15.11	14.65	13.30	13.61	13.39
Interest Payment	1.69	2.02	3.02	2.87	2.94	3.16	3.23	3.49	3.52	3.44	3.60	3.62
Pension	0.29	0.36	0.49	0.63	0.65	0.71	1.05	1.10	1.02	1.00	0.99	1.17
Capital Expenditure (net) <i>of which</i>	3.34	3.44	3.53	1.89	2.17	2.21	2.17	2.19	1.98	1.71	2.09	4.31
Capital Outlay	2.59	1.83	1.10	0.98	1.04	1.13	1.23	1.35	1.54	1.49	1.66	3.86
Net Lending	0.50	1.03	1.61	0.79	0.97	0.87	0.49	0.70	0.29	0.07	0.29	0.22

Source (Basic Data): Finance Accounts of Uttar Pradesh and Budget Document (2001-02, 2002-03, and 2003-04) of Uttar Pradesh.

In the reorganised Uttar Pradesh, there is a clear deterioration in own tax revenue to GSDP ratio, which fell to 4.32 percent in 2001-02 after having reached to a level of 5.18 percent in 2000-01. However, there seems to be some improvement in 2002-03. The own non-tax revenue also deteriorated over the years, and it has continued to deteriorate falling from 0.75 percent of GSDP in 2001-02 to 0.57 percent in 2003-04(BE). The share in central taxes having reached a level of 4.27 percent of GSDP in 2001-02 has declined marginally since then.

Revenue expenditure during the years 2001-02 to 2003-04 remained at a little above 13 percent of GSDP having fallen from the level of 15.11 percent of GSDP in 1999-00. Interest payment accounted for about 3.5 percent of GSDP during this period, while pension is about one percent of GSDP. Capital outlay has improved during the years 2001-02 from 1.49 percent of GSDP to about 3.86 percent in 2003-04(BE). Net lending has come down over the years. The overall expenditure was about 15-16 percent in 2001-02 and 2002-03, but has been budgeted to reach a level of 17.7 percent in 2003-04.

The structural changes in the fiscal profile of UUP are summarised in Table 4.3 where a comparison is made in selected fiscal aggregates, considered relative to GSDP, in 1999-00 and two benchmark years, *viz.*, 1987-88 and 1990-91. Except for non-tax revenues, the resultant structural changes are the same in the two comparisons. Compared to 1990-91, the emergent picture indicates that:

- i. own tax revenues declined over the years but reached the same level as in 1990-91;
- ii. own non-tax revenues increased by 0.25 percentage point (although compared to 1987-88, this shows a fall of 0.14 percentage point);
- iii. central transfers fell by 1.55 percentage points;
- iv. interest payment increased by 1.43 percentage points;
- v. pensions increased by 0.79 percentage point;
- vi. capital expenditure fell by 1.31 percentage points;
- vii. revenue deficit increased by 1.92 percentage points (by 4.52 percentage points as compared to 1987-88);
- viii. fiscal deficit increased by 1.05 percentage points (3.31 with respect to 1987-88); and
- ix. outstanding debt rose by 10.29 percentage points.

**Table 4.3: Fiscal Profile of Uttar Pradesh: Summary of Structural Changes  
(During 1990-91 to 1999-00)**

	(Percentage Points With Respect to GSDP)				
	1987-88	1990-91	1999-00	1999-00 Minus	
				1987-88	1990-91
Own Tax Revenues	4.86	4.93	5.01	-0.09	0.00
Own Non-Tax Revenues	0.95	0.60	0.86	-0.14	0.25
Central Transfers	6.62	6.81	5.38	-1.57	-1.55
Interest Payment	1.69	2.02	3.49	1.71	1.43
Capital Expenditure	3.34	3.44	2.19	-1.32	-1.31
Revenue Deficit	-0.62	1.91	3.87	4.52	1.92
Fiscal Deficit	2.47	4.78	5.91	3.31	1.05
Outstanding Debt	22.43	23.99	34.71	11.17	10.29

Source (Basic Data): Finance Accounts of Uttar Pradesh and Budget Documents (2001-02) of Uttar Pradesh.

Thus, the profile of the major fiscal aggregates over 1987-88/1990-91 to 1998-99 reveals *falling* (i) own tax revenues; (ii) non-tax revenues; (iii) capital expenditures relative to GSDP, accompanied by *rising*; (iv) interest payments; (v) pensions; (vi) revenue deficit; (vii) fiscal deficit; and (viii) outstanding debt. The Eleventh Finance Commission (EFC) placed UP among the five fiscally most vulnerable NSC states.

#### 4.4 Disaggregated Analysis of Revenue Receipts

*The buoyancy of own tax revenues is less than 1. Relative to other NSC states, the tax-GSDP ratio in UP shows inadequate performance. However, with sales tax constituting the core of state taxes, there is a marked growth in revenues in the recent past, following the introduction of uniform floor rates. Services and agriculture are under-taxed.*

On the inter-state ladder of tax-GSDP ratios given by the EFC (EFC Report, p. 219), UP is the third lowest in relative ranking among the NSC states with only Orissa and Bihar constituting the tail end. The growth rates (year-wise and TGR) of main state taxes are shown in Table 4.4.

**Table 4.4: Growth Rate of Tax Revenues**

	(Percent per annum)												
	1988-89	1990-91	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	TGR
State's Own Tax revenues	3.88	29.14	18.06	12.11	15.31	10.97	13.03	18.85	16.80	-6.02	18.01	19.39	13.20
Sales Tax (Excluding CST)	13.02	25.50	21.45	15.63	18.21	11.01	15.62	19.27	8.23	2.64	14.85	17.94	14.22
Central Sales tax	29.06	27.59	18.13	-11.66	-4.49	66.97	-23.12	132.69	41.30	-16.83	-27.36	28.49	12.20
State Excise Duties	-31.55	71.70	15.42	4.89	14.18	6.14	16.18	30.34	5.28	-12.38	23.89	17.28	12.99
Taxes on Vehicles	75.74	7.72	9.71	16.10	11.22	19.39	26.83	142.36	6.05	-7.37	-38.86	48.25	14.92
Stamp Duty & Registration Fees	0.58	15.98	18.80	16.35	19.09	9.25	7.93	14.13	7.83	12.56	33.35	15.42	14.39
Other Taxes	23.70	4.08	8.35	12.75	2.48	8.28	7.78	-89.34	1215.48	-67.60	153.95	34.19	3.76

Source (Basic Data): Finance Accounts of Uttar Pradesh and Budget Documents (2001-02, 2002-03, and 2003-04) of Uttar Pradesh.

The TGR of total own tax revenues is 13.74 over 1987-88 to 1999-00. There is also considerable volatility in the year-to-year growth in almost all taxes. Sales tax TGR is higher than the average TGR by a little less than 2 percentage points. The TGRs of state excise duties and stamp duty and registration fees are also higher than the TGR of aggregate own tax revenues. The year-wise growth rates show considerable volatility.

The structure of UP's economy has a direct bearing on its tax-GSDP ratio. With the share of industry being as low as 22 percent of GSDP in 1999-00, the tax base is uncomfortably narrow for commercial taxes. On the other hand, the share of agriculture and allied activities is 35 percent and that of services is 43 percent. Both these areas have remained under-taxed in UP, as in most other states. Many agricultural commodities have enjoyed exemptions in sales tax. While the services represent a potential growth area for taxation, its utilisation for a better tax yield would depend on how services are handled for taxation by the central government and whether constitutional changes are brought about for their taxation by the states.

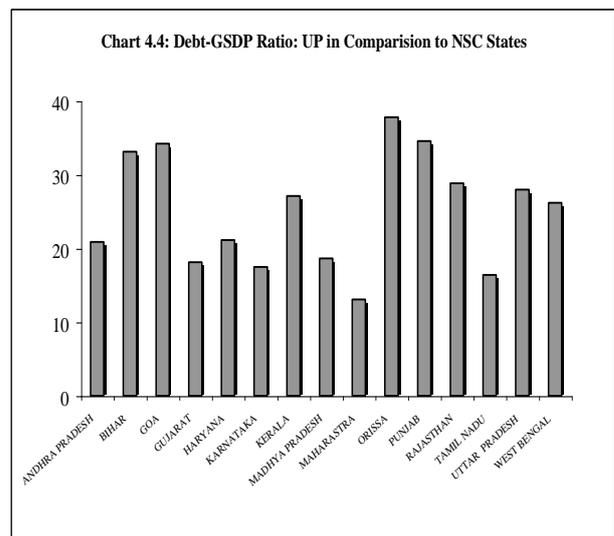
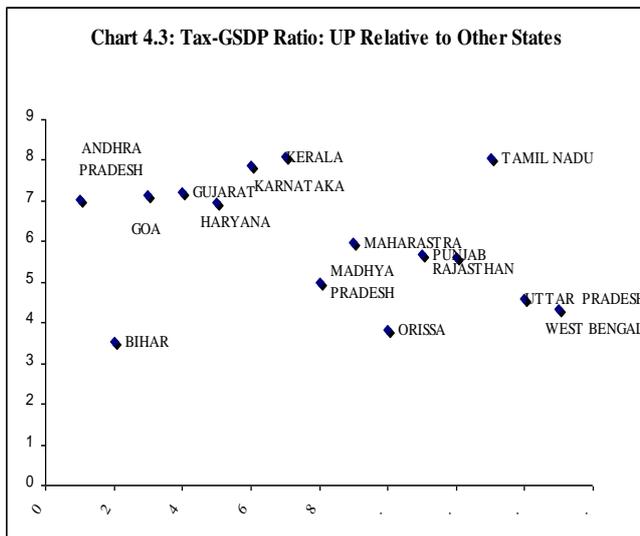


Table 4.5 gives the estimated buoyancies of major categories of tax revenues with respect to GSDP and non-agricultural GSDP. In both cases, the overall buoyancy of own tax revenues is less than unity. The buoyancy with respect to non-agriculture GSDP is lower than that with respect to aggregate GSDP. Sales tax, stamp duty and registration fees and state excise duties have buoyancies that are marginally above unity. In all other cases, the buoyancies are rather low. Unless aggregate buoyancy rises above 1, the tax-GSDP ratio would continue to fall.

**Table 4.5: Buoyancy of State Taxes**

	1987-88 to 1999-00		1990-91 to 1999-00	
	With Respect to GSDP	With Respect to Non-Agricultural GSDP	With Respect to GSDP	With Respect to Non-Agricultural GSDP
Own Tax	0.996 (41.26)	0.909 (39.87)	0.977 (35.62)	0.866 (43.72)
Sales Tax	1.094 (51.34)	1.000 (49.87)	1.089 (32.47)	0.965 (34.83)
Central Sales Tax	0.746 (5.47)	0.683 (5.46)	0.671 (2.74)	0.599 (2.77)
State Excise Duty	1.035 (11.39)	0.946 (11.32)	0.918 (13.73)	0.818 (15.91)
Stamp Duty & Registration Fees	1.055 (37.97)	0.964 (37.89)	1.078 (38.31)	0.954 (33.49)
Motor Vehicle Tax	0.975 (5.95)	0.900 (6.21)	1.243 (4.85)	1.111 (5.03)
Other Taxes	0.571 (18.40)	0.527 (18.91)	0.578 (11.20)	0.519 (18.91)

Source (Basic Data): Finance Accounts of Uttar Pradesh and Budget Documents (2001-02) of Uttar Pradesh.

Note: Figures within brackets are t-values.

The below unity buoyancies of state excise duties, motor vehicles tax and other taxes led to a shift in the relative contribution of these taxes to aggregate own tax revenues. The structure of tax revenues has shifted towards sales tax (excluding CST). There is a marginal improvement in the share of stamp duties and registration fees and taxes on vehicles. In all other cases, the relative shares have gone down. Especially noticeable is the fall in the share of state excise duties (Table 4.6). In 1999-00, sudden upward surges in central sales tax and tax on vehicles may be noted. In the reorganised Uttar Pradesh, the share of stamps and registration fees has improved as compared to 1999-00.

**Table 4.6: Structure of State's Own Tax Revenues**

	(Percent)												
	1987-88	1990-91	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	Mixed 2000-01	New Uttar Pradesh			
										2001-02	2002-03	2003-04	RE BE
<b>State's Own Tax Revenues</b>													
Sales Tax (Excluding CST)	44.22	49.35	49.96	51.53	52.83	52.84	54.05	54.24	50.27	54.89	53.42	52.78	
Central Sales tax	3.75	3.79	3.45	2.72	2.25	3.39	2.30	4.51	5.46	4.83	2.97	3.20	
State Excise Duties	24.85	22.92	22.64	21.19	20.98	20.06	20.62	22.62	20.39	19.01	19.95	19.60	
Taxes on Vehicles	2.57	2.70	2.22	2.29	2.21	2.38	2.67	5.45	4.95	4.87	2.53	3.14	
Stamp Duty & Registration Fees	12.59	11.38	12.95	13.44	13.88	13.66	13.04	12.53	11.56	13.85	15.65	15.13	
Other Taxes	12.02	9.86	8.79	8.84	7.85	7.66	7.31	0.66	7.38	2.54	5.47	6.15	
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>									

Source (Basic Data): Finance Accounts of Uttar Pradesh and Budget Documents (2001-02, 2002-03, and 2003-04) of Uttar Pradesh.

In the context of non-tax revenue, an analysis of the revenue receipts relative to current costs (revenue expenditure) in the general (other than interest payments and pensions), and social services (Tables 4.7) reveals that while there had been some improvement in this ratio in the early nineties, the effort seems to have lost steam by the middle of the decade. In fact, for all the broad services aggregates, this ratio had fallen to below 1987-88 levels and shows some signs of recovery in the year 1999-00. Even in the reorganised Uttar Pradesh, there has been a fall in the ratio of receipts to expenditure over the period 2001-02 to 2003-04.

**Table 4.7: Revenue Expenditure and Receipts from General and Social Services**

Years	General Services*			Social Services		
	Expenditure	Receipts	Ratio of Receipt to Expenditure (Percent)	Expenditure	Receipts	Ratio of Receipt to Expenditure (Percent)
1987-88	927.60	104.03	11.215	1766.48	48.12	2.724
1988-89	1144.20	158.68	13.869	2200.11	39.80	1.809
1989-90	1529.25	193.25	12.637	2905.25	89.47	3.080
1990-91	1746.55	211.62	12.116	3392.91	69.71	2.055
1991-92	2067.56	463.51	22.418	3441.38	94.43	2.744
1992-93	2474.03	605.20	24.462	4047.64	153.25	3.786
1993-94	2946.50	855.22	29.025	4053.08	64.29	1.586
1994-95	3387.06	1034.10	30.531	4681.25	81.97	1.751
1995-96	4099.81	1318.69	32.165	5499.08	101.56	1.847
1996-97	3363.99	193.69	5.758	6374.19	142.54	2.236
1997-98	4056.87	191.74	4.726	7501.42	166.03	2.213
1998-99	4194.84	333.43	7.949	8882.30	221.77	2.497
1999-00	4843.70	333.37	6.883	8677.02	297.13	3.424
2000-01	5539.69	261.72	4.724	9217.96	325.63	3.533
2001-02	5553.69	333.60	6.007	9336.59	283.24	3.034
2002-03 RE	5885.53	393.72	6.690	11010.48	342.66	3.112
2003-04 BE	6807.06	397.53	5.840	11645.03	252.61	2.169

Note: \* Excluding Interest Payments (2049) and Pension & Other Retirement Benefits (2071). These two together have increased from Rs. 814 crore in 1987-88 to Rs. 12371 crore in 2002-03.

It is thus clear that not only a significant portion of current costs remains unrecovered but also the relevant percentage of recovery has steadily come down over the years, pointing out to the differential dynamics of growth of expenditures vis-à-vis non-tax revenues.

#### 4.5 Trends in Revenue Expenditures

*Interest payments and pensions are growing much faster than GSDP and revenues. The share of economic services in total revenue expenditure has fallen by more than 10 percentage points during the nineties; and that of social services, by a little more than 2 percentage points.*

The structure of revenue expenditures has undergone a significant change during 1987-88 to 1999-00. As per the TGR estimated over this period (Table 4.8), interest payments grew by about 21 percent per annum, while pension payments grew by about 26 percent per annum on an average. Revenue expenditure on education grew by 14 percent, while that on medical and public health grew by about 12 percent per annum. Expenditure on economic services grew at a TGR of about 11 percent. The growth in expenditure was thus dominated by the growth in interest payments and pensions. This is clearly brought out by the changes in the structure of revenue expenditure indicated in Table 4.9. The share of interest payment in total revenue expenditure increased from about 14.2 percent in 1990-91 to more than 23 percent in 1999-00, and that of pensions increased from 2.52 percent to more than 7 percent, during the same period. Correspondingly, the shares of social services and economic services have both gone down, the latter by a much larger margin of about 10 percentage points. In the reorganised Uttar Pradesh, the share of general services in total expenditure has increased from 50.9 percent in 2001-02 to 52.47 percent in 2003-04. Interest payment and pensions still continue to be the dominant factors. Social services account for about 29-30 percent and economic services account for about 16-17 percent.

However, as shown in Chart 4.3, the ratio of interest payment to revenue deficit in UP is lower than that of a number of the NSC states. Chart 4.4 shows plan expenditure as percentage of plan outlay for UP relative to other NSC states. UP's performance is shown to be worse than states like Andhra Pradesh, Tamil Nadu, West Bengal and Kerala but better than most of the other NSC states.

**Table 4.8: Growth Profile of Revenue Expenditure:  
A Disaggregated Analysis**

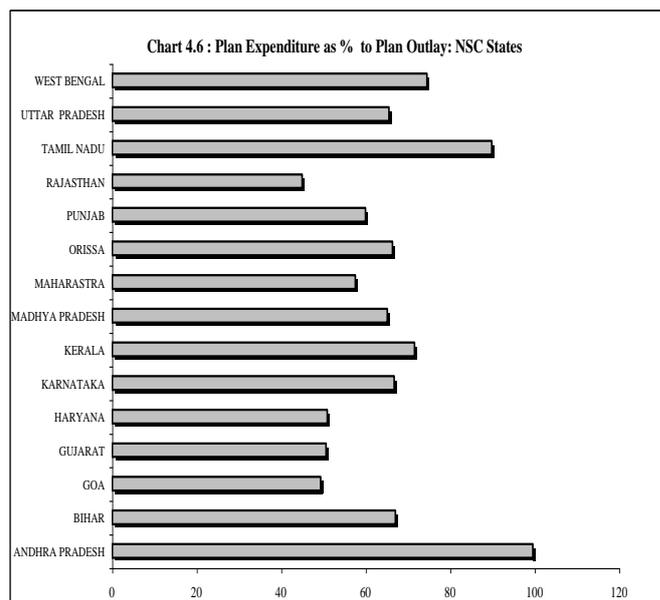
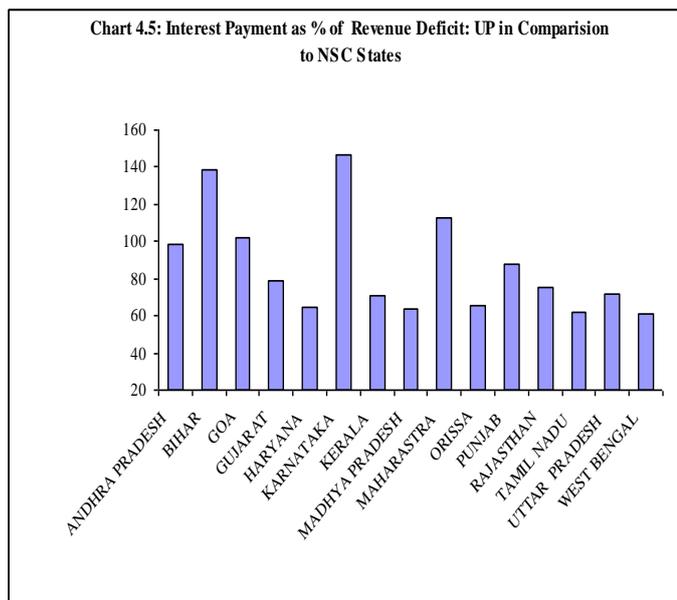
	(Percent per annum)	
	<b>Trend Growth Rates</b>	
	<b>1987-88 to 1999-00</b>	<b>1987-88 to 2002-03</b>
<b>General Services</b>	<b>18.64</b>	<b>17.05</b>
Interest Payment	20.68	18.95
Pension	26.27	24.14
Others	14.98	13.27
<b>Social Services</b>	<b>13.66</b>	<b>11.92</b>
Education	14.41	12.22
Medical & Public Health	11.70	10.37
Family Welfare	8.17	8.12
Water Supply & Sanitation	11.06	10.68
Other Social Services	14.75	13.40
<b>Economic Services</b>	<b>10.65</b>	<b>9.53</b>
Irrigation	10.98	8.64
Roads and Bridges	10.54	10.66
Others	10.39	9.60
<b>C. &amp; A. to Local Bodies</b>	<b>29.34</b>	<b>25.38</b>
<b>Total Expenditure</b>	<b>15.19</b>	<b>13.79</b>

Source (Basic Data): Finance Accounts of Uttar Pradesh and Budget Document (2001-02, 2002-03, and 2003-04) of Uttar Pradesh.

**Table 4.9: Changing Structure of Revenue Expenditure of Uttar Pradesh**

Uttar Pradesh	(Percent)												
	1987-88	1990-91	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	Mixed	New Uttar Pradesh			
										2000-01	2001-02	2002-03 RE	2003-04 BE
<b>General Services</b>	<b>34.94</b>	<b>34.22</b>	<b>42.76</b>	<b>46.06</b>	<b>44.07</b>	<b>44.86</b>	<b>44.73</b>	<b>47.46</b>	<b>48.85</b>	<b>50.87</b>	<b>49.75</b>	<b>52.47</b>	
Interest Payment	14.34	14.20	21.59	19.71	21.51	21.47	21.46	23.11	24.02	25.87	26.46	27.00	
Pension	2.48	2.52	3.48	4.29	4.74	4.82	6.95	7.27	6.97	7.53	7.25	8.77	
Others	18.12	17.50	17.69	22.07	17.82	18.57	16.32	17.08	17.85	17.48	16.04	16.70	
<b>Social Services</b>	<b>36.51</b>	<b>37.09</b>	<b>32.72</b>	<b>32.60</b>	<b>33.76</b>	<b>34.34</b>	<b>34.56</b>	<b>30.60</b>	<b>29.70</b>	<b>29.38</b>	<b>30.00</b>	<b>28.57</b>	
Education	19.78	22.99	20.04	20.05	20.52	19.21	22.30	20.15	19.72	19.01	17.10	16.01	
Medical & Public Health	5.85	5.16	4.54	4.67	4.57	5.03	3.96	3.72	3.68	3.44	4.06	3.87	
Family Welfare	2.16	1.63	1.73	1.29	1.55	1.48	0.84	0.76	0.86	0.83	1.08	1.26	
Water Supply & Sanitation	2.22	2.22	1.58	1.52	1.59	2.42	1.54	1.10	0.97	1.53	1.41	1.89	
Other Social Services	6.50	5.08	4.83	5.06	5.54	6.20	5.92	4.87	4.47	4.57	6.35	5.54	
<b>Economic Services</b>	<b>27.35</b>	<b>27.52</b>	<b>22.85</b>	<b>19.71</b>	<b>20.59</b>	<b>17.97</b>	<b>17.31</b>	<b>18.90</b>	<b>17.96</b>	<b>16.83</b>	<b>17.09</b>	<b>15.59</b>	
Irrigation	6.05	4.78	6.43	5.96	5.86	4.79	4.11	2.72	4.32	4.21	3.00	2.57	
Roads and Bridges	2.10	2.14	1.89	1.57	1.56	1.41	1.23	1.53	1.70	1.69	1.59	1.33	
Others	19.21	20.60	14.54	12.18	13.18	11.77	11.97	14.64	11.94	10.94	12.51	11.69	
<b>C. &amp; A. to Local Bodies</b>	<b>1.20</b>	<b>1.16</b>	<b>1.66</b>	<b>1.62</b>	<b>1.58</b>	<b>2.83</b>	<b>3.40</b>	<b>3.04</b>	<b>3.50</b>	<b>2.92</b>	<b>3.16</b>	<b>3.37</b>	
<b>Total Expenditure</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>										

Source (Basic Data): Finance Accounts of Uttar Pradesh and Budget Documents (2001-02, 2002-03, and 2003-04) of Uttar Pradesh.



#### 4.6 Capital Expenditures: Steady Fall

*The burden of adjustment of falling revenue receipts fell significantly on capital expenditures, which have steadily declined relative to GSDP. Most of this decline was in capital outlay.*

Capital expenditure as percent of GSDP declined from 3.43 to 2.19 over the period 1987-88 to 1999-00. Most of this decline was in capital outlay that fell from 2.72 percent of GSDP in 1987-88 to 1.35 percent in 1999-00 (Table 4.2). Table 4.10 shows year-wise growth rates for different components of capital expenditure indicating considerable volatility.

**Table 4.10: Growth of Capital Expenditure: Component-Wise Profile**

	1988-89	1990-91	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	(Percent per annum)				
									Mixed		New Uttar Pradesh		
									2000-01	2001-02	2002-03	2003-04	RE
Capital Outlay	-12.01	21.16	18.02	0.82	27.10	16.18	25.74	20.81	13.25	13.32	25.73	162.59	
Loans and Advances	43.43	99.26	109.40	-57.20	47.56	2.81	-0.62	-1.63	21.76	4.72	122.73	17.94	
Repayment of Loans & Advances	-21.33	104.56	-21.26	-17.73	-31.33	76.57	259.82	-70.80	31.67	11.40	33.78	71.33	
Capital Expenditure (Net of Rep.)	0.43	48.22	68.77	-39.16	37.02	9.20	12.79	11.09	1.88	-2.49	38.23	132.54	
Total Capital Expenditure	-6.85	67.76	22.91	-32.17	9.97	25.85	98.45	-40.40	15.51	42.41	36.37	107.39	

Source (Basic Data): Finance Accounts of Uttar Pradesh and Budget Documents (2001-02, 2002-03, and 2003-04) of Uttar Pradesh.

Table 4.11 shows changes in the composition of capital expenditure and highlights the fall in the share of capital outlay which declined from about 51.62 percent of total capital expenditure in 1987-88 to 42.67 percent in 1999-00. On the other hand, the repayments

continued to accelerate claiming an increasing share of total capital expenditures and peaking in 1998-99 with a share of 63 percent in capital expenditure.

**Table 4.11: Composition of Capital Expenditure**

	(Percent)											
	1987-88	1990-91	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	Mixed 2000-01	New Uttar Pradesh		
										2001-02	2002-03 RE	2003-04 BE
Capital Outlay	51.62	30.82	20.95	31.14	35.99	33.22	21.05	42.67	54.53	50.62	46.67	59.09
Loans and Advances	14.92	26.88	46.42	29.29	39.30	32.10	16.08	26.54	15.33	7.49	12.24	6.96
Repayment of Loans & Advances <i>of which</i>	33.46	42.30	32.63	39.58	24.72	34.68	62.87	30.80	30.15	41.89	41.09	33.95
Central Loans	17.95	11.74	11.11	17.73	18.81	17.42	10.04	18.90	21.36	20.40	28.74	27.66
Internal Debt	15.51	30.55	21.52	21.84	5.91	17.26	52.84	11.90	8.79	21.49	12.35	6.29
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>									

Source (Basic Data): Finance Accounts of Uttar Pradesh and Budget Documents (2001-02, 2002-03, and 2003-04) of Uttar Pradesh.

#### 4.7 Fiscal Profile: Some Inter-State Comparisons

*The revenue receipts of the state governments as percentage of GSDP declined for all the states irrespective of their income level during the second half of the nineties. However, there was no concomitant decline in the revenue expenditure to GSDP ratio of all the states, except for Maharashtra. Thus, most of the state governments having failed to contain the revenue expenditure, tried to contain fiscal deficit through a cut in capital expenditure - the main discretionary component of government expenditure.*

It can be seen from Table 4.12, the revenue receipts of the state governments as a percentage of GSDP declined for all the states irrespective of their income level during the second half of the 1990s. Even though Uttar Pradesh maintained the ratio at more or less at the same level of little more than 13 percent of GSDP, it declined steadily from 13.15 percent in 1995-96 to 10.18 percent in 1998-99. However, it increased to 11.46 percent in 1999-00. In case of Madhya Pradesh, this ratio declined from 14.27 percent of GSDP to 13.24 percent in 1995-96 and after that though it showed a marginal improvement, the ratio still remained below that of 1987-88 level. Unlike focus states, the revenue receipts to GSDP ratio of Tamil Nadu increased till 1993-94 and reached to more than 14 percent, but declined there after to a level of 11.98 percent in 1998-99. In Maharashtra, it declined steadily from 14.21 percent in 1987-88 to 10.52 percent in 1999-00. In Orissa this ratio declined from 16.34 percent in 1987-88 to 13.17 percent in 1998-99 and in the year 1999-00, it increased to 15.48 percent. In Bihar, it declined from 15.97 percent in 1987-88 to 14.79 percent in 1999-00.

**Table 4.12: Comparison of Fiscal Profile of States: 1987-88 and 1999-00**

(As Percent to GSDP)

	1987-88	1990-91	1995-96	1996-97	1997-98	1998-99	1999-00
<b>Focus States</b>							
<b>Uttar Pradesh</b>							
Revenue Receipts	13.15	13.32	13.15	11.60	11.86	10.18	11.46
Revenue Expenditure	13.15	15.28	15.17	13.91	14.98	15.27	15.32
Capital Expenditure	3.28	2.95	1.76	2.01	1.99	1.72	2.05
Revenue Deficit	-0.65	1.97	2.02	2.30	3.12	5.09	3.87
Fiscal Deficit	2.62	4.92	3.78	4.31	5.11	6.81	5.91
<b>Madhya Pradesh</b>							
Revenue Receipts	14.27	12.91	13.24	13.38	13.85	12.48	13.29
Revenue Expenditure	14.31	13.48	13.97	15.31	14.42	15.64	16.25
Capital Expenditure	3.37	2.33	1.77	0.64	1.66	1.38	0.99
Revenue Deficit	0.04	0.57	0.73	1.93	0.58	3.16	2.95
Fiscal Deficit	3.41	2.90	2.50	2.57	2.24	4.54	3.94
<b>Benchmark States</b>							
<b>Tamil Nadu</b>							
Revenue Receipts	13.18	14.32	13.50	13.37	13.11	11.98	12.42
Revenue Expenditure	14.38	15.88	13.90	14.60	14.42	14.86	15.77
Capital Expenditure	1.61	1.61	1.20	1.50	0.73	1.13	0.75
Revenue Deficit	1.21	1.56	0.40	1.23	1.32	2.89	3.35
Fiscal Deficit	2.81	3.17	1.60	2.73	2.05	4.01	4.09
<b>Maharashtra</b>							
Revenue Receipts	14.21	12.98	10.49	10.93	10.51	10.41	10.52
Revenue Expenditure	14.02	13.07	10.88	11.83	11.84	12.29	12.30
Capital Expenditure	2.77	2.32	2.24	1.91	2.00	1.69	1.57
Revenue Deficit	-0.19	0.08	0.39	0.90	1.33	1.88	1.78
Fiscal Deficit	2.58	2.40	2.63	2.81	3.33	3.57	4.96
<b>Orissa</b>							
Revenue Receipts	16.34	18.58	14.64	16.49	14.62	13.17	15.48
Revenue Expenditure	17.25	18.74	17.68	19.68	17.48	19.71	22.25
Capital Expenditure	5.28	5.11	2.22	3.71	2.84	3.34	3.08
Revenue Deficit	0.91	0.17	3.04	3.19	2.86	6.54	6.77
Fiscal Deficit	6.19	5.27	5.25	6.90	5.69	9.88	9.86
<b>Bihar</b>							
Revenue Receipts	15.97	14.86	16.54	15.65	15.66	14.03	14.79
Revenue Expenditure	16.07	17.55	18.39	16.81	17.40	17.45	19.92
Capital Expenditure	4.18	3.20	1.08	1.36	1.96	2.10	3.18
Revenue Deficit	0.10	2.69	1.85	1.15	1.74	3.42	5.14
Fiscal Deficit	4.29	5.89	2.93	2.51	3.70	5.52	8.32

Though the revenue receipts to GSDP ratio declined, there was no concomitant decline in the revenue expenditure to GSDP ratio of all the states, except for Maharashtra. In Maharashtra, it declined from 14.02 percent of GSDP in 1987-88 to 11.8 percent in 1997-98, in the succeeding two years, it had shown marginal increase relative to GSDP. In Orissa and Bihar, the increase in the revenue expenditure to GSDP ratio was the sharpest from 17.25 to 22.25 percent and 16.07 to 19.92 percent respectively during this period (see Table 4.1). Failure to contain the revenue expenditure growth contributed to the widening of the gap between revenue receipts and revenue expenditure. However, in the context of fiscal reform,

like the central government, states are also under pressure to follow fiscal reform especially controlling of fiscal deficit to achieve a sustainable deficit regime. Thus, most of the state governments having failed to contain the revenue expenditure, tried to contain fiscal deficit through a cut in capital expenditure-the main discretionary component of government expenditure.

In Uttar Pradesh, the capital expenditure as a percentage of GSDP declined from 3.28 percent in 1987-88 to 2.05 percent in 1999-00. In Madhya Pradesh it declined from 3.37 percent to as low as 0.99 percent during this period. In case of Tamil Nadu and Maharashtra also the ratio declined sharply from a low level of 1.61 to .75 percent and 2.77 to 1.57 percent respectively during this period. In case of Orissa the decline was from 5.28 to 3.08 percent and in case of Bihar the decline was from 4.18 to 3.18 percent. The inter-temporal movement of receipts and expenditure contributed to the emergence of a fiscal situation where revenue deficit has widened very fast and cut in capital expenditure, though tried to contain the fiscal deficit has failed to do so in last half of 1990s because of the widening of revenue deficits, which is the single largest component of fiscal deficit.

The share of revenue deficits in total fiscal deficits for all the states. It is evident from the chart that except for Maharashtra and Madhya Pradesh, the share of revenue deficit had shown more or less an increasing trend for all the states. From a revenue surplus situation in selected years, in the late 1980s in Uttar Pradesh, Madhya Pradesh Maharashtra and Bihar, the revenue deficit as a percentage of fiscal deficit increased leaving limited borrowed resources available for capital expenditure. As borrowed resources were being used for revenue expenditure purposes which was not productive in commercial sense capable of giving financial return, it added further strain on state finances by increasing the interest payment. Thus, a sort of vicious circle had set in motion where large scale resources were diverted to finance the revenue deficit which in turn increased the fiscal deficit further by increasing the burden of interest payment.

#### **4.8 Plan Expenditure: High Revenue Intensity**

*High revenue intensity in plan expenditures of over 65 percent indicates that plan schemes have relatively large salary expenditure. At the same time, the share of plan revenue expenditure has been falling in total revenue expenditure.*

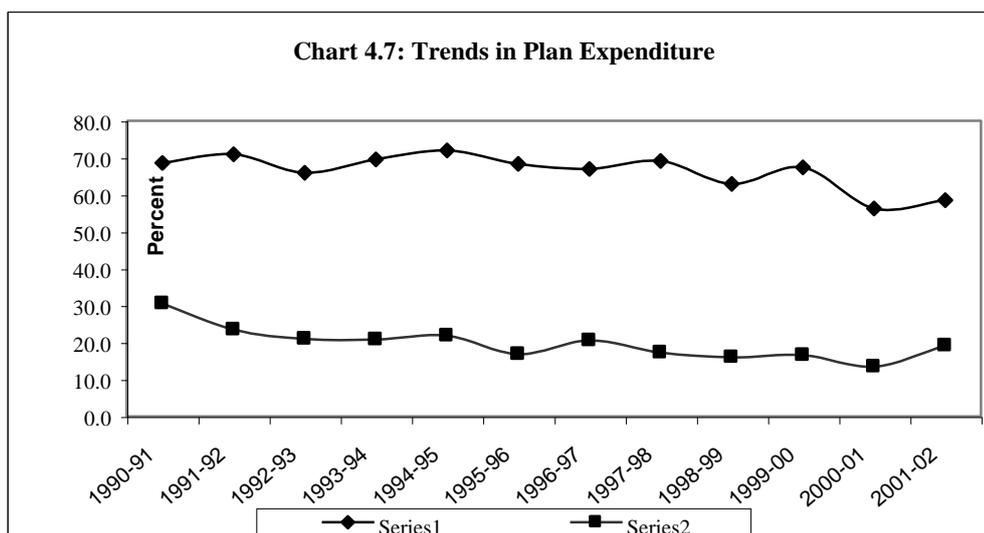
Trends in plan expenditure point out to two disturbing features: (i) high and unacceptable revenue intensity, and (ii) falling plan revenue expenditure as proportion of non-plan revenue expenditure (Chart 4.5). Table 4.13 provides a profile of plan and non-plan revenue expenditures, as also plan capital outlay. The ratio of plan revenue expenditure to total plan has also been indicated for the decade of the nineties. This ratio has been in the range of 62 to 72 percent. It may be recalled that the desirable ratio is only 30 percent in relation to which the grant–loan proportions of plan assistance were determined in the Gadgil Formula. This high revenue-intensity only reflects the relatively large salary expenditures in the plan schemes. The TGR of plan revenue expenditure for the period 1990-91 to 1999-00 was 9.19 percent whereas that for non-plan revenue expenditure was 14.40 percent. It is because of the much higher growth of the latter, that the ratio of plan to non-plan revenue expenditure fell from 30.54 percent in 1990-91 to about 16 percent in 1998-99. In 1999-00, there was an improvement in this ratio, but it is still nearly 10 percentage points below that in 1990-91.

**Table 4.13: Trends in Plan Expenditure in Uttar Pradesh**

(Rs. crore)						
Years	Plan Revenue Expenditure	Non-Plan Revenue Expenditure	Plan Capital Outlay	Total Plan Col. (2+4)	Plan Revenue Expenditure as % of Total Plan	Plan Revenue Expenditure to Non-Plan Revenue (%)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1990-91	2267.03	7421.17	1035.65	3302.68	68.64	30.55
1991-92	1977.02	8422.18	809.67	2786.69	70.94	23.47
1992-93	2196.80	10493.94	1133.88	3330.68	65.96	20.93
1993-94	2285.72	10994.41	1000.44	3286.16	69.56	20.79
1994-95	2763.54	12660.12	1074.69	3838.23	72.00	21.83
1995-96	2524.44	15031.42	1168.39	3692.83	68.36	16.79
1996-97	3267.94	15939.76	1614.48	4882.42	66.93	20.50
1997-98	3262.62	18932.41	1455.64	4718.26	69.15	17.23
1998-99	3589.80	22485.05	2118.59	5708.39	62.89	15.97
1999-00	4090.39	24657.34	1976.44	6066.83	67.42	16.59
2000-01	3686.01	27346.60	2862.28	6548.29	56.29	13.48
2001-02 RE	5701.57	29761.15	4042.36	9743.93	58.51	19.16
2002-03 BE	4759.22	31887.24	3717.69	8476.91	56.14	14.93
TGR (90-02)	<b>8.418</b>	<b>13.692</b>	<b>13.105</b>			

Source: RBI Bulletin on State Finances (various issues).

In the reorganised Uttar Pradesh, the ratio of plan revenue expenditure declined from 58.5 percent in 2001-02 to 56.1 percent in 2002-03 while the ratio of plan revenue expenditure to non-plan revenue rose to 19.16 percent in 2001-02 and is budgeted to be 14.93 percent in 2002-03.



Series 1: Revenue Plan Expenditure as % of Total Plan Expenditure  
 Series 2: Plan Revenue Expenditure as % of Revenue Non-Plan Expenditure

#### 4.9 Debt and Contingent Liabilities

*Borrowing at ever-increasing costs, and using most of it for current expenditures, led to high and unsustainable debt for UUP.*

The cost of borrowing has steadily increased for the state. Table 4.14 shows that the effective interest rate, calculated as the ratio of interest payment in a financial year to outstanding debt at the beginning of the year, rose from 8.61 percent in 1987-88 to 13.48 percent in 1999-00. The sharp increases in the interest rates in 1996-97 and 1997-98, when the average cost of borrowing had become 14.05 percent and 15.69 percent, are especially notable.

**Table 4.14: Effective Rate of Interest According to Components of Debt**

	(Percent)							
	1987-88	1990-91	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00
Internal Debt of the State Government	11.83	9.20	15.95	11.03	14.50	14.84	13.86	12.50
Market Borrowing	8.20	9.78	17.62	11.05	14.05	15.69	13.10	12.76
Loans & Advances from the Central Government	7.28	8.92	11.06	11.43	11.73	10.07	12.25	12.43
Small Savings, Provident Funds, etc.	10.47	11.99	11.17	11.18	11.55	20.44	12.48	11.35
<b>Total</b>	<b>8.61</b>	<b>10.14</b>	<b>13.40</b>	<b>12.52</b>	<b>13.55</b>	<b>13.54</b>	<b>13.79</b>	<b>13.48</b>

Source (Basic Data): Finance Accounts of Uttar Pradesh and Budget Documents (2001-02) of Uttar Pradesh.

A double damage to state finances was caused due to high cost borrowing and using it mostly for current expenditures. A growing proportion of fiscal deficit has been used for financing revenue deficit (as shown in Table 4.1), and correspondingly, a lower and lower proportion of borrowed resources became available for capital outlay and lending. The changing composition of fiscal deficit is shown in Table 4.15.

**Table 4.15: Composition of Fiscal Deficit: 1987-88 to 2003-04**

Years	(Percent)		
	Capital Outlay	Net Lending	Revenue Deficit
1987-88	104.74	20.12	-24.86
1988-89	51.83	14.62	33.55
1989-90	39.16	19.31	41.53
1990-91	38.39	21.57	40.04
1991-92	25.16	49.29	25.54
1992-93	34.23	38.43	27.34
1993-94	29.98	33.73	36.29
1994-95	23.50	34.48	42.02
1995-96	25.78	20.79	53.43
1996-97	24.10	22.53	53.38
1997-98	22.01	16.95	61.03
1998-99	18.03	7.22	74.76
1999-00	22.83	11.83	65.35
2000-01	32.10	6.12	61.78
2001-02	35.92	1.62	62.45
2002-03 RE	33.57	5.88	60.55
2003-04 BE	59.28	3.43	37.30

Source (Basic Data): Finance Accounts of Uttar Pradesh and Budget Documents (2001-02, 2002-03, and 2003-04) of Uttar Pradesh.

We have noted in Table 4.2 that the debt-GSDP ratio of UUP rose from 22.43 percent in 1987-88 to 34.71 percent in 1999-00. UUP had the fifth highest debt-GSDP ratio among the NSC states after Orissa (37.79 percent), Punjab (34.58 percent), Goa (34.21 percent), and Bihar (33.14 percent) at the end of 1998-99 as per the EFC report (also see, Chart 4.2). The change in the structure of public debt in UP shows a movement towards higher cost sources away from borrowing from the central government and increasing dependence on market borrowing and small savings and provident funds. The structure of liabilities as highlighted in Table 4.16 shows a shift towards high cost market borrowing. The recent weakening of interest rate would help in easing out this burden, if high cost debt could be swapped with new borrowing at a lower rate. In the Union Budget of 2002-03, it has been proposed that 100 percent of small savings, now bearing a lower rate would be passed on to the states, and they can use the additional 20 percent to retire old debt.

**Table 4.16: Structure of Outstanding Debt of Uttar Pradesh**

	(Percent)											
	1987- 88	1990- 91	1994- 95	1995- 96	1996- 97	1997- 98	1998- 99	1999- 00	Mixed 2000- 01	New Uttar Pradesh		
										2001- 02	2002- 03 RE	2003- 04 BE
Internal Debt of the State Government	20.37	22.47	22.18	22.00	23.40	22.49	23.95	26.78	29.65	32.63	36.31	45.81
Market Borrowing	17.42	18.59	20.77	21.51	21.60	21.55	21.47	19.10	18.40	18.77	19.77	20.18
Ways & Means Advances	0.00	1.89	1.23	0.37	1.25	0.00	1.17	0.00	0.00	0.00	0.00	0.00
Others	2.84	1.94	0.15	0.10	0.52	0.92	1.29	7.68	11.24	13.86	16.54	25.63
Loans & Advances from the Central Government	69.44	65.02	64.35	64.10	62.74	62.61	61.15	47.48	42.40	38.76	35.24	29.37
Small Savings, Provident Funds, etc.	10.19	12.50	13.47	13.90	13.86	14.90	14.90	25.74	27.95	28.61	28.45	24.82
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>								

Source (Basic Data): Finance Accounts of Uttar Pradesh and Budget Documents (2001-02, 2002-03, and 2003-04) of Uttar Pradesh.

#### 4.10 Conclusion

A detailed analysis of the fiscal profile of the Government of Uttar Pradesh paints a gloomy note of fiscal emergency that has gripped the State during the 1990s. The rapid growth of interest payment and other committed liabilities reduced the availability of resources for the necessary expenditure required to be undertaken at the State level on social and economic services. In fact, the how the emerging fiscal constraints in terms of reduction in expenditure for essential public expenditure purposes impacted on the provision of allocation on social and economic services, especially those expenditure which has anti poverty bias will be analysed in the next chapter.

## **Chapter 5: INTER-DISTRICT POVERTY IN UTTAR PRADESH**

### **5.1 Introduction**

In this chapter inter-district poverty in Uttar Pradesh is presented. This chapter is organised into three sections. In Section 2 the number of district in Uttar Pradesh prior to bifurcation of state and after the bifurcation is examined. Section 3 discusses some of the results brought out by the survey of below poverty line in 1997-98. Section 4 brings out some observations on the BPL methodology. Section 5 summarises the observations.

### **5.2 Districts in the Reorganised Uttar Pradesh and Uttaranchal**

*The undivided Uttar Pradesh had 68 districts divided into five main regions. After the bifurcation the new Uttar Pradesh has 70 districts divided into four main regions, viz., Bundelkhand, Eastern, Central and Western.*

As per the 2001 census, Uttar Pradesh is the largest state, in terms of population (16.605 crore). The undivided Uttar Pradesh had 68 districts divided into five main regions: Hill, Western, Central, Eastern, and Bundelkhand. Eight districts of Almora, Chamoli, Dehradun, Haridwar, Nainital, Pithoragarh, Tehri Garhwal, and Uttar Kashi were carved out to form Uttaranchal. Uttar Pradesh has 70 districts (Table 5.1). As per the 1991 census, Uttar Pradesh had more than 2 crore households, nearly 75 percent of which are urban.

### **5.3 Survey of Below Poverty Line Households**

*Households having annual income of less than Rs. 19800 were identified as the BPL households. In Uttar Pradesh there are 75 lakh families identified as BPL households. The state as a whole accounts for 37 percent of poor families below poverty line in rural areas. There are pockets even in the western region where poverty levels are high. In rural poverty marginal farmers accounted for the highest share followed by agricultural labourers, small farmers and rural artisans.*

The Department of Rural Development, Government of India, carried out a survey of below poverty line (BPL) households in 1997-98. The survey was carried out in two stages. In the first stage, the BPL households were identified on the basis of form A which was used to exclude all households having specified assets or income as belonging to above poverty line (ABL) category. The list of assets included items like television, fans, refrigerator, etc.

**Table 5.1: Districts in Reorganised Uttar Pradesh and Uttaranchal**

<b>Bundelkhand</b>	<b>Eastern</b>	<b>Central</b>	<b>Western</b>
Banda	Allahabad	Hardoi	<b>Auraiya</b>
Chitrakut	<b>Ambedkar Nagar</b>	Barabanki	Agra
Hamirpur	Azamgarh	Fatehpur	Aligarh
Jalaun	Bahraich	Kanpur Dehat	Badaun
Jhansi	Ballia	Kanpur Nagar	<b>Bagpat</b>
Lalitpur	<b>Balrampur</b>	<b>Lakhimpur Kheri</b>	Bareilly
<b>Mahoba</b>	Basti	Lucknow	Bijnor
	<b>Chandauli</b>	Rae Bareilly	Bulandshahr
	Deoria	Sitapur	Etah
	Faizabad	Unnao	Etawah
	Ghazipur		Farrukhabad
	Gonda		Firozabad
	Gorakhpur		Gautam Budh Nagar
	Jaunpur		Ghaziabad
	<b>Kaushambi</b>		<b>Hathras</b>
	<b>Kushinagar</b>		<b>Jyotiba Phule Nagar</b>
	Maharajganj		<b>Kanauj</b>
	Maunath Bhanjan		Mainpuri
	Mirzapur		Mathura
	Pratapgarh		Meerut
	<b>Sant Kabir Nagar</b>		Moradabad
	<b>Sant Ravidas Nagar</b>		Muzaffarnagar
	<b>Shravasti</b>		Pilibhit
	Sidhartha Nagar		Rampur
	Sonbhadra		Saharanpur
	Sultanpur		Shahjahanpur
	Varanasi		
<hr/>			
<b>Uttaranchal</b>			
<b>Kumayun</b>	<b>Garhwal</b>	<b>Plains</b>	
Almora	Chamoli	Haridwar	
<b>Bageshwar</b>	Dehradun	<b>Udham Singh Nagar</b>	
<b>Champawat</b>	<b>Pauri</b>		
Nainital	<b>Rudra Prayag</b>		
Pithoragarh	Tehri Garhwal		
Uttarkashi			

The asset/income screening for *a priori* exclusion in Part A required gathering information on the following benchmarks:

- i. pucca house (as defined in population census)
- ii. income exceeding Rs. 20,000 per annum
- iii. consumer durables (TV, refrigerator, ceiling fans, motorcycle/scooter, three wheeler)
- iv. farm implements (tractor, power tiller, combined thresher harvester)
- v. whether operating more than 2 hectares of land

A positive answer to any of these led to *a priori* exclusion of the household for Part B survey from which eventually the BPL households were identified.

The rural poverty threshold was defined at Rs. 19800 for 1997-98. Those families which cleared form A, i.e., which did not possess any of the identified assets were surveyed on a door to door basis using form B. From among those surveyed at this stage, households having annual income of less than Rs. 19800 were identified as the BPL households.

In Uttar Pradesh 36.5 households were identified as BPL households covering 75 lakh families when Uttaranchal is included and about 72 lakh families when Uttaranchal is excluded. Table 5.2 gives main results of the BPL survey for 1997-98. Total number of rural families is 193.97 lakh of which 71.65 lakh are identified as below poverty line. 44 percent of these belong to scheduled castes, 49 percent were marginal farmers, and 41 percent belonged to the category of agricultural labourer.

**Table 5.2: Results of Below Poverty Line Survey at a Glance 1998-99**

<b>State: Uttar Pradesh = 70 Districts (Plain Areas)</b>			
1.	Number of Rural Families	19397067	
2.	Number of Rural Families Below Poverty Line	7164992	
3.	Percentage of Families Below Poverty Line	36.94%	
<b>Out of Total Below Poverty Line Families</b>			
4.	SC	3134925	44%
5.	ST	8593	
6.	Women Headed Families	446183	
7.	Physically Handicapped	80447	
8.	Small Farmer	950830	13%
9.	Marginal Farmer	3528597	49%
10.	Rural Artisans	580507	8%
11.	Agriculture Labour	2923576	41%

Table 5.3 presents the district-wise incidence of rural poverty (head-count ratio) in Uttar Pradesh. Data are based on the BPL survey carried out by the Ministry of Rural Development, Government of India. The year of reference is 1997-98. The State is bifurcated into 4 zones, viz., East, West, Central and Bundelkhand. Rural poverty varies from 6 to 57 percent among the districts. Poverty levels are high (55-57 percent) in five Districts viz., Bahraich, Hardoi, Lakhimpur Kheri, Sonbhadra and Unnao, while in five districts viz., Bulandshahar, Aligarh, Ghaziabad, Meerut and Baghpat poverty levels are the lowest (6-10

percent) and these belonged to the Western part of Uttar Pradesh. The state as whole accounts for 37 percent of poor families below poverty line in rural areas. Generally, rural poverty is low in the Western region. The East, Central and Bundelkhand regions are more poverty stricken. There are pockets in the East (Varanasi, Deoria, Allahabad, Gorakhpur, Jaunpur, Chandauli) where poverty levels are low compared to other regions. Similarly there are districts in Bundelkhand (Lalitpur and Mahoba) and Central (Fatehpur) where poverty levels is comparatively low. Even in the West region some districts like Auraiya, Etawah, Shahjahanpur, Mainpuri where poverty levels are high.

**Table 5.3: Rural Poverty in Uttar Pradesh: District-Wise Head Count Ratios  
Arranged in Descending Order**

Districts			No. of Rural Farmer Below Poverty Line (Percent)	Districts			No. of Rural Farmer Below Poverty Line (Percent)
1.	Bahraich	East	56.91	36.	Banda	Bundelkhand	36.43
2.	Hardoi	Central	56.35	37.	Ghazipur	East	36.24
3.	Lakhimpur Kheri	Central	55.96	38.	Chandauli	East	34.70
4.	Sonbhadra	East	54.66	39.	Jaunpur	East	34.62
5.	Unnao	Central	54.63	40.	Gorakhpur	East	34.30
6.	Kaushambi	East	53.55	41.	Allahabad	East	34.25
7.	Shravasti	East	53.33	42.	Deoria	East	33.56
8.	Rae Bareilly	Central	52.43	43.	Lalitpur	Bundelkhand	33.24
9.	Pratapgarh	East	50.47	44.	Farrukhabad	West	33.23
10.	Ambedkar Nagar	East	50.01	45.	Badaun	West	33.05
11.	Sant Kabir Nagar	East	49.75	46.	Varanasi	East	32.83
12.	Sitapur	Central	49.53	47.	Fatehpur	Central	31.73
13.	Gonda	East	48.00	48.	Jhansi	Bundelkhand	30.72
14.	Auraiya	West	47.96	49.	Balrampur	East	29.96
15.	Faizabad	East	47.75	50.	Maharajganj	East	28.61
16.	Barabanki	Central	46.52	51.	Bijnor	West	27.96
17.	Maunath Bhanjan	East	46.34	52.	Mahoba	Bundelkhand	27.54
18.	Etawah	West	46.24	53.	Rampur	West	27.52
19.	Sultanpur	East	46.21	54.	Kanauj	West	27.44
20.	Lucknow	Central	45.61	55.	Sant Ravidas Nagar	East	26.92
21.	Shahjahanpur	West	45.49	56.	Etah	West	23.57
22.	Basti	East	44.85	57.	Saharanpur	West	22.23
23.	Kushinagar	East	44.29	58.	Jyotiba Phule Nagar	West	19.55
24.	Chitrakut	Bundelkhand	43.41	59.	Agra	West	19.31
25.	Azamgarh	East	42.80	60.	Moradabad	West	18.42
26.	Hamirpur	Bundelkhand	42.64	61.	Hathras	West	17.79
27.	Kanpur Dehat	Central	41.53	62.	Firozabad	West	15.48
28.	Mainpuri	West	40.77	63.	Gautam Budh Nagar	West	15.21
29.	Mirzapur	East	40.62	64.	Mathura	West	15.09
30.	Pilibhit	West	40.11	65.	Muzaffarnagar	West	10.76
31.	Ballia	East	39.85	66.	Bulandshahr	West	10.08
32.	Kanpur Nagar	Central	39.05	67.	Aligarh	West	9.48
33.	Sidhartha Nagar	East	37.68	68.	Ghaziabad	West	6.91
34.	Bareilly	West	37.20	69.	Meerut	West	6.87
35.	Jalaun	Bundelkhand	36.83	70.	Baghpat	West	6.33
<b>Uttar Pradesh</b>							<b>36.94</b>

Source: BPL Survey, Ministry of Rural Development, Government of India.

Table 5.4 shows the district wise proportion of selected sections of population in the total households below the poverty line in the district. The scheduled castes constitute the highest percentage of households below the poverty line in Mirzapur (64.8 percent), Sonbhadra (62.4 percent), and Lalitpur (62 percent). Except for Pratapgarh, the share of physically handicapped is less than 1.5 percent of total households in the district below the poverty line.

**Table 5.4: Rural Poverty in Uttar Pradesh: Share of Selected Categories of Workers**

Districts	Small Farmer	Marginal Farmer	Rural Artisans	Agr. Labour	Districts	Small Farmer	Marginal Farmer	Rural Artisans	Agr. Labour
	(Percent)					(Percent)			
1. Bahraich	15.3	60.8	5.1	18.8	36. Banda	34.7	35.6	8.7	19.8
2. Hardoi	19.9	49.5	5.6	25.0	37. Ghazipur	8.0	36.6	7.8	47.6
3. Lakhimpur Kheri	23.1	53.4	3.8	39.3	38. Chandauli	5.3	32.5	8.2	60.9
4. Sonbhadra	22.0	47.5	3.9	26.6	39. Jaunpur	4.5	65.2	5.0	20.9
5. Unnao	14.5	60.3	4.6	20.6	40. Gorakhpur	4.0	51.5	6.6	38.5
6. Kaushambi	7.4	40.6	6.4	90.3	41. Allahabad	7.4	38.3	16.0	77.8
7. Shravasti	16.0	58.6	6.4	23.6	42. Deoria	4.6	70.7	6.8	17.3
8. Rae Bareilly	14.5	58.0	7.7	23.5	43. Lalitpur	42.6	35.0	10.0	12.4
9. Pratapgarh	10.6	58.1	7.4	26.1	44. Farrukhabad	12.3	49.0	5.3	49.2
10. Ambedkar Nagar	12.2	55.4	6.5	40.7	45. Badaun	11.9	57.4	6.7	55.1
11. Sant Kabir Nagar	12.7	74.0	25.1	66.5	46. Varanasi	6.6	33.9	16.5	41.2
12. Sitapur	18.0	49.4	6.2	26.7	47. Fatehpur	6.5	28.0	17.0	48.2
13. Gonda	9.9	68.3	6.2	14.8	48. Jhansi	23.6	59.0	14.9	28.4
14. Auraiya	12.6	54.0	7.4	25.9	49. Balrampur	10.8	59.6	4.7	98.5
15. Faizabad	14.3	62.6	6.4	72.8	50. Maharajganj	9.0	57.7	3.9	29.3
16. Barabanki	15.3	60.0	7.6	88.9	51. Bijnor	5.1	22.2	7.0	65.3
17. Maunath Bhanjan	7.2	49.4	9.9	60.9	52. Mahoba	26.1	38.5	10.1	87.8
18. Etawah	13.0	50.2	4.8	47.6	53. Rampur	7.3	39.7	70.8	6.3
19. Sultanpur	9.3	67.9	6.4	16.4	54. Kanauj	10.0	62.4	8.7	19.0
20. Lucknow	12.4	61.9	7.0	62.9	55. Sant Ravidas Nagar	15.5	32.0	8.6	43.9
21. Shahjahanpur	18.7	56.5	6.7	42.0	56. Etah	15.5	54.3	4.8	72.1
22. Basti	13.5	61.4	6.7	18.3	57. Saharanpur	3.5	21.3	8.0	90.7
23. Kushinagar	30.0	37.6	6.9	24.0	58. Jyotiba Phule Nagar	15.2	37.6	7.8	41.9
24. Chitrakut	25.4	44.9	8.3	22.6	59. Agra	10.1	40.0	9.6	40.4
25. Azamgarh	17.0	30.0	8.5	16.3	60. Moradabad	4.3	28.8	4.0	68.5
26. Hamirpur	19.3	32.2	7.2	21.2	61. Hathras	6.8	34.8	8.7	40.3
27. Kanpur Dehat	13.0	33.7	8.3	44.8	62. Firozabad	7.6	40.5	7.3	44.7
28. Mainpuri	20.2	48.9	8.9	20.6	63. Gautam Budh Nagar	7.1	15.8	3.3	73.1
29. Mirzapur	10.8	35.4	14.4	38.9	64. Mathura	8.1	23.6	5.2	63.1
30. Pilibhit	12.8	48.0	9.2	30.1	65. Muzaffarnagar	0.7	8.1	4.3	58.5
31. Ballia	5.2	34.2	7.8	52.0	66. Bulandshahr	3.3	27.9	9.8	57.8
32. Kanpur Nagar	7.7	49.5	5.7	67.5	67. Aligarh	9.5	36.1	9.4	44.5
33. Sidhartha Nagar	10.5	53.2	5.2	30.0	68. Ghaziabad	3.9	22.0	7.6	55.7
34. Bareilly	8.8	54.6	8.3	73.4	69. Meerut	0.8	12.7	6.1	51.1
35. Jalaun	19.0	38.6	9.9	32.4	70. Baghpat	0.4	10.7	12.7	49.8
<b>Uttar Pradesh</b>						<b>13.3</b>	<b>49.2</b>	<b>8.1</b>	<b>40.8</b>

Source: Same as Table 5.3.

Table 5.5 presents the percentage share of four main classes of workers in the district wise households below the poverty line. The highest share is that of marginal farmers, followed by agricultural labour. Small farmers come next, followed by rural artisans. Nearly 50 percent of rural poor come from families of the marginal farmers.

**Table 5.5: Rural Poverty in Uttar Pradesh: Share of Selected Sections of Population**

Districts	SC.	ST.	Women	Physical Handicapped	Districts	SC.	ST.	Women	Physical Handicapped
Bahraich	25.3	0.4	4.0	0.5	Banda	57.7	0.0	10.1	1.3
Hardoi	53.6	0.0	3.1	0.8	Ghazipur	49.8	0.0	14.0	1.1
Lakhimpur Kheri	44.3	1.4	4.0	2.4	Chandauli	53.4	0.0	5.2	0.8
Sonbhadra	60.5	0.0	4.0	0.3	Jaunpur	51.2	0.0	4.7	0.8
Unnao	46.3	0.1	4.0	0.8	Gorakhpur	47.2	0.0	12.6	1.1
Kaushambi	62.4	0.0	7.3	1.1	Allahabad	51.5	0.2	6.6	1.1
Shravasti	38.2	0.0	7.1	0.8	Deoria	36.7	0.0	5.0	0.6
Rae Bareilly	50.6	0.1	5.8	1.1	Lalitpur	62.0	0.0	20.3	1.0
Pratapgarh	43.1	0.0	11.4	10.6	Farrukhabad	28.6	0.0	6.6	1.2
Ambedkar Nagar	42.5	0.0	4.5	0.7	Badaun	34.1	0.0	5.2	1.2
Sant Kabir Nagar	38.8	0.0	4.7	0.5	Varanasi	49.1	0.0	7.9	0.5
Sitapur	52.2	0.0	5.2	0.9	Fatehpur	32.8	0.0	1.8	0.3
Gonda	33.9	0.0	4.0	0.8	Jhansi	55.9	0.2	3.7	0.3
Auraiya	43.1	0.0	4.5	0.6	Balrampur	34.4	1.8	8.8	1.0
Faizabad	43.6	0.0	4.6	0.3	Maharajganj	45.3	0.1	13.3	0.3
Barabanki	50.2	0.1	5.1	0.6	Bijnor	43.5	0.2	6.0	1.1
Maunath Bhanjan	42.8	0.0	6.1	1.6	Mahoba	51.4	0.0	5.9	1.1
Etawah	42.5	0.0	5.4	1.1	Rampur	31.6	0.0	4.8	0.3
Sultanpur	43.4	0.0	4.9	1.0	Kanauj	39.0	0.0	4.6	1.0
Lucknow	58.1	0.1	5.5	0.5	Sant Ravidas Nagar	50.2	0.0	3.1	1.5
Shahjahanpur	33.8	0.6	5.3	1.2	Etah	34.1	0.6	6.5	0.1
Basti	37.1	0.0	8.5	0.4	Saharanpur	46.3	0.0	6.9	0.6
Kushinagar	35.0	0.0	9.5	1.5	Jyotiba Phule Nagar	37.8	0.0	13.0	2.8
Chitrakut	52.9	0.0	3.7	0.7	Agra	40.5	0.0	7.9	1.7
Azamgarh	58.3	0.0	6.3	1.0	Moradabad	36.5	0.1	6.1	0.8
Hamirpur	41.7	0.0	4.8	0.2	Hathras	40.3	0.0	10.9	1.7
Kanpur Dehat	13.8	0.0	1.4	0.2	Firozabad	36.2	0.0	8.5	1.1
Mainpuri	45.4	0.0	6.2	0.5	Gautam Budh Nagar	16.7	0.0	4.6	1.1
Mirzapur	64.8	0.0	10.4	0.1	Mathura	48.1	0.2	7.7	0.7
Pilibhit	28.2	0.2	3.5	0.6	Muzaffarnagar	37.6	0.2	12.6	0.5
Ballia	35.0	0.0	4.6	0.9	Bulandshahr	39.4	0.0	11.6	1.2
Kanpur Nagar	39.9	0.1	5.2	0.9	Aligarh	36.7	0.0	11.3	0.5
Sidhartha Nagar	36.2	0.0	4.4	1.1	Ghaziabad	35.1	0.0	10.4	3.8
Bareilly	25.6	0.0	4.6	0.5	Meerut	37.8	0.0	10.3	0.4
Jalaun	47.9	0.0	6.4	1.1	Baghpat	33.2	0.0	6.9	1.0
<b>Uttar Pradesh</b>					<b>43.8</b>	<b>0.1</b>	<b>6.2</b>	<b>1.1</b>	

Source: Same as Table 5.3

In terms of decadal population growth rates in Uttar Pradesh the highest is shown for Ghaziabad at 47.47 percent during 1991-01. Most districts lie in the range of 20 to 30 percent in terms of decadal growth rates during 1991-01. Only in the case of few districts like Kannauj, Jalaun, Banda, Hathras, Hanipour, Auraiya, Baghpat the decadal growth rate was less than 20 percent. Districts which show substantially higher growth of population during 1991-01 as compared to 1981-91 are Chitrakut, Firozabad, Kher, Agra, Shahjahanpur. The highest density of population as per the 2001 census is for Ghaziabad at 1682 followed by Kanpur Nagar at 1366. Some of the lowest densities are shown for Lalitpur, Mahoba, Hamirpur, and Jalaun.

In terms of literacy rates highest female literacy is shown in Kanpur Nagar and the lowest Shravasti. The range is from 72.50 to 18.75. There are several districts where female literacy rate is less than 30. Like Maharajgunj, Sidharthnagar, Rampur, Gonda, Butauri, Bahraich, and Balrampur. In all districts male literacy rate is higher than female literacy rate by considerable margin. For Uttar Pradesh as a whole the male literacy rate is 70.23 and the female literacy rate is 42.98 showing a difference of more than 27 percentage points.

**Table 5.6: Districts Arranged According to Decadal Population Growth Rates**

Districts	Decadal Growth Rate (%)		Density		Districts	Decadal Growth Rate (%)		Density	
	1981-91	1991-01	1991	2001		1981-91	1991-01	1991	2001
<b>Above 30</b>					<b>Between 20 &amp; 25</b>				
Ghaziabad	40.90	47.47	1141	1682	Muzaffarnagar	26.42	24.61	709	884
Sonbhadra	38.18	36.13	339	451	Ambedkar Nagar	25.45	24.31	687	854
Gautam Buddha Nagar	37.64	35.70	692	939	Etah	20.78	24.20	505	627
Chitrakut	16.78	34.33	186	250	Sultanpur	25.32	24.20	579	719
Firozabad	21.65	33.44	649	866	Meerut	24.91	24.16	959	1190
Lucknow	37.14	33.25	1093	456	Faizabad	23.77	23.87	610	755
Kheri	23.89	32.28	315	417	Hardoi	20.75	23.67	459	568
Agra	21.90	31.27	683	897	Rae Bareli	23.57	23.66	506	626
<b>Between 25 &amp; 30</b>					<b>Below 20</b>				
Lalitpur	30.18	29.98	149	194	Sant Kabir Nagar	26.46	23.64	799	988
Jyotiba Phule Nagar	28.25	29.72	498	646	Gorakhpur	24.6	23.44	923	1140
Bahraich	25.19	29.55	320	415	Pratapgarh	22.75	23.36	595	734
Maharajganj	25.56	29.27	568	734	Sahranpur	26.76	23.35	626	772
Chandauli	27.33	28.63	749	963	Jhansi	24.66	23.23	282	348
Shahjahanpur	20.62	28.28	434	557	Balrampur	25.52	23.08	468	576
Kushinagar	29.01	28.17	775	994	Farrukhbad	24.46	22.80	563	692
Pilibhit	27.25	28.11	367	470	Unnao	20.73	22.72	483	592
Rampur	27.45	27.98	635	812	Basti	23.41	22.69	556	682
Mau	28.37	27.91	844	1080	Bulandshahr	16.1	22.22	643	786
Mirzapur	31.40	27.62	545	726	Aligarh	29.95	22.08	654	798
Shravasti	23.75	27.30	820	1044	Mahoba	24.20	21.80	204	249
Kanpur Nagar	22.54	27.17	1074	1366	Ballia	22.27	21.67	670	864
Bijnor	27.76	27.16	540	686	Jaunpur	26.92	21.67	292	382
Bareilly	24.71	26.96	688	873	Etawah	17.24	21.59	482	586
Mathura	22.69	26.95	489	621	Kanpur Dehat	19.89	21.55	414	504
Siddharthnagar	23.63	26.78	584	741	Mainpuri	24.11	21.50	477	580
Kaushambi	25.34	26.73	557	705	Fatehpur	20.79	21.40	457	555
Allahabad	30.78	26.72	719	911	<b>Below 20</b>				
Sitapur	22.24	26.58	497	630	Kannauj	24.94	19.58	581	695
Moradabad	31.89	26.45	813	1028	Jalaun	23.64	19.39	267	319
Barabanki	26.59	26.40	553	699	Banda	23.69	18.49	287	340
Azamgarh	25.46	26.28	743	938	Hathras	26.9	18.32	644	761
Ghazipur	24.27	26.18	498	636	Hamirpur	21.9	17.85	205	241
Varanasi	30.65	25.51	466	607	Auraiya	27.23	14.70	501	575
Sant Ravidas Nagar	38.16	25.47	536	696	Baghpat	22.39	13.00	742	838
Gonda	26.62	25.46	498	625	<b>Uttar Pradesh</b>				
Budauri	24.16	25.36	474	594	<b>25.55</b>	<b>25.80</b>	<b>548</b>	<b>689</b>	
Deoria	24.95	25.03	861	1077					

**Table 5.7: Districts Arranged According to Female Literacy**

Districts	Literacy Rate						Districts	Literacy Rate					
	1991			2001				1991			2001		
	Persons	Male	Female	Persons	Male	Female		Persons	Male	Female	Persons	Male	Female
	<b>Above 50</b>						Pratapgarh	40.40	60.29	20.48	58.67	74.61	42.63
Kanpur Nagar	63.95	72.92	52.91	77.63	82.08	72.50	Azamgarh	39.19	56.11	22.64	56.15	70.50	42.44
Lucknow	57.49	66.51	46.88	69.39	76.63	61.22	Unnao	38.70	51.63	23.62	55.72	67.62	42.40
Auraiya	52.90	65.76	37.04	71.50	81.18	60.08	Sultanpur	38.49	55.08	20.74	56.90	71.85	41.81
Ghaziabad	54.43	67.15	39.08	70.89	81.04	59.12	Etah	40.15	54.09	22.91	56.15	69.13	40.65
Etawah	53.80	66.24	38.67	70.75	81.15	58.49	Hamirpur	41.71	57.86	22.07	58.10	72.76	40.65
Gautam Buddha Nagar	51.66	69.12	29.82	69.78	82.56	54.56	Rae Bareli	37.78	53.30	21.01	55.09	69.03	40.44
Kanpur Dehat	51.86	64.56	36.32	66.59	76.84	54.49		<b>Between 30 &amp; 40</b>					
Meerut	52.41	64.88	37.67	65.96	76.31	54.12	Mirzapur	39.68	54.75	22.32	56.10	70.51	39.89
Firozabad	46.30	59.76	29.85	66.53	77.81	53.02	Mahoba	36.49	50.98	19.09	54.23	66.83	39.57
Mainpuri	50.29	64.34	33.12	66.51	78.27	52.67	Basti	35.36	50.93	18.08	54.28	68.16	39.00
Sahranpur	42.11	53.85	28.10	62.61	72.26	51.42	Sant Ravidas Nagar	40.02	60.77	16.80	69.14	77.99	38.72
Chitrakut	32.19	48.06	13.37	66.06	78.75	51.28	Hardoi	36.30	49.45	19.75	52.64	65.08	37.62
Jhansi	51.99	67.32	33.95	66.69	80.11	51.21	Banda	37.33	53.06	17.90	54.84	69.89	37.10
Mau	43.80	59.44	27.86	64.86	78.97	50.86	Kheri	29.71	40.58	16.35	49.39	61.03	35.89
Jalaun	50.72	66.21	31.60	66.14	79.14	50.66	Pilibhit	32.10	44.37	17.22	50.87	63.82	35.84
Baghpat	48.69	63.52	30.75	65.65	78.60	50.38	Barabanki	31.11	43.71	15.99	48.71	60.12	35.64
Farrukhabad	47.23	59.37	32.30	62.27	72.40	50.35	Sant Kabir Nagar	34.95	51.83	16.76	51.71	67.85	35.45
	<b>Between 40 &amp; 50</b>						Bareilly	32.88	43.44	19.93	47.99	59.12	35.13
Kannauj	47.90	59.29	33.88	62.57	73.38	49.99	Sitapur	31.41	43.10	16.90	49.12	61.02	35.08
Muzaffarnagar	44.00	56.63	29.12	61.68	73.11	48.63	Jyotiba Phule Nagar	31.96	44.98	16.58	50.21	63.49	35.07
Varanasi	51.88	66.66	35.00	67.09	83.66	48.59	Shahjahanpur	32.07	42.68	18.59	48.79	60.53	34.68
Agra	48.58	63.09	30.83	64.97	79.32	48.15	Sonbhadra	34.40	47.56	18.65	49.96	63.79	34.26
Bijnor	40.55	52.57	26.50	59.37	70.18	47.32	Moradabad	30.67	40.35	19.03	45.74	56.66	33.32
Hathras	46.32	62.36	26.63	63.38	77.17	47.16	Lalitpur	32.12	45.23	16.62	49.93	64.45	33.25
Allahabad	45.00	61.61	25.62	62.89	77.13	46.61	Kushinagar	32.30	49.57	13.86	48.43	65.35	30.85
Ambedkar Nagar	39.67	55.17	23.30	59.06	71.93	45.98	Kaushambi	29.44	45.00	11.48	48.18	63.49	30.80
Chandauli	44.81	61.43	26.28	61.11	75.55	45.45		<b>Below 30</b>					
Fatehpur	44.69	59.87	27.24	59.74	73.07	44.62	Maharajganj	28.90	45.67	10.28	47.72	65.40	28.64
Gorakhpur	43.30	60.61	24.49	60.96	76.70	44.48	Siddharthnagar	27.16	40.92	11.95	43.97	58.68	28.35
Ghazipur	43.27	61.48	24.38	60.06	75.45	44.39	Rampur	25.37	33.79	15.31	38.95	48.62	27.87
Ballia	43.89	60.76	26.13	58.88	73.15	43.92	Gonda	29.56	43.48	13.42	42.99	56.93	27.29
Aligarh	44.94	59.96	26.89	59.70	73.22	43.88	Budaui	24.64	33.96	12.82	38.83	49.85	25.53
Mathura	44.85	61.95	23.43	62.21	77.60	43.77	Bahraich	22.67	32.27	11.01	35.79	46.32	23.27
Deoria	42.42	61.48	23.58	59.84	76.31	43.56	Balrampur	23.75	34.43	11.22	34.71	46.28	21.58
Jaunpur	42.22	62.24	22.39	59.98	77.16	43.53	Shravasti	29.55	44.91	10.57	34.25	47.27	18.75
Faizabad	37.44	52.42	20.56	57.48	70.73	43.35	<b>Uttar Pradesh</b>	<b>40.71</b>	<b>54.82</b>	<b>24.37</b>	<b>57.36</b>	<b>70.23</b>	<b>42.98</b>
Bulandshahr	46.00	63.51	25.33	60.19	75.55	42.82							

#### 5.4 Some Observations on the BPL Methodology

*Procedure used in Part A of the survey might have excluded families that are genuinely below poverty line. There is a need to change the method of estimating of incomes.*

The basic objective of the survey was to identify families living below the poverty line who could be assisted under various anti-poverty programmes implemented by the Ministry of Rural Areas and Employment. The BPL census for the Ninth Plan was carried out by the Department of Rural Employment and Poverty Alleviation. This department had organised a meeting of a group of experts to consider the methodology of a such survey specially in the context of the BPL survey conducted for the Eighth Plan which had revealed

large scale discrepancies between survey results and the official state-wise estimates of poverty made by Planning Commission based on the NSSO Consumer Expenditure Surveys.

This group had recommended that it would not be proper to classify APL families on the basis of income threshold alone. They recommended that a multiple criteria including a number of qualitative parameters should be used such as household occupation, housing condition, number of earners, asset possession, etc. In estimating incomes they suggested that a methodology different from the one which uses household consumer expenditure to estimate income should be used. This is because there is an inherent bias among the rural population to underestimate income so as to be covered under the target group.

The procedure for excluding some of the households through Part A of the survey imposed restrictions which could have excluded many families that might have been genuinely below poverty line. Some of the difficulties noted by the Uttar Pradesh government may be listed as below:

- i. For households with more than 5 members (sometimes number of members may range upto 20 or 25), the limit of Rs. 20,000 appears to be inadequate and requires pro-rata adjustment when the number of members are more than 5.
- ii. The condition relating to 1 hectare irrigated land or 2 hectare unirrigated land also needs to be modified in areas like Bundelkhand where population density is low and large tracts of land are unproductive.
- iii. With respect to the condition on pucca house, houses provided under Indira Awaas Yojana should not be included as they were meant for BPL households.
- iv. Some of the specified assets for determining the cut-off appear to be excessively restrictive, for example, owning 2 or more electric fans, or a scooter does not necessarily take a family above the poverty line specially if these are acquired as dowry.

## **5.5 Summary**

Uttar Pradesh is the largest state in terms of population. The undivided Uttar Pradesh had 68 districts while the new Uttar Pradesh has 70 districts. The BPL survey conducted in 1997-98 defined households having annual income of less than Rs. 19800 were identified as the BPL households. The survey has identified 75 lakh families as below poverty line. In Uttaranchal is excluded then it works out to 72 lakh families in new Uttar Pradesh. Out of total below poverty line families 44 percent of these belong to scheduled castes, 49 percent

were marginal farmers, and 41 percent belonged to the category of agricultural labourer. The district-wise incidence of rural poverty in Uttar Pradesh varies from 6 to 57 percent among the districts. Even in advanced regions like the west region some districts like Auraiya, Etawah, Shahjahanpur, Mainpuri where poverty levels are high.

Among the four main classes of workers in the districts, the highest share of families below poverty line are of marginal farmers, followed by agricultural labourer, small farmers and rural artisans. Nearly 50 percent of rural poor come from families of the marginal farmers.

In terms of decadal population growth rates in Uttar Pradesh, Ghaziabad is the highest at 47.5 percent during 1991-01. Most of the districts lie in the range of 20 to 30 percent growths. Ghaziabad accounts for the highest density of population as per 2001 census. Some of the low densities are in Lalitpur, Mahoba, Hamirpur and Jalaun. In terms of literacy rates highest female literacy is shown in Kanpur and the lowest shravasti. The range is from 72.50 to 18.75.

The methodology of BPL surveys suggests that a multiple criteria including a number of qualitative parameters should be used such as household occupation, housing condition, number of earners, asset possession, etc. There is a need for change in estimating of incomes.

## Chapter 6: POVERTY REDUCTION AND FISCAL POLICIES

### 6.1 Introduction

In this chapter the poverty reduction and fiscal policies is presented. This chapter is organised into four sections. In Section 2 plan and non-plan schemes are discussed. Section 3 examines the centrally sponsored schemes sector-wise. Section 4 summarises the findings.

### 6.2 Plan and Non-Plan Schemes

*In Uttar Pradesh, there are plan schemes where the contribution from the centre is cent percent. There are plan schemes where state has contributed cent percent. There are non-plan schemes run by the Department of Rural Development. In addition to these, there are schemes being supervised by the Directorate of Institutional Finance. Under Ambedkar Vikas Scheme, there are eleven main programmes being administered by various departments.*

In Uttar Pradesh at present, the following main schemes are being administered. Table 6.1 also shows the relative contribution of the state government.

**Table 6.1: Schemes Run by the Department of Rural Development: Plan**

Sl. No.	Name of Scheme	Contribution of Centre (Percent)	Contribution of State (Percent)
1.	Sampoorna Grameen Rozgar Yojana	75	25
2.	Swarna Jayanti Gram Swarozgar Yojana	75	25
3.	PMGY (Rural Drinking Water)	100	0
4.	PMGY (Rural Housing)	100	0
5.	Indira Awaas Yojana	75	25
6.	Minimum Needs Program (District Plan)	0	100
7.	Scheduled Castes/Tribes Drinking Water Yojana	0	100
8.	Gunvata Prabarit Paral Yojana	75	25
9.	PMGY (Sadak Yojana)	100	0
10.	Rural Water and Sanitation Programme (Swa Jel)	82	18
11.	Accelerated Rural Drinking Water Programme	100	0
12.	AVRY Yojana	0	100
13.	National Biogas Programme	100	0
14.	National Unnat Chuhlla	100	0
15.	District Rural Development Authority Administrative Head Yojana	0	100
16.	Community Development Programme	0	100
17.	MLA Lads	0	100

Some of the non-plan schemes run by the Department of Rural Development are shown in Table 6.2.

**Table 6.2: Schemes Run by the Department of Rural Development:  
Non-Plan**

Sl. No.	Name
1.	Community Development Programme
2.	Regional/District Rural Development Institute
3.	Deen Dyal Upadhyay State Rural Development Institute
4.	Economically Weaker Rural Housing Programme (Repayment of Loans)
5.	Rural Development Minister Fund

There are many schemes to provide finance which are being supervised by the Directorate of Institutional Finance. The major schemes are listed below:

1. Swarna Jayanti Gram Swarozgar Yojana
2. Kishan Credit Card Yojana
3. Fasili Rin Programme (Crop Loan Programme)
4. Rashtriya Krishi Bima Yojana (National Agricultural Insurance Plan)
5. Vyaktigat Durghatna Bima Yojana (Personal Accident Insurance Plan)
6. Swayam Sahayata Samooh (Self Help Groups)
7. Swarna Jayanti Shahri Rozgar Yojana
8. Pradhan Mantri Rozgar Yojana
9. Minorities Margin Money Yojana
10. Special Component Plan
11. Khadi and Gram Udyog Board – Byaj Upadhan Yojana
12. Khadi and Gram Udyog Ayoug – Margin Money Loan Yojana
13. Schemes of Agricultural Ministry, Government of India run with Cooperation of NABARD.
  - a. On Farm Water Management for Increasing Crop Production in Western India
  - b. Gramin Bhandaran Yojana
  - c. Agri-clinic/Agri Business Yojana

Another important scheme is Ambedkar Gram Vikas Scheme. Under this, 11 main programmes are being administered by various departments. Table 6.3 gives the name of the programme and the linked department.

**Table 6.3: Programmes Under Ambedkar Vikas Scheme**

<b>Sl. No.</b>	<b>Programme</b>	<b>Department</b>
1.	Contribution of Link Roads	Public Works Department
2.	Rural Electrification	Energy Department
3.	Construction of Nali/Kharanja	Panchayati Raj Department
4.	Rural Sanitation Programme	Panchayati Raj Department
5.	Free Boring	Minor Irrigation Department
6.	Swarna Jayanti Gram Swarozgar Yojana	Rural Development Department
7.	Indira Awaas Yojana	Rural Development Department
8.	Clean Drinking Water	Rural Development Department
9.	Opening and Construction of Primary Schools	Basic Education Department
10.	Old Age Pension	Social Welfare Department
11.	Widow Pension Scheme	Women Welfare Department

The problem of poverty arises mainly on account of inadequate growth in income and its mal-distribution among different segments of population. However, certain factors, which ultimately lead to the former, assume overwhelming significance from policy planning point of view. These factors are specified below:

- i. High Population Growth
- ii. Excessive Dependence on Agriculture
- iii. Low Literacy Rate
- iv. Predominance of Small Holdings
- v. Lower Rate of Foodgrains Production
- vi. Uneven Distribution of Productive Assets

Besides, afore-mentioned factors, which have crucial bearing on the incidence of poverty, uneven distribution of productive assets among various segments of population has also been found quite decisive variable. Regarding uneven distribution of assets, it has been observed at the national level that “20 percent of rural households, each having less than Rs. 1000 of assets, account for less than 1 percent of all rural assets, while 4 percent with asset value of Rs. 50,000 are more own over 30 percent”. In a study, carried out recently, it has emerged that bottom 20 percent of the sample cultivators had only a meagre share of 2.1 percent in the total assets while top 4.0 percent cultivators such share as high as high 23 percent. This is quite unhealthy pattern as the concentration of the material resources actually results in wide ranging variations in income and consumption and ultimately accentuation of poverty.

### 6.3 Centrally Sponsored Schemes: Sector-Wise Distributions

*One of the important centrally sponsored schemes is the Pradhan Mantri Gramodaya Yojana for selected basic services. It has two components one for rural roads and the other for primary education, primary health, shelter, drinking water and nutrition. Under water supply scheme nearly 75 percent of the total habitations in Uttar Pradesh are covered. Under the housing scheme houses are provided free of cost to selected beneficiaries (BPL families belonging to SCs/STs, freed bonded labourers living in rural areas) are 80 percent of the funds are utilised for construction of new houses and remaining 20 percent on upgradation of kutcha houses. Universalisation of primary education under Sarva Shiksha Abhiyan was given importance. Construction of health centres and targets for village connectivity were set.*

Some of the special programmes implemented by the Uttar Pradesh Government for poverty relation are centrally sponsored schemes. Some of these are detailed below:

The Pradhan Mantri Gramodaya Yojana envisages an Additional Central Assistance (ACA) for selected basic services, focusing on certain priority areas of the government. The Pradhan Mantri Gramodaya Yojana has two components, one is rural roads and other component consists of five services, namely primary education, primary health, shelter, drinking water and nutrition. From 2001-02, rural electrification has also been added.

**Table 6.4: Some Centrally Sponsored Schemes**

Programme	Ninth Plan	Expenditure During				2001-02 Anticipated Expenditure
		1997-98	1998-99	1999-00	2000-01	
1. Water Supply	3852.26	22.10	321.45	267.14	26.17	116.44
2. House for Shelterless	992.00	18.74	69.92	80.27	26.16	61.96
3. Primary Education	1143.29	263.25	260.26	348.97	85.97	56.51
4. Rural Road	8090.45	426.88	725.17	797.84	206.87	318.11
5. Primary Health Care	973.10	125.98	76.54	91.24	26.16	42.26
6. Nutrition	202.00	2.70	20.16	36.55	26.16	77.53
<b>Total</b>	<b>15253.10</b>	<b>1059.65</b>	<b>1473.50</b>	<b>1622.01</b>	<b>397.49</b>	<b>766.98</b>

A summary of financial progress during the Ninth Plan is as below:

#### a. Water Supply

An important dimension of rural poverty is availability of drinkable water.

A survey was conducted throughout the country as per guidelines of Government of India to identify the rural habitations and status of water supply in each habitation. According

to this survey, out of total 2,43,633 habitations in the State of Uttar Pradesh (excluding newly created Uttaranchal State), only 2,43,508 habitations were habitated and were available for coverage with safe drinking water. Out of these, 1,77,502 were fully covered by the end of Eighth Plan. During first four years of Ninth Plan (1997-2001) 65,973 were fully covered by and upto March 2001 remaining 33 habitations are expected to cover during 2001-02.

During Ninth Plan, water supply programmes of Accelerated Rural Water Supply Programme (ARWSP), Water Supply for Quality Problem Villages under Centrally Sponsored Programme, Externally Aided Programmes (EAPs) like the Indo Dutch, the World Bank Assisted Rural Water Supply and Environmental Sanitation Project (SWAJAL) were implemented under Basic Minimum Services (BMS) till the year 1999-00 and thereafter these programmes were clubbed in Pradhan Mantri Gramodaya Yojana (PMGY). The year-wise progress made during the Ninth Plan is given in Table 6.5.

**Table 6.5: Habitations Covered**

Habitations	Status as on 1.4.1997	Progress During				
		1997-98	1998-99	1999-00	2000-01	2001-02 Anticipated
1. Total Habitations to be Covered	2,43,508					
2. Fully Covered (FC)	1,77,502	27,239	20,777	14,484	3,473	33
<i>Of which from</i>						
a. Not Covered (NC) to Fully Covered		1070	410	297	43	2
b. Partially Covered (PC) to Fully Covered		26,169	20,367	14,187	3,430	31
3. Balance to be Covered at the End of the Period	66,006	38,767	17,990	3,506	33	
<i>Of which</i>						
a. Not Covered (NC)	1,822	752	342	45	2	
b. Partially Covered (PC)	64,184	38,015	17,648	3,461	31	

Following the guidelines of Government of India, the State of Uttar Pradesh has relaxed the norms of one hand pump for 250 population (40 LPCD) to demand based one hand pump for 150 population with the provision that 10 percent capital cost and 100 percent operation and maintenance cost would be shared by the community. In the year 2001-02, 36,000 hand pump are anticipated to be installed with 10 percent community contribution. Out of the habitations fully covered, some of the habitations are having water quality problems. The quality problem habitations identified as on 01-04-2001 are 4649 and are expected to be increased to around 10,925 in the entire state, for which detailed survey is being carried out. Of these, 1,077 habitations have been provided with safe drinking water by the end of March 2001. The main programmes proposed for Tenth Five Year Plan and Annual Plan 2002-03 are as follows:

- i. Provision of safe drinking water to 10,000 quality problem habitations (NSS), out of which 1,500 habitations are proposed to be covered in the year 2002-03.
- ii. Construction of piped water supply schemes and installation of new hand pumps in consideration of improved service level based on demand driven approach with at least 10 percent capital cost sharing by the community along with operation and maintenance responsibility.
- iii. Adequate provision for rebore of those hand pumps which have out-lived their life and need to be rebored.
- iv. Water conservation, water harvesting, water recharge and sustainability of the drinking water services in water stress and other affected areas.

**b. Rural Housing**

Rural housing is another critical element of poverty alleviation programmes.

Under Pradhan Mantri Gramodaya Yojana, the housing scheme for shelterless poor families is being implemented on the pattern of Indira Awaas Yojana. As per guidelines of the Government of India, houses are provided free of cost to the selected beneficiaries. 80 percent of the funds are utilised on the construction of new houses and remaining 20 percent funds are utilised for upgradation of kutchha houses. Houses are constructed on the plots of beneficiaries. The target group for houses under the scheme will be people below poverty line living in rural areas and belonging to Scheduled Castes/Scheduled Tribes, freed bonded labourers and non-SC/ST subject to the condition that the benefits to non-SC/ST should not exceed 40 percent of total allocation during a financial year. Three percent of the funds have been earmarked for the benefit of disabled persons below poverty line. Allotment of houses should in the name of female member of the beneficiary household. Alternatively, it can be allotted in the name of both husband and wife. The houses should normally be built on individual plots in the main habitation of the village. The houses can also be in a cluster within a habitation, so as to facilitate the development of infrastructure, such as, internal roads, drainage, drinking water supply, etc., and other common facilities.

At present, upper limit of new construction is Rs. 20,000 for each house in plain areas and Rs. 22,000 in Bundelkhand region while cost of upgradation of each kutchha house is Rs. 10,000. Though the design is not prescribed for the house however, plinth area of the houses should be around 20 sq. mts. It should be ensured that every house constructed is provided with a fuel-efficient *chullah*. Construction of sanitary latrine forms an integral part of the houses.

Progress made during Ninth Five Year Plan and the targets proposed for Tenth Plan and Annual Plan 2002-03 are given in Table 6.6.

**Table 6.6: Financial and Physical Progress**

Years	Financial (Rs. Crore)		Physical (Numbers)	
	Outlay	Expenditure	Target	Achievement
2000-01	50.45	26.16	30,277	30,277
2001-02	37.67	61.96	11,292	11,292
		(Anticipated)		
Tenth Plan	252.98		1,26,490	
2002-03	41.43		22,500	

### **c. Primary Education**

Education plays very important role in the socio-economic development of the people. It provides vital inputs human resource development and prepares citizens for various tasks through development of knowledge, skills and appropriate attitude. Education prepares the work force for the nation and raises the standard of living of people. Universalisation of primary education is the main aim under Pradhan Mantri Gramodaya Yojana. The prime thrust of universalisation of primary education would be on:

- Construction of new primary school buildings (including provision of toilets and drinking water) and construction of additional classrooms for existing primary schools.
- Construction of toilets and provision of drinking water in the existing primary schools.
- All children of 6-11 years will be enrolled and provided 5 years schooling with satisfactory level of quality education.

During the Tenth Five Year Plan, universalisation of primary education shall be the part of Sarva Shiksha Abhiyan which envisages that all children of 6-14 years be provided 5 years schooling in mission mode.

The target and achievement of this scheme are given in Table 6.7.

**Table 6.7: Universalisation of Primary Education: Some Achievements**

Programme/Item	2000-01		2001-02		Ninth Plan Anticipated Achievement	Tenth Plan Proposed Target	Annual Plan 2002-03 Proposed Target
	Target	Achievement	Target	Achievement			
Primary School Building	5361	5361	2442	2442	7803	4308	1436
Upper Primary School Building	567	567			567	2454	818
Additional Class Room	13	13			13	10900	3633
Toilets						72000	24000
Hand Pump						30000	10000
Boundary Wall						20000	6667

#### **d. Primary Health**

Under the Pradhan Mantri Gramodaya Yojana provision of comprehensive and efficient primary health care, is the main instrument for achieving the goal of 'Health for all'.

The main thrust of the programme is to create required infrastructure for sub-centres, primary health centres, and community health centres in the state as these centres are mainly responsible for providing primary health care services to remote areas and tribal population of the state. In deciding priorities, inter-regional disparities would also be kept in view.

In urban areas also, primary health care services are inadequate. During the Tenth Plan, attempts will be made to extend primary health care services in the urban areas, particularly in slums having population of 30,000.

The main constituents of the programme are:

- Emphasis on consolidating and strengthening of existing rural health infrastructure by way of procurement of drugs (other than those supplied under the National Disease Control, Family Welfare Programme, EAPs, etc.), essential consumables including disposable delivery kits, reagents, X-ray films, etc., for diagnostic and therapeutic procedures.
- Contingencies for travel cost for ANMs and repair of essential equipment.
- Strengthening, repair and maintenance of the infrastructure in sub-centres, primary health centres and in community health centres. Priority will be given to ensure potable water supply, adequate toilet facilities and medical waste management.
- Providing ambulance services, X-ray, generator and specialties, viz., dental, orthopedic, surgical and pathology and gynecology at all community health centres.

Achievements in Ninth Plan and proposed targets for the establishment of health centres for Tenth Five Year Plan are given in Table 6.8.

**Table 6.8: Establishment of Health Centres**

Items	Level at the End of 1996-97	Ninth Plan Target	Actual				Anticipated Achievement 2001-02	Tenth Plan Target	Target Proposed for 2002-03
			1997-98	1998-99	1999-00	2000-01			
Sub-Centre	18,565	221					1944	1944	
Primary Health Services <i>Of which</i>									
a. Rural PHC	3629		9	1	1				
b. Urban Centres		526					100	100	
Community Health Centres	261	180	22	8		24	25	200	
								25	

It is proposed to establish 1944 sub-centres during the Tenth Five Year Plan, for which funds are proposed to be provided by the Government of India as cent percent Centrally Sponsored Scheme.

Targets and achievements for construction of buildings of sub-centres, PHCs and CHCs during the Ninth Plan and the targets for Tenth Plan are given in Table 6.9.

**Table 6.9: Construction of Health Centres**

Items	Level at the End of 1996-97	Ninth Plan Targets	Actual				2001-02 Anticipated Achievement	Tenth Plan Target	(Number) Target Proposed for 2002-03
			1997-98	1998-99	1999-00	2000-01			
Sub-Centres	6057	221	352	203			600	100	
Primary Health Centres <i>Of which</i>									
a. Completed			109	42	-	-	65	200	
b. New Sanctions but Under Construction	1309	700	75		193	200	-	-	
Community Health Centres <i>Of which</i>									
a. Completed	261	257	52	19	2	16	-	-	
b. Under Construction			30	19	2	33	18	92	
								30	

Efforts will be made to provide the health infrastructure in all newly created districts in the Tenth Plan. Under the World Health Project, 28 districts have been taken for the renovation, expansion and construction of buildings as per required norm. In addition, latest equipments will also be made available to CHCs, PHCs and District (male and female) hospitals. With the provision of the above additional facilities, it is hoped that the birth rate will be brought down by 22 per 1000 by the end of Tenth Plan period.

Nutrition is another important component of Pradhan Mantri Gramodaya Yojana. It aims at to achieve the objectives of sustainable human development at the grassroots level. This component has been specifically included to eradicate mal-nutrition prevalent among children below 3 years by increased nutritional coverage of supplementary feeding to these children through the ICDS scheme. The preference would be given to the children, such as tribal, Scheduled Castes, landless labourers, slum dwellers and those living below poverty line and are most needy. Pradhan Mantri Gramodaya Yojana is being implemented through Aaganwadi centres in 612 ICDS covered areas. The areas, outside the ICDS programme are proposed to be covered by ICDS directorate with the convergence to Rural Development Department and Panchayati Raj Department.

**e. Rural Infrastructure**

Rural road connectivity is not only a key component of rural development but also considered as an effective poverty reduction programme. Uttar Pradesh has 98248 villages of different categories. In the beginning of Ninth Five Year Plan 66186 villages remained unconnected by pucca roads. Against these remaining unconnected villages, a target of 25749 villages was fixed.

**Table 6.10: Village Connectivity**

Connectivity of Villages with Population	Total Villages	Villages Connected upto 31.3.1997	Balance (Unconnected) as on 1.4.1997	(Number)
				Ninth Plan Target
> 1000	36873	16058	20815	6794
< 1000	61375	16004	45371	19000
<b>Total</b>	<b>98248</b>	<b>32062</b>	<b>66186</b>	<b>25794</b>

To achieve this target of village connectivity, an outlay of Rs. 6909.75 crore was approved in the Ninth Five Year Plan for construction of rural roads under Basic Minimum Services Programme. Progress during Ninth Plan is as under:

**Table 6.11: Village Connectivity: Progress Under Ninth Plan**

Category of Villages Connected	Villages Connected in Year				2001-02 Anticipated	Total
	1997-98	1998-99	1999-00	2000-01		
> 1000	1013	2509	2313	1807	1050	8692
< 1000	600	645	517	648	285	2695
<b>Total</b>	<b>1613</b>	<b>3154</b>	<b>2830</b>	<b>2455</b>	<b>1335</b>	<b>11387</b>

### f. Tribal Population in Uttar Pradesh

Out of total tribal population of 2.10 lakhs only 0.76 lakh are left in the State of Uttar Pradesh, after the creation of Uttaranchal State. They are mostly found in seven districts of Kheri, Balrampur, Sravasti, Bahraich, Mahrajganj, Haridwar and Bijnor. Details are given in Table 6.12.

**Table 6.12: Tribal Population in Uttar Pradesh**

Years	Total Population	Scheduled Tribes Population	Scheduled Tribes Population as Percentage of Total Population	Decennial Growth	
				Total	Scheduled Tribes
1971	883.41	1.99	0.23	1.82	N.A.
1981	1108.62	2.33	0.21	2.30	1.60
1991	1391.12	2.88	0.21	2.29	2.10
1991*	1320.06	0.76	0.06	-	-

Note: \* excluding Uttaranchal.

The major tribes found in Uttar Pradesh (before separation of Uttaranchal Pradesh) are **Tharu, Buxa, Bhotia, Jaunsari** and **Raji**. At present, **Buxa** and **Tharu** are found in Uttar Pradesh at present and their total population in the state is 76,064; which includes Tharu - 52,435, Buxa - 1,860 and other scattered Tribes - 21,769.

Tharus live in the Terai-Bhawar zone and they are mainly found in Bahraich, Sravasti, Balrampur, Kheri and Mahrajganj. Their total population is 0.52 lakh. They are basically agriculturists. Sincere and committed efforts of the state government have slowly induced this tribe towards the mechanised way of farming to a considerable extent. The women, being earning member of the family, occupy an important position and play a vital role. The eldest female member invariably happens to be the head of the household. Joint family system is common among the Tharu families. Tharus have strong traditional Panchayat organisation to settle their disputes and to ensure adherence to their common code of conduct.

Buxas are from Mongolean race and claim Rajput origin. In habits and customs, they closely resemble Tharus. They are supposed to be original inhabitants of Terai belt. They are found in the Terai and Bhawar areas of Sub-Himalayan range of the state. Buxas are the followers of lord Rama and Krishna and worship Hindu gods and goddesses. Educationally and economically, they are more backward than Tharus. Agriculture is their main occupation.

## 6.4 Summary

In Uttar Pradesh both plan and non-plan schemes are being implemented for poverty reduction in the state. In addition there are schemes which are being supervised by the Directorate of Institutional Finance. An important scheme in Uttar Pradesh has been the Ambedkar Gram Vikas Scheme wherein eleven main programmes are being administered by various departments. One study observed that 20 percent of the sample cultivators had only a meagre share of 2.1 percent in the total assets while 4 percent cultivators accounted for as high as 23 percent of the assets.

Various centrally sponsored schemes have been implemented in Uttar Pradesh. The Pradhan Mantri Gramodaya Yojana has two components. One related to the rural roads and the other to basic services like primary education, primary health, shelter, drinking water and nutrition. A survey was conducted to assess the availability of drinking water. It was observed that out of 2,43,633 habitations in the new Uttar Pradesh, only 2,43,508 habitations were habitated and about 75 percent were fully covered by safe drinking water. It was observed that there were water quality problems in some of the covered villages.

The housing schemes for a shelterless poor family is covered by the Pradhan Mantri Gramodaya Yojana on the pattern of Indira Awaas Yojana. The target group is people below poverty line living in rural areas and belonging to SCs/STs, freed bonded labourers and non-SCs/STs subject to certain limits. 80 percent of the funds are utilised for new houses and remaining 20 percent for upgradation of kutcha houses. The upper limit for new construction is Rs. 20,000 for each house in plain areas and Rs. 22,000 in Bundelkhand region while cost of upgradation of each kutcha house is Rs. 10,000. The plinth area of the houses is around 20 sq. mts.

Universalisation of primary education is being implemented under Sarva Shiksha Abhiyan covering children of 6-14 years. It is envisaged to provide 5 years of schooling. A comprehensive and efficient primary health care is also in place. It was proposed to extend primary health care services in the urban areas, particularly in slums having population of 30,000. It is proposed to establish 1944 sub-centres during the Tenth Five Year Plan. To develop rural infrastructure unconnected villages were being targeted (about 25749). The state government has also plans for the upliftment of the tribal population.

# INDIA: FISCAL REFORMS FOR POVERTY REDUCTION

## PAPER 6: CASE STUDY OF UTTARANCHAL

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## **Preface**

This study has been undertaken by the National Institute of Public Finance and Policy at the instance of the Canadian International Development Agency (CIDA), Canada.

The study team consists of D. K. Srivastava, S. K. Sanyal, C. Bhujanga Rao, and Pinaki Chakraborty. Opinions and analyses here are those of the authors. The members of the Governing Body of the National Institute of Public Finance and Policy are in no way responsible for these.

March 2004  
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## PAPER 6: CASE STUDY OF UTTARANCHAL

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# **INDIA: FISCAL REFORMS FOR POVERTY REDUCTION**

## **PAPER 6: CASE STUDY OF UTTARANCHAL**

### **Chapter 1: POVERTY PROFILE OF UTTARANCHAL AN INTRA-STATE PERSPECTIVE**

#### **1.1 Introduction**

This paper examines the case of restructuring and refocusing government spending in Uttarakhand to improve its impact on poverty alleviation, directly through implementing poverty alleviation and income support programmes, and indirectly through investing on education, health, agriculture, and infrastructure. In November 2000, Uttarakhand was carved out from the erstwhile Uttar Pradesh as a separate state. Uttarakhand has been accorded the status of Special Category State. The details of the survey guidelines, concepts and definitions are given in Annexure 1 appended to this report.

This paper is organised into 4 Chapters. Chapter 1 examines the poverty profile of Uttarakhand. Chapter 2 looks at the policies for poverty reduction under fiscal stress. Analyses of survey results are presented in Chapter 3. Chapter 4 summarises the findings.

Uttarakhand finds mention in the ancient Hindu scriptures as Kedarkhand, Manashkhand and Himavant. Uttarakhand was earlier a part of the United Province of Agra and Awadh which came into existence in 1902. In 1935, the name of the State was shortened to the United Province. In January 1950, the United Province was renamed as Uttarakhand and remained as part of Uttar Pradesh before it became on 9 November 2000, the 27<sup>th</sup> State of India. It is located in the foothills of the Himalayas. The state has international boundaries with China (Tibet) in the north and Nepal in the east. On its northwest lies Himachal Pradesh while on the south is Uttar Pradesh. Of the total number of 13 districts, 10 districts lie in the great and lesser Himalayas, 3 districts or parts thereof are in the mountainous area of Terai/Bhabar, the Doon valley, and the Upper Ganga Doab. Major Indian rivers, namely the Yamuna and Ganga pass through almost the whole of the Garhwal sub-region bordering Himachal Pradesh in the west and the Tibet region of China in the north, Ramganga in the central sub-region, and the Kali/Sharda that emerges in the eastern part of the state bordering

Nepal. Uttaranchal is also characterised as the ‘Devbhoomi’ on account of major shrines and spiritual centres in the state.

## 1.2 Constitution of the State

*Uttaranchal came into existence in November 2000 as the 27<sup>th</sup> state of India. The state has 13 districts and is ranked at 18<sup>th</sup> place in terms of area in the country and 20<sup>th</sup> in terms of population. It is the 11<sup>th</sup> most sparsely populated state. Service sector plays a dominant role in the Uttaranchal economy.*

Uttaranchal, a new state had been carved out of the northern part of erstwhile Uttar Pradesh. The new state lies in 28° 43’ to 31° 28’ north and 77° 32’ to 81° 00’ east. Uttaranchal has 13 districts spread over an area of 53483 sq. kms. and the state is ranked at 18<sup>th</sup> place in terms of area with a share of 1.69 percent of the area of the country. It has a population of 84.8 lakh persons (as per the Census 2001) of which males accounted for 51 percent and females, 49 percent. The state’s population constitutes 0.82 percent of the total population of the country. Uttaranchal stands at 20<sup>th</sup> place among states and Union territories in terms of population. The density of population is 159 per square km as compared to 324 per square km for India. It is 11<sup>th</sup> most sparsely populated state. The sex ratio at 964 females per 1000 males is more than the all India ratio of 933. The literacy rate in Uttaranchal at 72.3 is higher than that of all India at 65.4. Out migration seems to be a major characteristic of the state as 8 out of the 13 districts show high sex ratios in the range of 1017 to 1147.

The decadal progress in literacy rate in Uttaranchal since fifties is shown in Table 1.1.

**Table 1.1: Literacy Rate 1951-2001, Uttaranchal**

<b>Years</b>	<b>Persons</b>	<b>Male</b>	<b>Females</b>
1951	18.93	32.15	4.78
1961	18.05	28.17	7.33
1971	33.26	46.95	18.61
1981	46.06	62.35	25.00
1991	57.75	72.79	41.63
2001	72.28	84.01	60.26

Source: Census of India 2001, Series 6, Uttaranchal, Provisional Population Totals, Paper 1, p. 40.

Note: Literacy rates for 1951, 1961 and 1971 relate to population aged five years and above. For 1981 to 2001 relate to population aged seven years and above.

About 90 percent of the population of Uttarakhand depends on agriculture. The percentage of number of operational land holdings of the size of less than 2 hectares is very large. Nearly 88 percent of landholdings, covering about 55 percent of the cultivated area fall under this category. As per the land use statistics, the total reported area is 55.96 lakh hectares, of which 34.99 lakh hectare (62.5 percent) is classified under forest, 1.66 lakh hectares (2.97 percent) is under non-agricultural uses, 2.45 lakh hectare (5.27 percent) uncultivable, 0.79 lakh hectares (1.4 percent) fallow land and only 7.84 lakh hectare (14.02 percent) is net sown area. The net sown area is only about 14 percent of the total reported area. The cropping intensity is about 169 percent and the ratio of gross irrigated area to gross sown area is only 43 percent. In hills the major crops grown include Madua, Ramdana and potato whereas in the plains the major crops are cereals, pulses and sugarcane.

The state has about 188.8 million cubic metres of growing stock of commercial forest produce. Resin and katha are main minor forest produces. The state is rich in mineral deposits like limestone, rock phosphate, dolomite, magnesite, copper graphite, soapstone, gypsum, etc. Most of the industries are forest based. The total length of metalled roads in Uttarakhand is 16652 km. The length of PWD roads is 12706 km. The length of roads built by local bodies is 1353 km and by other agencies 2593 km (see India 2003). The access to the railway network is very limited, as only 24 block headquarters out of 95 in the state are within a distance of 0-49 km of a railhead. The main railway stations are Dehradun, Haridwar, Roorkee, Kotdwar, Kashipur, Udham Singh Nagar, Haldwani and Kathgodam.

Uttarakhand is vulnerable to natural calamities. This is basically due to the convergence and collision of the Eurasian and the N-NE drifting Indian plate. The collision of the plate gives rise to many deep-seated discontinuities in the Himalayan terrain leading to disasters. From the south to north there are Himalayan Foothill Thrust separating the Indo-Gangetic plains from the Siwalik foothills, Main boundary Thrust, separating the lesser Himalaya from the Central Crystallines, and the Tethyan Fault separating the Crystallines from the Higher Himalaya. The entire state falls in seismic zones four and five and is rocked by earthquakes frequently. Two major earthquakes were experienced, one in Uttarkashi (on 28<sup>th</sup> October, 1991) and the other in Chamoli district (29<sup>th</sup> March, 1999). Slope instability also causes calamities. In addition there are also cloudbursts, flash floods, avalanches and forest fires.

The number of Tehsils in Uttaranchal in the year 1998-99 was 49; the number of Uptehsil was 9; Samudayak Vikas Khand 95; Nyaya Panchayat 670; and Gram Sabha 6795. The total number of villages in Uttaranchal was 16800, of which 93 percent were inhabited, 6 percent uninhabited and one percent was forest villages. The total number of Nagar/ Nagar Samooch was 84; there was one Nagar Nigam and 31 Nagar Palikas. There are 9 Cantonment areas; 30 Nagar Panchayat, 4 notified areas and 9 Janganana Nagars. Out of the 95 Kshetra Panchayats in Uttaranchal, the headquarters of only 29 have a municipal body. However, Kshetra Panchayats are fairly evenly spread out over the populated parts the state.

The crude birth rate at 19.6 per thousand is lower than the country's average birth rate of 26.1 per thousand. Similarly, the crude death rate stands at 6.5 per thousand against the all India figure of 8.7. For rural areas these estimates are 24.5 and 1.5 respectively. Infant mortality rate (IMR) for the state is 52 per thousand live births (rural areas it is 75). The mortality rate for female infants in the rural areas is 87 per thousand live births, which is cause for concern.

The life expectancy at birth is 62 years for Uttaranchal as compared to 61 years for the country. Apart from the district hospitals at the district level, the network of health apparatus in the state includes 23 community health centres, 257 primary health centres, 1609 sub-centres and 389 ayurvedic dispensaries.

Safe drinking water facilities in the village itself are available in 87 percent of the inhabited villages; another 8 percent have it within a distance of 1 km. Thus nearly 95 percent of the villages are well covered with drinking water facility. Out of a total number of 15669 inhabited villages, 14665 have been fully covered with respect to providing safe drinking water as per Rajiv Gandhi Drinking Water Mission norms, whereas 931 are partially covered and the remaining 83 come under the NC category. In terms of habitations, 95.3 percent of 31008 habitations have been provided sources for safe drinking water as on 31.03.2001.

### **Structure of Gross Domestic Product**

In analysing poverty, the composition of Gross State Domestic Product is important. GSDP is categorised into three main sectors viz., agriculture, manufacturing and services. Agriculture includes forestry and logging, and fishing. Industry consists of manufacturing, mining and quarrying, electricity, gas and water supply. Service includes (i) construction, (ii)

trade, hotels and restaurants, (iii) transport, storage and communication, (iv) financing, insurance, insurance, real estate and business services, and (v) community, social and personal services.

Table 1.2 shows that in Uttaranchal services sector has a predominant share. It has grown from 46.8 percent in 1993-94 to 51.68 percent in 1999-00, and fell to 48.99 in 2000-01. The share of industry has stagnated around 11 percent during the years 1998-99 to 2000-01. The share of agriculture has been hovering around 40 percent. The per capita income has risen from Rs. 11500 in 1993-94 to Rs. 18427 in 2000-01.

**Table 1.2: Structure of GSDP**

	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01
<b>Composition of GSDP (percent)</b>								
Agriculture and Allied	40.80	37.48	38.87	38.63	40.57	38.02	37.67	40.13
Industry	12.40	17.19	13.50	13.48	11.97	10.86	10.65	10.88
Services	46.81	45.34	47.64	47.90	47.46	51.12	51.68	48.99
GSDP current prices (Rs. Crore)	8580	8850	9655	11125	11239	11131	12287	15530
<b>Per Capita GSDP (Rupees)</b>	<b>11500</b>	<b>11605</b>	<b>12386</b>	<b>14006</b>	<b>13901</b>	<b>13508</b>	<b>14808</b>	<b>18427</b>

Source (Basic Data): Central Statistical Organisation .

### 1.3 Inter-District Profile

*The literacy rate in the state is higher than that of all India. The literacy rate varies from 65 in Hardwar to 79 in Dehradun. The sex ratio varies from 868 females per 1000 males in Hardwar to 1147 in Almora. The density of population varies from 37 per square km in Uttarkashi to 612 in Hardwar. Out migration is a major characteristic of the state. Due to vast hilly terrain there are infrastructure bottlenecks. As per the BPL survey in 1997-98, 36.44 percent of the rural families are below the poverty line*

The headquarters of the 13 districts in Uttaranchal alongwith their area and population as per 2001 Census is shown in Table 1.3. In terms of area, Uttarkashi is the biggest district (15 percent), followed by Pithoragarh and Chamoli (14 percent), Pauri Garhwal (10 percent), Nainital (9 percent), Tehri Garhwal (7 percent), Almora and Dehradun (6 percent), Rudraprayag, Bageshwar, Udamsingh Nagar and Hardwar (4 percent), and finally Champawat (3 percent).

**Table 1.3: Area, Population and Headquarter of Districts**

District	Area Sq. Km.	Population	Headquarters
Uttarkashi	8016	294179	Uttarkashi
Chamoli	7626	369198	Gopeshwar
Rudraprayag	2252	227461	Rudraprayag
Tehri Garhwal	3796	604608	New Tehri
Dehradun	3088	1279083	Dehradun
Pauri Garhwal	5397	696851	Pauri
Pithoragarh	7218	462149	Pithoragarh
Champawat	1638	224461	Champawat
Almora	3074	630446	Almora
Bageshwar	2311	249453	Bageshwar
Nainital	4767	762912	Nainital
Udhamsingh Nagar	2027	1234548	Udhamsingh Nagar
Hardwar	1994	1444213	Hardwar

**a. Population and Literacy Rate in Uttaranchal**

The district-wise population and the number of literates as per the population census 1991 are shown in Table 1.4. Between 1991 and 2001 Census, the net addition to the population is 1428970.

**Table 1.4: Uttaranchal: District-Wise Population and Number of Literates**

Districts	Popula- tion 2001	Population (1991 Census)							Number of Literates		
		Persons	Male	Female	Rural	Urban	SC	ST	Persons	Male	Female
Uttarkashi	294179	239709	124976	114731	222448	17261	54594	2300	91999	70134	21865
Chamoli	369198	325247	164129	161118	286550	38697	57555	10085	159489	107576	51913
Tehri Garhwal	604608	520214	254158	266056	487319	32895	72674	608	204505	147174	57331
Dehradun	1279083	1025679	556432	469247	510199	515480	137464	84076	597388	367114	230274
Garhwal	696851	671541	326378	345163	590359	81182	90682	1500	363278	220876	142402
Rudraprayag	227461	200515	95745	104770	198672	1843	33306	197	96983	63640	33343
Hardwar	1444213	1124488	609054	515434	776346	348142	242658	2026	437482	293950	143532
Almora	630446	608210	289767	318443	560475	47735	128303	816	296830	188073	108757
Bageshwar	249453	228407	111133	117274	222635	5772	55934	1823	102829	69174	33655
Nainital	762912	582729	310061	272668	391740	190989	114676	3392	321103	201473	119630
US Nagar	1234548	914569	490804	423765	622276	292293	121306	86427	359688	240217	119471
Pithoragarh	462149	416647	209177	207470	380950	35697	91458	18152	210078	137574	72504
Champawat	224461	192637	99053	93584	166539	26098	31706	462	86502	62006	24496
<b>Total</b>	<b>8479562</b>	<b>7050592</b>	<b>3640867</b>	<b>3409723</b>	<b>5416508</b>	<b>1634084</b>	<b>1232316</b>	<b>211864</b>	<b>3328154</b>	<b>2168981</b>	<b>1159173</b>

The district-wise literacy rate by sex for the years 1991 and 2001 are given in Table 1.5.

**Table 1.5: Literacy Rates by Sex for State and Districts, Uttarakhand**

State/District	Literacy Rate*					
	Persons		Males		Females	
	1991	2001	1991	2001	1991	2001
<b>Uttarakhand</b>	<b>57.75</b>	<b>72.28</b>	<b>72.79</b>	<b>84.01</b>	<b>41.63</b>	<b>60.26</b>
Uttarkashi	47.23	66.58	68.74	84.52	23.57	47.48
Chamoli	60.40	76.23	80.85	89.89	39.66	63.00
Rudrapur	57.47	74.23	80.36	90.73	37.08	59.98
Tehri Garhwal	48.46	67.04	72.09	85.62	26.31	49.76
Dehradun	69.50	78.96	77.95	85.87	59.26	71.22
Garhwal	65.53	77.99	82.57	91.47	49.65	66.14
Pithoragarh	61.38	76.48	80.31	90.57	42.41	63.14
Champawat	55.81	71.11	77.63	88.13	32.62	54.75
Almora	59.83	74.53	80.78	90.15	41.32	61.43
Bageshwar	54.54	71.94	76.52	88.56	34.22	57.45
Nainital	68.36	79.60	80.42	87.39	54.51	70.98
Udhamsingh Nagar	49.29	65.76	60.47	76.20	36.02	54.16
Hardwar	47.97	64.60	59.28	75.06	34.37	52.60

Source: Census of India 2001, Series 6, Uttarakhand, Provisional Population Totals, Paper 1, p. 41.

Note: \* Literacy rate is the percentage of literates to population aged 7 years and above

The female literacy rate is above 70 in two districts *viz.*, Dehradun and Nainital. There are only two districts *viz.*, Uttarkashi and Tehri Garhwal, which have female literacy below 50 percent.

The population pressure in Uttarakhand has increased in 2001 census as compared to 1991. The density of population for Uttarakhand is 159 as against 133 in 1991 census. The highest is observed in Hardwar (612), followed by Udhamsingh Nagar (424) and Dehradun (414). The lowest density is in Uttarkashi (37) preceded by Chamoli (48) and Pithoragarh (65).

In terms of sex ratio the ranking of Bageshwar changed to 3<sup>rd</sup> in the 2001 census. In terms of density, Nainital and Tehri Garhwal have improved their ranking. Table 1.6 gives the ranking of the districts by population, sex ratio and density.

#### **b. Basic Information on the Villages and Their Functionaries**

The details of district wise information on the villages and their functionaries are given in Table 1.7.

**Table 1.6: Ranking of Districts by Population, Sex Ratio and Density for 1991 and 2001**

District	Ranking of Districts by					
	Population		Sex Ratio		Density	
	1991	2001	1991	2001	1991	2001
Uttarkashi	10	10	9	9	13	13
Chamoli	9	9	7	8	12	12
Rudraprayag	12	12	2	2	4	4
Tehri Garhwal	7	7	5	5	9	9
Dehradun	2	2	13	12	3	3
Garhwal	4	5	3	4	8	10
Pithoragarh	8	8	6	6	11	11
Champawat	13	13	8	7	6	6
Almora	5	6	1	1	7	8
Bageshwar	11	11	4	3	5	5
Nainital	6	4	10	10	9	7
Udhamsingh Nagar	3	3	11	11	2	2
Hardwar	1	1	12	13	1	1

Source: Census of India 2001, Series 6, Uttaranchal, Provisional Population Totals, Paper 1, pp. 37-39.

**Table 1.7: Uttaranchal: District-Wise Information on the Villages and Their Functionaries**

Districts	Number of Tehsil 1998-99	Number of Uptehsil 1998-99	Samudayak Vikas Khand 1998-99	Nyaya Gram Sabha Panchayat 1998-99	Number of Villages			Nagar/ Nagar Samooch 1999	Nagar Nigam 1999		
					Total 1999	Inhabited 1999	Uninhabited 1999			Forest 1999	
Uttarkashi	4		6	37	373	703	677	9	17	3	
Chamoli	6		9	39	493	1246	1144	89	13	6	
Tehri Garhwal	5	2	9	76	762	1840	1773	54	13	6	
Dehradun	4		6	40	335	788	749	18	21	17	
Garhwal	6		15	116	1178	3505	3137	342	26	7	
Rudraprayag	2	1	3	27	326	696	660	28	8	2	
Hardwar	3		6	46	299	632	503	124	5	8	
Almora	3		11	95	1016	2259	2159	88	12	4	
Bageshwar	2		3	35	344	920	863	53	4	1	
Nainital	4	3	8	44	442	1160	1095	26	39	8	
US Nagar	4	2	7	27	327	699	671	13	15	15	
Pithoragarh	5	1	8	64	651	1647	1569	66	12	3	
Champawat	1		4	24	249	705	651	45	9	4	
<b>Total</b>	<b>49</b>	<b>9</b>	<b>95</b>	<b>670</b>	<b>6795</b>	<b>16800</b>	<b>15651</b>	<b>955</b>	<b>194</b>	<b>84</b>	<b>1</b>

District-wise information on basic infrastructure facilities available in 1998-99 is shown in Table 1.8. In all there are 94 police stations of which 71 percent are in towns and 29 percent in villages. 65 percent of the police stations are located in 6 districts, viz., Dehradun, Garhwal, Hardwar, Nainital, Udhamsingh Nagar and Pithoragarh. The total number of bus stands in the state is 2584. More than 50 percent of these are located in four districts viz.,

Tehri Garhwal, Garhwal, Almora and Dehradun. The total number of railway stations is 44 of which 82 percent are in three districts viz., Hardwar, Udham Singh Nagar and Dehradun. The total length of the railway line in the state is 342.5 km. The total number of post offices is 2728 of which 9 percent are in towns and 91 percent in villages. The total number of telegraphic office is 407, bulk of which are in Almora, Nainital, Udham Singh Nagar, Chamoli and Hardwar. The total telephone connections are 166400 of which Dehradun and Udham Singh Nagar account for 54 percent. Nationalized banks account for 89 percent of the banking operations in the districts. There are 181 Village Bank branches, 180 Co-operative branches and 19 Co-operative Agricultural and Rural Development branches.

**Table 1.8: Uttarakhand: District-Wise Information on Basic Infrastructure Facilities**

Districts	Cantonment Area 1999	Nagar Panchayat 1999	Notified Area 1999	Janganana Nagar 1999	Police Station			Bus Stand 1998-98	Railway Station		Railway Line (length Km)	
					Total 1998-99	Village 1998-99	Towns 1998-99		Total 1998-99	Big Lines 1998-99	Small Lines 1998-99	
Uttarkashi		1	1		5	3	2	205		0		
Chamoli		4			5		5	79		0		
Tehri Garhwal		4			6		6	432		0		
Dehradun	4	2	1	6	15	4	11	232	8	64.5	64.5	
Garhwal	1	1		1	9	2	7	427	1	0		
Rudraprayag		1	1		2	1	1	132		0		
Hardwar	1	3	1		12	3	9	113	14	72	72	
Almora	2	1			7	4	3	275		0		
Bageshwar					3	2	1	83		0		
Nainital	1	3			9	1	8	220	5	32	32	
US Nagar		6	1		9	1	8	144	14	161	113	
Pithoragarh		2			9	6	3	189		0		
Champawat		2	1		3		3	53	2	13	13	
<b>Total</b>	<b>9</b>	<b>30</b>	<b>4</b>	<b>9</b>	<b>94</b>	<b>27</b>	<b>67</b>	<b>2584</b>	<b>44</b>	<b>342.5</b>	<b>281.5</b>	
	<b>Post Office</b>		<b>Telegraphic Office 1998-99</b>	<b>Telephone Connections 1998-99</b>	<b>Commercial Banks</b>			<b>Village Bank Branches 1998-99</b>	<b>Cooperative Bank Branches 1998-99</b>	<b>Coop. Agric. &amp; Rur. Dev. Branch. 1998-99</b>		
	<b>Total 1998-99</b>	<b>Towns 1998-99</b>	<b>Village 1998-99</b>		<b>Total 1998-99</b>	<b>Nationalised 1998-99</b>	<b>Others 1998-99</b>					
Uttarkashi	124	6	118	15	4036	23	23	3	12	1		
Chamoli	260	14	246	39	4216	24	24	12	15	1		
Tehri Garhwal	306	13	293	3	5937	47	47	22	21	1		
Dehradun	251	69	182	13	59244	157	140	17	14	3		
Garhwal	426	17	409	10	8400	61	61	36	19	2		
Rudraprayag	107	3	104	12	2637	21	16	5	5			
Hardwar	125	43	82	34	17378	90	88	2	1	3		
Almora	317	15	307	125	13941	57	49	8	19	2		
Bageshwar	144	2	142	33	848	17	13	4	15	4		
Nainital	167	22	145	63	10294	61	53	8	19	1		
US Nagar	105	21	84	49	30088	78	65	13	8	4		
Pithoragarh	321	8	313	9	6337	28	27	1	21	1		
Champawat	75	5	70	2	3044	35	19	16	6			
<b>Total</b>	<b>2728</b>	<b>238</b>	<b>2495</b>	<b>407</b>	<b>166400</b>	<b>699</b>	<b>625</b>	<b>74</b>	<b>181</b>	<b>180</b>		

### c. District-Wise Estimates of Poverty

In a survey conducted by the rural development department for the year 1997-98, it was found that 36.44 percent of the rural families are below the poverty line. The district-wise below poverty line are shown in Table 1.9.

**Table 1.9: District-Wise Below Poverty Line Households for the Year 1997-98 (BPL Survey 1997-98)**

Districts	Number of Rural Families	Total Number of BPL Families	Percent of BPL Families to Total Rural Families	Classification of Total BPL Families							
				SCs	STs	Females	Handi-capped	Small Farmer	Marginal Farmer	Rural Artisan	Agri-culture Labour
Pauri	120941	32342	26.74	9895	212	7525	226	1639	28882	4731	6876
Dehradun	95881	30890	34.22	8158	6771	1916	206	3736	16303	3368	5681
Chamoli	57368	29651	51.69	8314	1392	2966	624	2009	27642	1460	0
Tehri Garhwal	104424	59028	56.53	11796	9	6945	929	1388	56178	5730	5029
Uttarkashi	48949	33534	68.51	10309	103	2595	374	4803	28731	3860	0
Rudraprayag	42541	15896	37.37	4820	0	2746	303	16	15880	2572	0
Nainital	65539	19989	30.50	7651	314	2218	210	1383	14241	2794	12439
Almora	113857	41650	36.58	15025	38	6474	429	460	36599	4090	501
Pithoragarh	80847	24912	30.81	8409	1489	4974	315	251	22312	2277	72
Udhamsingh Nagar	107457	39413	36.68	8618	7410	2744	153	3404	9280	3955	71219
Bageshwar	37694	15692	41.63	5842	73	2053	75	153	11522	1245	5370
Champawat	29468	10977	37.25	3519	4	1689	86	535	9335	959	62
Hardwar	128171	22528	17.58	10182	499	1988	195	5525	4746	1950	16677
<b>Total</b>	<b>1033137</b>	<b>376502</b>	<b>36.44</b>	<b>112538</b>	<b>18314</b>	<b>46834</b>	<b>4125</b>	<b>25302</b>	<b>281651</b>	<b>38991</b>	<b>123926</b>

Source: BPL Survey 1997-98.

Hardwar has the lowest percent of BPL families to total rural families in Uttaranchal (17.58 percent). While Uttarkashi, Tehri Garhwal and Chamoli account for 68.5 percent, 56.33 percent and 51.69 percent respectively of the BPL families.

Jha and Sharma (2003) examined the spatial distribution of rural poverty using 75 NSS regions for the quinquennial rounds of 1987-88, 1993-94 and 1999-00. They use Foster-Greer-Thorbecke measure of poverty. The results for various regions of undivided Uttar Pradesh are presented in their paper. They have provided estimates for the Himalayan region, which forms a major part of Uttaranchal. The results are shown in Table 1.10.

**Table 1.10: Poverty in Uttaranchal**

NSS Rounds	PG0	PG1	PG2
43rd Round (1987-88)	0.103681	0.015616	0.003662
50th Round (1993-94)	0.154377	0.022842	0.005249
55th Round (1999-00)	0.087823	0.011005	0.002101
Poverty Change Between 43rd and 50th Round	-0.0507	-0.00723	-0.00159

Source: Jha, Raghbendra and Anurag Sharma (2003).

Note: PG0: Head Count Index of Poverty; PGI: Poverty Gap; PG2: Square of Poverty Gap

The negative sign for the Himalayan region in the three indices shows that poverty in this region has deteriorated during the nineties. In particular, the head count ratio shown by PGO has gone down by 5 percentage points between 1987-88 and 1999-00. The overall head count ratio is rather low at 8.8 percent.

## Chapter 2: FISCAL PROFILE OF UTTARANCHAL

### 2.1 Introduction

With its formation in 2000, Uttaranchal has only limited fiscal history. However, an attempt is made in this chapter to capture some of basic features of the state finances.

### 2.2 Fiscal Imbalance

*The finances of the newly created Uttaranchal state show a marked deterioration in revenue and fiscal balance. However, the decline in the share of revenue deficit in fiscal deficit shows improvement in the quality of fiscal deficit. Fiscal deficit stands at 10 percent of GSDP in 2003-04 and the outstanding debt relative to GSDP at 34 percent.*

The fiscal imbalance in Uttaranchal is increasing over the years. Starting from a revenue deficit of 2.40 percent of GSDP in 2001-02 it rose to 3.45 percent of GSDP in 2002-03. Thereafter, it further rose to 5.53 percent of GSDP in 2003-04 (BE). The fiscal deficit has risen from 4.9 percent of GSDP in 2001-02 to 5.84 percent in 2002-03 and by 2003-04 it was estimated to exceed 10 percent. However, the share of revenue deficit in fiscal deficit in declined from about 59 percent in 2001-02 and to 55 percent in 2002-03. Table 2.1 highlights some of the features of the fiscal imbalance.

**Table 2.1: Fiscal Imbalance: The Key Indicators**

	(Percent to GSDP)			
	2000-01	2001-02	2002-03	2003-04 (BE)
Revenue Deficit	0.06	2.40	3.45	5.53
Fiscal Deficit	1.08	4.09	5.84	10.10
Primary Deficit	0.33	1.06	2.78	6.00
Revenue Deficit/Fiscal Deficit	5.80	58.66	58.96	54.75
Outstanding Debt	21.75	25.13	29.66	33.70

Source (Basic Data): Finance Accounts of Uttaranchal and Budget Document (2003-04) of Uttaranchal. GSDP data as released by CSO.

### 2.3 State Finances

*Every component of revenue receipts relative to GSDP has increased over the period 2001-02 to 2002-03. Revenue and capital expenditure also show a rising trend. The share of economic services in total revenue expenditure has increased by about 4 percentage points since 2002-03 while that of social services declined by about 4 percentage points. Per capita expenditure on health and education has increased significantly. Internal debt of the state government is growing at an alarming rate, a large part of the borrowing is from the market. Capital expenditure as percent of GSDP is above 4 percent in 2003-04 but there is a change in the composition of expenditure over the years.*

During the period 2001-02 to 2002-03 the revenue receipts of the state relative to GSDP increased from 15.17 to 16.95 percent, and further to 23.69 percent in 2003-04 (BE). Table 2.2 gives the relevant magnitudes of revenue and expenditure. Both own tax revenues and own non-tax revenues have increased over the years. The share in central taxes has been below one percent of GSDP in the first two years and thereafter rose to little above 2 percent. Revenue expenditure and capital expenditure have also increased over the years. Capital outlay is budgeted at 3.36 percent of GSDP in 2003-04.

**Table 2.2: State Finance of Uttaraanchal: An Overview**

	(Percent to GSDP)			
	2000-01	2001-02	2002-03	2003-04 BE
<b>Revenues</b>	<b>5.95</b>	<b>15.17</b>	<b>16.95</b>	<b>23.69</b>
Own Tax Revenues	1.90	5.35	5.66	6.19
Own Non-Tax Revenues	0.41	0.97	2.08	2.29
Share in Central Taxes	0.77	0.93	1.16	2.32
Grants	2.88	7.92	8.05	12.89
<b>Expenditures</b>	<b>6.97</b>	<b>19.26</b>	<b>22.80</b>	<b>33.78</b>
<b>Revenue Expenditure of which</b>	<b>6.01</b>	<b>17.57</b>	<b>20.40</b>	<b>29.22</b>
Interest Payment	0.76	3.03	3.07	4.10
Pension	0.03	0.08	0.75	1.55
<b>Capital Expenditure (net) of which</b>	<b>1.02</b>	<b>1.69</b>	<b>2.40</b>	<b>4.57</b>
Capital Outlay	0.96	1.25	1.88	3.36
Net Lending	0.06	0.45	0.51	1.21

Source (Basic Data): Finance Accounts of Uttaraanchal and Budget Document (2003-04) of Uttaraanchal.

In Table 2.3, the composition of state's own tax revenues shows that sales tax accounts for about 3 percent of GSDP in the year 2001-02 and has touched 3.2 percent by 2003-04 (BE), followed by state excise duties, stamp duty and registration fees, taxes on vehicles and other taxes.

**Table 2.3: State's Own Tax Revenues: 2000-01 to 2003-04**

	(Percent to GSDP)			
	2000-01	2001-02	2002-03	2003-04 BE
<b>State's Own Tax revenues</b>	1.90	5.35	5.66	6.19
Sales Tax	0.94	2.91	3.05	3.20
State Excise Duties	0.43	1.69	1.36	1.47
Taxes on Vehicles	0.14	0.40	0.40	0.62
Stamp Duty & Registration Fees	0.27	0.53	0.68	0.71
Other Taxes	0.12	0.12	0.17	0.17

Source (Basic Data): Finance Accounts of Uttaraanchal and Budget Document (2003-04) of Uttaraanchal.

In Table 2.4 the composition of state's non-tax revenues is shown. Interest receipts are low and dividends are negligible. Economic and social services account for major part of the collection state's non-tax revenue.

**Table 2.4: State's Non-Tax Revenues: 2000-01 to 2003-04**

	(Percent to GSDP)			
	2000-01	2001-02	2002-03	2003-04 (BE)
<b>Non-Tax Revenues</b>	0.41	0.97	2.08	2.29
Interest receipts	0.01	0.02	0.02	0.01
Dividends & Profits	0.00	0.00	0.00	0.00
General Services	0.05	0.11	0.13	0.62
Social Services	0.04	0.14	0.19	0.19
Economic Services	0.30	0.70	1.74	1.47
Fiscal Services	0.00	0.00	0.00	0.00

Source (Basic Data): Finance Accounts of Uttarakhand and Budget Document (2003-04) of Uttarakhand.

Table 2.5 shows the changing structure of revenue expenditure of Uttarakhand. The importance of general and social services has marginally come down during the years 2001-02 and 2003-04 (BE). The share of economic services has risen from 23.56 percent in 2001-02 to 25.86 percent in 2002-03, and continues to rise in 2003-04 (BE). Compensation and assignments to local bodies fell upto 2002-03 and then recovered.

**Table 2.5: Changing Composition of Revenue Expenditure of Uttarakhand**

	(Percent)			
	2000-01	2001-02	2002-03	2003-04 (BE)
<b>General Services</b>	<b>25.08</b>	<b>36.13</b>	<b>32.30</b>	<b>32.15</b>
Interest Payment	12.58	17.26	15.04	14.04
Pension	0.56	0.43	3.67	5.32
Others	11.94	18.45	13.59	12.79
<b>Social Services</b>	<b>32.90</b>	<b>38.14</b>	<b>39.96</b>	<b>36.13</b>
Education	25.55	23.27	24.74	20.35
Medical & Public Health	3.13	4.06	3.65	4.10
Family Welfare	0.53	0.72	0.66	0.43
Water Supply & Sanitation	0.11	5.74	3.95	3.67
Other Social Services	3.58	4.35	5.96	7.59
<b>Economic Services</b>	<b>37.60</b>	<b>23.56</b>	<b>25.86</b>	<b>27.54</b>
Irrigation	1.90	3.96	3.81	2.56
Roads and Bridges	2.14	1.47	1.12	0.82
Others	33.56	18.12	20.94	24.15
<b>C &amp; A to Local Bodies</b>	<b>4.43</b>	<b>2.17</b>	<b>1.88</b>	<b>4.18</b>
<b>Total Expenditure</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

Source (Basic Data): Finance Accounts of Uttarakhand & Budget Document (2003-04) of Uttarakhand.

Table 2.6 shows that revenue expenditure as percent of GSDP has increased over the years, from 17.57 percent in 2001-02 to 20.40 percent in 2002-03. In general services, interest payment accounts for above 3 percent of GSDP during 2001-02 to 2002-03. This further increased in 2003-04 (BE). Pension liabilities have increased from 0.08 percent of GSDP in 2001-02 to 1.55 percent in 2003-04 (BE). Among the social services, education accounts for bulk of the revenue expenditure. In 2001-02 the share was 4.09 percent and it rose to 5.25 percent of GSDP in 2002-03. This trend has continued into 2003-04 (BE). In the economic services, the share of irrigation, and roads and bridges is highlighted. The share of revenue expenditure in GSDP for irrigation rose from 0.70 percent in 2001-02 to 0.78 percent in 2002-03, and it has come down in 2003-04 (BE). Expenditure on roads and bridges has been falling since 2001-02 and recovered marginally in 2003-04 (BE).

**Table 2.6: Revenue Expenditure of Uttaranchal: Selected Heads**

	(Percent to GSDP)			
	2000-01	2001-02	2002-03	2003-04 (BE)
<b>General Services</b>	<b>1.51</b>	<b>6.35</b>	<b>6.59</b>	<b>9.39</b>
Interest Payment	0.76	3.03	3.07	4.10
Pension	0.03	0.08	0.75	1.55
Others	0.72	3.24	2.77	3.74
<b>Social Services</b>	<b>1.98</b>	<b>6.70</b>	<b>8.15</b>	<b>10.56</b>
Education	1.54	4.09	5.25	5.94
Medical & Public Health	0.19	0.71	.074	1.20
Family Welfare	0.03	0.13	.014	0.12
Water Supply & Sanitation	0.01	1.01	0.81	1.07
Other Social Services	0.22	0.76	1.21	2.22
<b>Economic Services</b>	<b>2.26</b>	<b>4.14</b>	<b>5.28</b>	<b>8.04</b>
Irrigation	0.11	0.70	0.78	0.75
Roads and Bridges	0.13	0.26	0.23	0.24
Others	2.02	3.18	4.27	7.06
<b>C &amp; A to Local Bodies</b>	<b>0.27</b>	<b>0.38</b>	<b>0.38</b>	<b>1.22</b>
<b>Total Expenditure</b>	<b>6.01</b>	<b>17.57</b>	<b>20.40</b>	<b>29.22</b>

Source (Basic Data): Finance Accounts of Uttaranchal & Budget Document (2003-04) of Uttaranchal.

In per capita terms, expenditure rose from Rs. 3426 in 2001-02 to Rs. 6384 in 2003-04 (BE). The specific details are shown in Table 2.7. Per person, Uttaranchal spend Rs. 2306 on social and Rs. 1758 on economic services. Per capita expenditure on education and health has risen significantly.

**Table 2.7: Per Capita Revenue Expenditure of Uttarakhand**

	(Rupees)			
	2000-01	2001-02	2002-03	2003-04 BE
<b>General Services</b>	<b>278</b>	<b>1238</b>	<b>1360</b>	<b>2052</b>
Interest Payment	139	591	633	896
Pension	6	15	154	340
Others	132	632	572	817
<b>Social Services</b>	<b>365</b>	<b>1307</b>	<b>1683</b>	<b>2306</b>
Education	283	797	1084	1299
Medical & Public Health	35	139	154	262
Family Welfare	6	25	28	27
Water Supply & Sanitation	1	197	166	234
Other Social Services	40	149	251	484
<b>Economic Services</b>	<b>417</b>	<b>807</b>	<b>1089</b>	<b>1758</b>
Irrigation	21	136	160	164
Roads and Bridges	24	50	47	53
Others	372	621	882	1542
<b>C &amp; A to Local Bodies</b>	<b>49</b>	<b>74</b>	<b>79</b>	<b>267</b>
<b>Total Expenditure</b>	<b>1108</b>	<b>3426</b>	<b>4211</b>	<b>6384</b>

Source (Basic Data): Finance Accounts of Uttarakhand & Budget Document (2003-04) of Uttarakhand.

Table 2.8 captures capital expenditure as percent of GSDP. Capital expenditure includes capital outlay, loans and advances, and repayment of loans and advances. Capital outlay as a proportion to GSDP has increased from 1.25 percent in 2001-02 to 1.88 percent in 2002-03. In 2003-04 (BE), it has risen by more than one percentage point. Loans and advances account for major share of the capital expenditure in terms of their share in GSDP. Total capital expenditure rose from 1.71 percent of GSDP in 2001-02 to above 4.59 percent in 2003-04 (BE).

**Table 2.8: Capital Expenditure: Selected Heads**

	(Percent to GSDP)			
	2000-01	2001-02	2002-03	2003-04 (BE)
Capital Outlay	0.96	1.25	1.88	3.36
Loans and Advances	0.07	0.47	0.53	1.23
Repayment of Loans & Advances	0.01	0.02	0.02	0.03
Capital Expenditure (Net of Rep.)	1.02	1.69	2.40	4.57
<b>Total Capital Expenditure</b>	<b>1.03</b>	<b>1.71</b>	<b>2.42</b>	<b>4.59</b>
				(Percent)
Capital Outlay	92.84	72.67	77.97	73.19
Loans and Advances	7.16	27.33	22.03	26.81
Repayment of Loans & Advances	1.10	1.22	0.74	0.56
Capital Expenditure (Net of Rep.)	98.90	98.78	99.26	99.44
<b>Total Capital Expenditure</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

Source (Basic Data): Finance Accounts of Uttarakhand & Budget Document (2003-04) of Uttarakhand.

Table 2.8 also shows changes in the composition of capital expenditure for the years 2000-01 to 2003-04 (BE). Capital expenditure increased from 73 percent in 2001-02 to 78 percent in 2002-03 but fell to about 73 percent in the subsequent year. Loans and advances touched a peak of 27 percent in 2001-02 and declined in the subsequent year and recovered to 27 percent in 2003-04 (BE).

In terms of per capita capital expenditure there has been a jump from Rs. 338 in 2001-02 to Rs. 503 in 2002-03 and it has doubled in 2003-04 (BE). This changing scenario is depicted in Table 2.9.

**Table 2.9: Per Capita Capital Expenditure**

	(Rupees)			
	2000-01	2001-02	2002-03	2003-04 BE
Capital Outlay	176	243	389	735
Loans and Advances	14	91	110	269
Repayment of Loans & Advances	2	4	4	6
Capital Expenditure (Net of Rep.)	188	330	495	998
Total Capital Expenditure	190	334	499	1004

Source (Basic Data): Finance Accounts of Uttaranchal & Budget Document (2003-04) of Uttaranchal.

## 2.4 Transfer of Resources from the Centre

Table 2.10 shows the structure of central transfers to Uttaranchal for the year 2000-01 to 2003-04. The share in central taxes in 2001-02 was 11 percent of total transfers, plan grants were 86 percent and other non-plan grants 3 percent in the following year, 2002-03, share in central taxes rose to about 13 percent, plan grants declined to 83 percent, and other non-plan grants increased to 4.26 percent. Article 275(1) grants are almost negligible.

**Table 2.10: Structure of Central Transfers**

	(Percent)			
Central Transfers	2000-01	2001-02	2002-03	2003-04 BE
Share in central Taxes	21.03	10.54	12.61	15.25
Article 275(1) Grants	0.00	0.18	0.05	0.10
Plan Grants	10.98	85.79	83.08	75.84
Other Non-Plan Grants	8.04	3.50	4.26	8.81
Total Grants	79.97	89.46	87.39	84.75
<b>Total Transfers</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

Source (Basic Data): Finance Accounts of Uttaranchal & Budget Document (2003-04) of Uttaranchal.

Transfer of resources from the centre has grown from 8.85 percent of GSDP in 2001-02 to 9.21 percent in 2002-03 and thereafter rose sharply to 15.21 percent in 2003-04 (BE). Table 2.11 shows the composition of central transfers.

**Table 2.11: Composition of Central Transfers in Uttaranchal**

Central Transfers	(Percent to GSDP)			
	2000-01	2001-02	2002-03	2003-04 BE
Share in central Taxes	0.77	0.93	1.16	2.32
Article 275(1) Grants	0.00	0.02	0.00	0.02
Plan Grants	0.40	7.59	7.65	11.54
Other Non-Plan Grants	0.29	0.31	0.39	1.34
Total Grants	2.88	7.92	8.05	12.89
<b>Total Transfers</b>	<b>3.64</b>	<b>8.85</b>	<b>9.21</b>	<b>15.21</b>

Source (Basic Data): Finance Accounts of Uttaranchal & Budget Document (2003-04) of Uttaranchal.

## 2.5 Debt and Contingent Liabilities

Uttaranchal is becoming more indebted by the day. This is so inspite of the fact that the state received 90 percent of plan assistance as a grant. The debt-GSDP ratio has increased from 25.13 percent in 2000-01 to 29.66 percent in 2002-03 and to 33.7 percent in 2003-04 (BE) [Table 2.12]. A very large part of Uttaranchal's borrowing is from the market.

**Table 2.12: Outstanding Debt of Uttaranchal Government: 2000-01 to 2003-04**

	(Percent to GSDP)			
	2000-01	2001-02	2002-03	2003-04
<b>Internal Debt of the State Government</b>	<b>7.73</b>	<b>11.07</b>	<b>18.58</b>	<b>26.28</b>
Market Borrowing	4.57	5.50	10.38	14.12
Ways & Means Advances	0.20	0.69	0.17	0.16
Others	2.96	4.87	8.03	12.00
<b>Loans &amp; Adv. From the Central Government</b>	<b>10.90</b>	<b>10.39</b>	<b>6.96</b>	<b>3.25</b>
Non-Plan Loans	4.64	4.19	0.39	0.36
Plan Loans	5.74	5.76	6.18	5.74
Loans for Central Plan Schemes	0.00	0.00	0.00	0.00
Loans for Centrally Sponsored Plan Schemes	0.06	0.08	0.08	0.08
Ways & Means Advances for Plan Scheme	0.08	0.08	0.07	0.07
Pre-1984-85 Loans	<b>0.36</b>	0.29	0.23	0.22
<b>Small Savings, Provident Funds, etc.</b>	<b>3.12</b>	<b>3.67</b>	<b>4.12</b>	<b>4.17</b>
<b>Total</b>	<b>21.75</b>	<b>25.13</b>	<b>29.66</b>	<b>33.70</b>

Source (Basic Data): Finance Accounts of Uttaranchal.

The structures of liabilities are highlighted in Table 2.13. Internal debt has risen over the years, while loans and advances from the central government has come down. Small savings, provident funds, etc., share has also declined.

**Table 2.13: Structure of Outstanding Debt of Uttaranchal Government: 2000-01 to 2003-04**

	(Percent)			
	2000-01	2001-02	2002-03	2003-04
<b>Internal Debt of the State Government</b>	35.53	44.05	62.64	77.98
Market Borrowing	21.00	21.89	35.00	41.90
Ways & Means Advances	0.91	2.75	0.57	0.47
Others	13.61	19.39	27.05	35.60
<b>Loans &amp; Adv. From the Central Government</b>	50.11	41.36	23.47	9.66
<b>Small Savings, Provident Funds, etc.</b>	14.36	14.60	13.90	12.37
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

Source (Basic Data): Finance Accounts of Uttaranchal.

## 2.6 Poverty Alleviation Programmes

*There are various centrally sponsored schemes undertaken in Uttaranchal to ameliorate the poverty in the state. The state has also formulated some specific schemes for the widows and aged persons. A state legal assistance scheme was also started to provide legal aid to economically weaker sections of the community.*

A brief overview of the various poverty alleviation schemes run by the Uttaranchal government is present in this section. Swarn Jayanti Gram Swarozgar Yojana was launched from April 1999. The earlier programmes Integrated Rural Development Programme (IRDP), Training of Rural Youth for Self-Employment (TRYSEM), Development of Women and Children in Rural Areas (DWCRA), etc., were merged in SGSY to bring the poor families above poverty line within three years, by providing them income generating assets through a mix of bank credit and government subsidy. It was to ensure that the family has a net income of at least Rs. 2000, subject to availability of funds. The Sampoorna Gramin Rozgar Yojana came into effect from April 1999 replacing the JRY. Jawahar Gram Samridhi Yojana is dedicated to development of rural infrastructure at the village level. Under this scheme, wages are to be paid at the rate of 5 kg. wheat or rice, as per the habits of the local area in form of wages and the rest in cash. 75 percent of the funding is from the Central Assistance and 25 percent from the state.

The widow pension scheme was to help the needy widows and destitute women in the age group of 18-60 years and having a monthly income not exceeding Rs. 225 per month. Pension is given to the urban as well as rural beneficiaries at the rate of Rs. 125 per month. In the year 2002-03 approximately 51456 widows received the benefit. Under this scheme the Gram Panchayats in rural areas and District Magistrates in urban areas are the sanctioning authorities for this pension.

The state also has a pension scheme for persons of the age of 60 years and above and having an income not exceeding Rs. 225 per month in urban areas and landless farmers having land holding not exceeding 2.5 acres in rural areas. The power of sanctioning is decentralised and is done in the open general body meeting of Gram Sabha and the Committee constituted under the chairmanship of area Sub-Divisional Officer sanctions pension. In urban areas the City Magistrate sanctions the pension. Payment is made by money order or account payee cheque.

Disability pension scheme is being implemented by the state through the department of social welfare. Pension is given both to urban and rural beneficiaries at the rate of Rs. 125 per month. The beneficiaries in this scheme are persons above the age of 18 years. The condition is that the monthly income of beneficiary should not exceed Rs. 1000 in urban and rural areas. The Gram Panchayats in rural areas and District Magistrates in urban areas are entrusted with the authority to sanction pension.

A deposit linked insurance scheme was launched by the state without taking any premium from the subscriber to the Provident Fund with a view to inculcating saving habit among the subscribers and to provide additional social security to their families. Janshree Bima Yojana was started in 2002-03. All women from 17 to 59 years are eligible under this scheme. Upto Rs. 50000 is given in the case of death of the bread earning member of the family. Similar schemes were started for rikshaw pullers, cobblers, primitive tribes etc. About 5000 BPL families were covered in 2002-03 under this scheme.

A state legal assistance scheme was started to provide legal aid to economically weaker sections of the community. Persons whose income is below Rs. 9000 per annum are entitled to legal aid. This benefit extends to all women, children, member or scheduled castes

and tribes, physically/mentally handicapped persons, freedom fighters, industrial labour and certain categories of armed personnel irrespective of their income.

Pradhan Mantri Gramodhaya Yojana (PGMY) was launched in 2000-01. The objective was to achieve sustainable human development at the village level. PGMY has five components *viz.*, primary health, primary education, rural shelter, rural drinking water and nutrition. Rural electrification has been added in 2001-02. Pradhan Mantri Gram Sadak Yojana (PMGSY) was launched in 25th December 2000 to provide road connectivity through good all-weather roads. Under Pradhan Mantri Gramodaya Yojana - Rural Drinking Water Project programme, a minimum 25 percent of the total allocation is to be utilised by the states on projects/schemes for water conservation, water harvesting, water recharge and sustainability of the drinking water sources in respect of areas under Desert Development Programme/Drought Prone Areas Programme.

In Uttaranchal, State Urban Development Agency, which was formed in July 2001 also administers certain schemes. Swarna Jayanti Sahari Rojgar Yojana (SJSRY). This programme provides employment to the urban unemployed or underemployed poor through self-employment ventures or provisions of wage employment. This is a central sponsored scheme where central share is 75 percent and state's share is 25 percent. Urban Self-Employment Programme (USEP): This encourages employed and unemployed urban youth to setup small enterprises. The maximum cost will be Rs. 50,000 and the maximum subsidy will be 15 percent of the project cost, subject to a limit of Rs. 7500. The beneficiary has to contribute 5 percent of the project cost as margin money. Urban Self-Employment Programme (Training): This is intended to provide training to urban poor in a variety of service and manufacturing trades as well as in local crafts to enable to set up self-employment ventures. The amount of money spent on some of the schemes along with the monthly expenditure is shown in Table 2.14.

**Table 2.14: Centrally Sponsored Schemes in Uttaranchal**

(As on 31st October 2003)

Schemes	Total Amount Available	Monthly Expenditure	Cumulative Expenditure	Mandays Target (2003-04)	Mandays Achieved	Mandays Upto	Approved Works	Completed
	(Rs. Lakh)	(Rs. Lakh)	(Rs. Lakh)	(Lakh Man days)	(Lakh Man days)	(Lakh Man days)	(Numbers)	(Numbers)
<b>SGRY – Sampoorna Gramin Rozgar Yojana</b>								
SGRY – I	2940.01	379.75	1212.78	34.08	4.15	16.00	5510	
SGRY – II	3273.87	783.38	1414.86	28.39	5.41	16.99	13114	2144
SGRY (Special Component)	2560.5	205.71	1496.37	75.38		34.37	7656	6371
Schemes	Total Amount Available	Monthly Expenditure	Cumulative Expenditure	Self-Help Group Formed (SHG)	SHG Formed in Month	Bene-ficiaries	SHG Financed	
	(Rs. Lakh)	(Rs. Lakh)	(Rs. Lakh)	(Numbers)	(Numbers)	(Numbers)	(Numbers)	
<b>SJGSY - Swarna Jayanti Gram Swarozgar Yojana</b>								
SJGSY	924.07	206.16	572.61	15155	219	26553	1487	
Schemes	Total Amount Available	Monthly Expenditure	Cumulative Expenditure	Devp. of Houses Target	Devp. of Houses in Month	Devp. of Houses Achievement		
	(Rs. Lakh)	(Rs. Lakh)	(Rs. Lakh)	(Numbers)	(Numbers)	(Numbers)		
Indira Awas	2516.86	436.74	998.00	19536	1436	4029		
PM Gramodaya Awas	111.16	6.71	66.10	1659		384		
Indira Awas: Other	71.49	18.34	60.63	2579		781		
Rural Housing Credit Cum Subsidy	19.21	0.05	4.54	408		48		
TTDC Scheme I	90.41		25.00					
TTDC Scheme II	57.84		7.47					
DPAP	1024.88	88.20	274.47					
IWDP	545.27		183.02					
EAS Microwater Sand	35.31		9.48					
<b>Prime Minister Gram Sadak Yojana</b>								
Central Govt. Grant	13063.00		7476.00					
2000-01	6063.00		4937.00					
2001-02	7000.00		2539.00					
State Govt. Grant								
Forest/Private Land	618.00		303.00					

Source: Monthly Review of Uttaranchal Economy, Centre for Monitoring Indian Economy, November 2003.

Note: DPAP – Drought Prone Area Programme; IWDP – Integrated Watershed Development Programme; EAS – Employment Assurance Scheme.

## Chapter 3: POVERTY IN UTTARANCHAL: PRIMARY SURVEY FINDINGS

### 3.1 Introduction

The official poverty data focuses on a narrow interpretation of poverty concerning mainly nutritional dimension. Since the related data are highly aggregated only an inter-state comparisons or comparisons across National Sample Survey regions are possible. To obtain an understanding of poverty and its determinants and the role of fiscal policy in a more disaggregated way a primary survey was undertaken in Uttaranchal. From out of the 13 districts in Uttaranchal, four districts *viz.*, Bageshwar, Hardwar, Chamoli and Rudraprayag were selected for the survey. In all, there are 70 sample villages for the rural survey, while for the urban survey, there being considerably smaller number of slums, 2 towns of Dehradun and Hardwar having more than a lakh of population were selected. The survey was canvassed during October- November 2003. This paper deals with the rural sector.

A three stage sampling design was adopted with district, village and household as the successive stage units. The total allocated sample of 70 villages was distributed to the four districts: Bageshwar (10), Hardwar (30), Chamoli (20) and Rudraprayag (10). According to the lay out, the households in each sample village were stratified into two strata i) poor and ii) rest, before the sample households were selected. Further, in order to have the focus on the poor households, a larger sample size was envisioned by drawing 8 households from stratum 1 compared to 2 households from stratum 2. Table 3.1 shows the allotted numbers of sample households for both the strata. Because of the larger sample size for stratum 1, the results for this stratum will be having smaller sampling variance relative to stratum 2. This limitation of stratum 2 results may be noted before we discuss the results.

**Table 3.1: Number of Samples Allotted and Those Surveyed**

District	Number of Sample Villages		Number of sample households			
	Allotted	Surveyed	Stratum 1		Stratum2	
			Allotted	Surveyed	Allotted	Surveyed
Bageshwar	10	10	80	72	20	27
Hardwar	30	30	240	376	60	94
Chamoli	20	20	160	149	40	38
Rudraprayag	10	10	80	75	20	25
<b>Uttaranchal</b>	<b>70</b>	<b>70</b>	<b>560</b>	<b>672</b>	<b>140</b>	<b>184</b>

There has been a shortfall in number of sample households surveyed in Chamoli because of fewer than allotted number of poor households in some villages. There was an increase in the number of households surveyed as compared to the allotted size in Hardwar on the other hand. This was due to some big villages which were split up into more than three hamlets requiring selection of two hamlets with the consequence that 20 households each were surveyed in place of ten in such cases. The overall sample size thus increased from the contemplated 700 to 856, the increase more pronounced in stratum 1.

### 3.2 Social and Demographic Characteristics

*The proportion of the poor households in total households varies widely from 16 percent in Rudraprayag to 46 percent in Hardwar. The sex ratios also show variation between hilly terrain and the plains. There is gender inequality with respect to literacy. Women illiteracy is high in the poor households and there is a clear difference in social and demographic characteristics between the poor and the non-poor households.*

Table 3.2 shows that the estimated proportion of poor households ranges very widely from 16 percent in Rudraprayag to 46 percent in Hardwar. The household size in stratum 1 ranges from 4.88 in Rudraprayag to 5.74 in Hardwar. In fact, the hilly terrain of the three districts reported a smaller household size of more or less 5 as against a higher size for the plains that is, Hardwar. The average household size of stratum 2 is higher than stratum 1 for all districts, the difference is more marked for Bageshwar.

**Table 3. 2: Selected Features of the Sample Districts**

District	% of poor Households	Estimated Average Household Size		Estimated Females Per 1000 Males		Estimated Adult Illiteracy Rate (%)			
		Stratum 1	Stratum 2	Stratum 1	Stratum 2	Stratum 1		Stratum 2	
						Male	Female	Male	Female
Bageshwar	32	4.92	6.37	925	695	27.81	58.38	5.44	29.37
Hardwar	46	5.74	6.27	865	817	48.53	74.40	28.81	57.30
Chamoli	37	5.13	5.51	1,052	904	10.07	44.27	10.27	39.24
Rudraprayag	16	4.88	5.16	949	750	73.78	81.23	36.54	72.75

As for the poor households, the difference between hilly terrain and the plain areas is again noticed in respect of the sex ratio. Hardwar with the ratio as 865 is way behind Chamoli and Rudraprayag. Chamoli has reported more females than males. In general, the sex ratio for stratum 1 is much better than stratum 2 where a much adverse ratio is observed in Bageshwar and Rudraprayag.

Gender inequality in respect of literacy among the poor households is very much evident from the adult illiteracy rates for males and females, given in Table 3.2. Rudraprayag stands out as the most affected among the four districts in respect adult literacy, the illiteracy rates being 74 percent for males and 81 percent for females. Hardwar reports a very high illiteracy rate (74 percent) for females. Compared to the poor, stratum 2 households have an advantage of significantly lower adult illiteracy rates.

## Demographic Profile

### a. Age-Sex Distribution

The distributions of males and females are given in Table 3.3 by broad age groups. The combined distribution shows that 13 percent of the populations in poor households are children in the age group 0-6 and another 32 percent in 6-18 group comprising children and pre-adults. The aggregated 45 percent could perhaps designate the poor households category as a young population. Almost identical age distributions for males and females, it is interesting to notice, are obtained for the poor.

**Table 3.3: Percentage Distribution of Population by Sex and by Age Groups**

Age Group	Stratum 1			Stratum 2		
	Male	Female	Person	Male	Female	Person
0-6	13.48	12.91	13.20	8.83	9.01	8.91
6-18	31.71	32.06	31.88	22.47	29.80	25.74
18-45	40.00	41.16	40.56	47.51	41.30	44.74
45-60	8.59	8.12	8.36	15.01	15.70	15.32
60+	6.23	5.75	6.00	6.17	4.19	5.29
<b>All</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

Radically different distributions come to notice when we observe stratum 2. Only 35 percent are in age group 0-18 and a shift towards older age groups relatively is discernible.

### b. Sex Ratio

The sex ratio for Uttaranchal is only 847 owing to a very adverse ratio of 729 for adults in stratum 2 (Table 3.4). Focusing on stratum 1 that is, the poor households, adults have a sex ratio of 948 and children 934, while for the stratum as a whole it is 942. When we consider the dependency stress as measured by number of children per 1000 adults, it is 809 for stratum 1 as compared to only 542 for stratum 2. This indicates that the poor have to shoulder a much greater responsibility of bringing up the children than the non-poor.

**Table 3.4: Sex Ratio Among Adults and Children**

	<b>Stratum 1</b>	<b>Stratum 2</b>	<b>Combined</b>
Adults	948	729	787
Children	934	963	952
Combined	942	804	847
Children Per 1000 Adults	809	542	619

### 3.3 Economic Opportunities and Rural Poor

*The number of women not in labour force is high in the case of females both in the poor and non-poor households. The rate of unemployment among the poor is much higher than the non-poor. In the poor households about 38 percent of the persons are in construction activity and are in paid employment. About 28 percent are agricultural labourers. The average income of those in paid employment is higher as compared to in self-employment. Animal husbandry accounts for 74 percent of the establishments in Uttaranchal, followed by basket making, carpentry, blacksmiths and agro-based industries. In all 5 percent of the households migrated to other places and almost all of them went for a regular salaried job.*

#### a. Activity Status and Income

The usual activity status of the household members determined on major time criterion basis during last 365 days preceding the date of the survey presented in Table 3.5 sheds light on gender inequality with respect to the 'employed' category on the one hand and availing of the economic opportunities among the poor and the rest on the other.

**Table 3.5: Distribution of Estimated Number of Persons by Usual Activity Status by Sex and Strata**

<b>Usual Activity Status</b>	<b>Male</b>		<b>Female</b>		<b>Person</b>	
	<b>Stratum 1</b>	<b>Stratum 2</b>	<b>Stratum 1</b>	<b>Stratum 2</b>	<b>Stratum 1</b>	<b>Stratum 2</b>
Employed	27.40	32.65	7.07	10.38	17.54	22.72
Unemployed	18.88	9.18	5.04	4.82	12.17	7.24
Not in Labor Force	51.96	56.61	86.45	83.51	68.69	68.60
Not Specified	1.76	1.56	1.44	1.29	1.61	1.44
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

Employed females constitute only 7 percent of the total females as against 27 percent for males in stratum 1. This can be partly explained by a lesser proportion of unemployed among the females with bulk (86 percent) listed in the category 'not in labour force'; women are perhaps classified in this category in large numbers as they spend their major time doing

household chores and as such 'neither willing nor available for work'. However, the rate of unemployment of 19 percent in Uttaranchal among males should be a matter of concern.

Between the strata, the features in Table 3.5 indicate a better picture for stratum 2 in the sense of having a higher proportion of the 'employed' and correspondingly a lower proportion of the 'unemployed'.

#### **b. Occupation and Income Profile**

The earners among the employed in the household were queried with respect to their nature of employment whether in paid employment or self-employed. The details of occupation and also income were collected. Table 3.6 presents the findings.

In stratum 1 about 38 percent of the persons in paid employment are engaged in construction activity and 28 percent as agricultural labourers. The rest of the earners in paid employment are spread over a dozen other occupations. As against this, 70 percent of those self-employed are small cultivators and 15 percent engaged in livestock and fishery.

The average annual income of those in paid employment is Rs. 11316 as compared to Rs. 10640 in self-employment. The feature that strikes most is that the income for an agricultural labourer (Rs. 12232) or for a construction worker (Rs. 13732) in paid employment is almost double that of a small cultivator (Rs. 6206) in self-employment indicating that farming is not a viable occupation for the poor in Uttaranchal. Those engaged in livestock and fishery, earn much more (Rs. 13002). There are other occupations in both types of employment where the income is much higher than cultivation but they attract a very small fraction of earners.

Stratum-wise comparison reveals higher incomes in stratum 2 than in stratum 1 in construction in paid employment (Rs. 15425) and for small cultivators (Rs. 18070) in self-employment. But stratum 2 reveals a far larger differential in respect of average annual income of persons in paid employment (Rs. 23632) and those in self-employment (Rs. 12756).

**Table 3.6: Distribution of Estimated Number of Persons in Paid Employment and in Self-Employment and Their Incomes by Occupation Codes and by Strata Activity Status by Sex and by Strata**

Occupation	Stratum 1			
	Paid Employment		Self-Employment	
	Number of Person (Percent Share)	Per Worker Income (Rupees) in a year	Number of Person (Percent Share)	Per Worker Income (Rupees) in a year
Agricultural Labourer	28.15	12232	6.60	10907
Cultivators Small	0.00	0	69.75	6206
Cultivators Big	0.00	0	0.70	39261
Livestock & Fishermen	1.00	12609	14.69	13002
Forest Based Tribals	0.00	0	0.84	18000
Mining & Quarrying	0.00	0	0.31	10000
Household Industry	1.12	12096	1.00	3183
Non Household Industry	0.62	3409	0.59	5677
Construction	37.72	13732	1.91	1500
Electricity, Water, Gas	0.62	12117	0.00	0
Retail Trade	1.53	12624	1.95	24959
Transport, Storage & Comm.	1.00	21266	0.53	13000
Hotel, Restaurant, Dhabas	2.11	16263	0.00	0
Financial Service Provider	0.30	37622	0.62	12000
Community, Other Service Provider	1.98	14971	0.00	0
Other different from above	23.87	12113	0.50	12537
<b>Total</b>	<b>100.00</b>	<b>11316</b>	<b>100.00</b>	<b>10640</b>
	<b>Stratum 2</b>			
Agricultural Labourer	19.60	11408	7.43	8691
Cultivators Small	0.00	0	61.14	18070
Cultivators Big	0.00	0	4.78	31083
Livestock & Fishermen	0.00	0	7.80	21143
Forest Based Tribals	0.00	0	0.00	0
Mining & Quarrying	0.00	0	0.00	0
Household Industry	0.22	6000	8.57	8259
Non Household Industry	0.40	36000	0.00	0
Construction	27.36	15425	0.45	18000
Electricity, Water, Gas	0.89	23733	0.00	0
Retail Trade	7.26	14118	5.27	37883
Transport, Storage & Comm.	0.66	24036	2.01	3959
Hotel, Restaurant, Dhabas	4.14	100498	1.02	42818
Financial Service Provider	1.90	62133	0.49	10800
Community, Other Service Provider	0.51	36000	0.00	0
Other different from above	37.06	48765	1.03	3392
<b>Total</b>	<b>100.00</b>	<b>23632</b>	<b>100.00</b>	<b>12756</b>

**Table 3.6 (Contd.)**

Occupation	Combined			
	Paid Employment		Self-Employment	
	Number of Person (Percent Share)	Per Worker Income (Rupees) in a Year	Number of Person (Percent Share)	Per Worker Income (Rupees) in a Year
Agricultural Labourer	22.79	11788	7.26	9107
Cultivators Small	0.00	0	62.92	15353
Cultivators Big	0.00	0	3.93	31383
Livestock & Fishermen	0.37	12609	9.23	18465
Forest Based Tribals	0.00	0	0.17	18000
Mining & Quarrying	0.00	0	0.06	10000
Household Industry	0.55	10594	7.00	8110
Non-Household Industry	0.48	20316	0.12	5677
Construction	31.22	14662	0.75	9367
Electricity, Water, Gas	0.79	20313	0.00	0
Retail Trade	5.12	13952	4.59	36747
Transport, Storage & Comm.	0.78	22722	1.71	4538
Hotel, Restaurant, Dhabas	3.38	80918	0.81	42818
Financial Service Provider	1.30	60042	0.52	11100
Community, Other Service Provider	1.06	21369	0.00	0
Other different from above	32.14	38611	0.92	4418
<b>Total</b>	<b>100.00</b>	<b>20494</b>	<b>100.00</b>	<b>14068</b>

**c. Village Industries**

Details on the type of village industries according to the size of villages by number of establishment were collected from the village level survey of Uttaranchal to get an idea about the scope for non-farm employment. These are shown in Table 3.7.

**Table 3.7: Size of Village and the Type of Village Industries**

Size of Village by Number of Households	(Percent)						
	Blacksmiths	Carpentry	Basket Making	Animal Husbandry	Agro-Based Industries and Mills	Others	Total
Upto 49	3.33	1.42	0.77	90.71	3.32	0.45	100
50-100	3.02	6.21	5.70	78.96	3.72	2.38	100
101-150	6.37	5.14	28.78	53.76	5.95	0.00	100
151-200	7.21	30.90	3.00	53.65	4.12	1.12	100
201-250	1.47	0.08	19.02	74.90	2.23	2.31	100
251-300	3.54	1.77	2.65	88.50	1.77	1.77	100
301-350	3.02	6.21	5.70	78.96	3.72	2.38	100
351 and above	7.41	4.73	1.79	51.22	8.32	26.53	100
<b>Total</b>	<b>3.86</b>	<b>5.77</b>	<b>6.54</b>	<b>74.17</b>	<b>4.18</b>	<b>5.49</b>	<b>100</b>

- Note: 1. Animal husbandry includes poultry and piggery  
 2. Agro-based industries and mill includes food processing, papad making, flour mill, saw mills and oil mills.  
 3. Others include weaving, carpet making and handicrafts.

Considering all sizes of the village by number of households, animal husbandry accounts for bulk of the establishments of various industries. There is no systematic pattern observed between the size of number of village in terms of households and the village level industries. Even with respect to different sizes of villages, animal husbandry is the most important establishment. Next in importance for the village size with 101-150 household class is basket making (29 percent) while for villages with 151-200 household class, it is carpentry (31 percent).

#### d. Out-Migration

Table 3.8 gives percentage of households migrating to places outside the village by reason and separately by their destination. In all, 5 percent of all households reported one or more members migrating to other places during the last 365 days.

**Table 3.8: Reason and Destination of Out-Migrants**

	(Percent)
<b>Percent of Households Reporting Migration</b>	<b>5.41</b>
Percent Distribution of Household Members Migrating for Regular Salaried Job	99.21
Work in Urban Informal Sector	0.79
Education	-
Marriage	-
Casual Work in Agriculture	-
Others	-
<b>Total</b>	<b>100.00</b>
<b>Percent Distribution of Household Members Migrating to</b>	
Nearby Town	1.6
Nearby City	4.9
Nearby Villages	-
Others	93.5
<b>Total</b>	<b>100.00</b>

Almost everyone among the out-migrants went for a regular salaried job; only 0.80 percent went to join the urban informal sector. Similarly the bulk of the out-migrants (94 percent) went to places other than nearby town or nearby city or nearby villages.

#### e. Income Distribution & Incidence of Indebtedness

*Out of every four households there is one indebted household in the poor. More than one fourth of the households are indebted in both the poor and non-poor. Almost 65 percent of the indebted households borrowed from their relative/neighbours. If all the loans are considered, about 42 percent were for agricultural purposes and the remaining for other purposes. In the case of non-poor almost equal share of the loans is for purposes of agriculture or otherwise.*

The percentage distribution of households (Table 3.9) according to size classes of per capita annual income for the poor suggests that 73 percent have an annual per capita income less than Rs. 4500 or Rs. 375 per month. About 15 percent have income between Rs. 4500 and Rs. 6500. Only about 3 percent have income of Rs. 10000 or more. In the case of Uttaranchal as there is no separate estimate of poverty line, the available estimates for Uttar Pradesh (Rs. 337 per capita per month)<sup>1</sup> for the year 1999-00 are updated by using the consumer price index for agricultural labourers for the subsequent year. This is used as a proxy for Uttaranchal. On the basis of the updated poverty line, it is observed that for Uttaranchal, the monthly per capita consumer expenditure class is of Rs. 300-355.

The distribution of households across income class reveal that there is concentration of more than 70 percent households within the per capita income class of <1500 – Rs. 4,500 in stratum 1. The same ratio is much lower in stratum 2 at 30.78 percent. The percentage of households in the highest income class i.e., >15,000 is 19 percent in stratum 2.

Table 3.9 also shows the percentage of indebted households to total households for each income class. In Uttaranchal out of every four households there is one indebted household in stratum 1. Among the poorest of the poor having less than income of Rs. 1000, 56 percent are indebted, the ratio coming down as income increases till Rs. 6500. No clear trend is discerned thereafter.

**Table 3.9: Distribution of Households According to Per Capita Annual Income Classes**

Per Capita Income Class (Rs.)	Stratum 1		Stratum 2		Combined	
	Distribution of Households	Share of Indebted Households	Distribution of Households	Share of Indebted Households	Distribution of Households	Share of Indebted Households
<1,500	7.28	56.16	-	-	2.43	56.16
1,500 – 2,500	20.24	27.48	8.00	90.90	12.09	55.45
2,500 – 3,500	27.51	25.35	17.56	40.82	20.88	34.01
3,500 – 4,500	17.97	21.04	5.26	32.85	9.50	25.40
4,500 – 5,500	8.80	16.81	8.46	50.43	8.57	38.92
5,500 – 6,500	6.61	14.25	6.80	4.09	6.74	7.42
6,500 – 8,000	4.01	28.52	8.89	28.52	7.26	28.52
8,000 – 10,000	4.42	20.05	7.66	5.65	6.58	8.88
10,000 – 12,500	1.72	13.04	9.28	9.74	6.76	10.02
12,500 – 15,000	0.70	26.29	7.32	4.57	5.11	5.56
>15,000	0.53	14.36	19.21	9.37	12.98	9.44
Not Specified	0.23	-	1.55	-	1.11	-
<b>Total</b>	<b>100.00</b>	<b>25.33</b>	<b>100.00</b>	<b>26.72</b>	<b>100.00</b>	<b>26.26</b>
Average Per Capita Income (Rs.)	3650.92		9791.94		7817.82	

<sup>1</sup> Government of India, Press Information Bureau (2001): Poverty Estimates for 1999-00, released on 22nd February, 2001, New Delhi.

A very high incidence of indebtedness is observed for the lower tail of the income distribution in stratum 2. The overall average of indebted households taking all income classes together of 27 percent is a little higher than in stratum 1. The outstanding debt after payment of interest at the end of year per household is computed for each income class in Table 3.10.

**Table 3.10: Per Household Amount of Outstanding Debt Across Income Classes**

(Rupees)			
<b>Per Capita Income Class</b>	<b>Stratum 1</b>	<b>Stratum 2</b>	<b>Combined</b>
< 1,000	8,751		8,751
1,000 - 1,500	18,083		18,083
1,500 - 2,500	15,716	12,756	13,576
2,500 - 3,500	7,749	15,169	12,737
3,500 - 4,500	9,900	24,781	16,999
4,500 - 5,500	12,728	21,875	20,522
5,500 - 6,500	8,061	5,942	7,275
6,500 - 8,000		7,919	7,386
8,000 - 10,000			
10,000 - 12,500			
12,500 - 15,000		35,000	30,905
> 15,000		29,933	31,140
Not Specified			
<b>Total</b>	<b>11,597</b>	<b>17,307</b>	<b>15,468</b>

The table shows a very high level of indebtedness in stratum 1 among all the classes up to Rs.6500. For the income class Rs.1000 - 1500, the outstanding debt is Rs.18083 per indebted household. Per household outstanding debt on an average is Rs.11597. Indebtedness in the sense of outstanding debt is of a still higher order for stratum 2, the average being Rs.17307. The situation indeed calls for remedial measures.

The debt to income ratio for all the poor households is as high as 64 percent. For per capita income class of less than Rs. 1000 the debt to income ratio is 48 percent, for the next income class (Rs. 1500 - 2500) it is 99 percent, for subsequent class (Rs. 2500 - 3500) it is 86 percent. In the case of non-poor the overall debt to income ratio is 35 percent.

#### **f. Source and Purpose of Borrowing**

From the earlier discussion it is evident that indebtedness has a stranglehold over the villages in general and the poor in particular, the extent of outstanding debt exceeding the annual income of the households at the lower tail of the income distribution. The analysis of

the borrowing by source and purpose is therefore, imperative. Table 3.11 presents the survey findings. It is clear that the poor borrow from whatever sources are available. ‘Relatives/neighbours’ provide the loans to 65 percent of the indebted households and they seem to be the most preferred choice. Next in importance, is the ‘banks’ (22 percent) followed by village moneylenders (9 percent). The exigencies that prompt the poor householder to borrow arise mainly from considerations other than agricultural, mainly for consumption purposes. Whereas such loans account for 58 percent, the agricultural loans claim the remaining 42 percent.

**Table 3.11: Distribution of Households Across Source and Purpose of Borrowing**

Source	Distribution of Households	The share of Agricultural Loan	Loans for Other Purposes	Total
<b>Stratum 1</b>				
Government	0.59	-	100.00	100
Development Corporation	0.18	-	100.00	100
Banks	21.95	60.90	39.10	100
Cooperative Society	2.25	13.83	86.17	100
Village Moneylenders	9.30	4.29	95.71	100
Private Banks	1.00	65.94	34.06	100
Relatives/Neighbours	64.73	40.31	59.69	100
<b>Total</b>	<b>100.00</b>	<b>41.59</b>	<b>58.41</b>	<b>100</b>
<b>Stratum 2</b>				
Government	-	-	-	
Development Corporation	-	-	-	
Banks	10.69	38.56	61.44	100
Cooperative Society	6.37	100.00	-	100
Village Moneylenders	27.73	-	100.00	100
Private Banks	1.00			100
Relatives/Neighbours	54.21	50.88	49.12	100
<b>Total</b>	<b>100.00</b>	<b>49.14</b>	<b>50.86</b>	<b>100</b>
<b>Combined</b>				
Government	0.20	-	100.00	100
Development Corporation	0.06	-	100.00	100
Banks	14.44	42.53	57.47	100
Cooperative Society	5.00	95.28	4.72	100
Village Moneylenders	21.60	0.87	99.13	100
Private Banks	1.00	98.27	1.73	100
Relatives/Neighbours	57.71	49.33	50.67	100
<b>Total</b>	<b>100.00</b>	<b>47.98</b>	<b>52.02</b>	<b>100</b>

An interesting feature to be noted is that the major share of the loans procured from banks (61 percent) and private banks (66 percent) are for agricultural purposes. The households perhaps find it easier to procure loans for purposes other than agricultural from other sources. For example, 86 percent of the loans taken from cooperative societies, 96 percent from village moneylenders and 60 percent from relatives/neighbours are for non-

agricultural purposes. For stratum 2, relatives/neighbours, village moneylenders and banks are the main sources of borrowing. Taking all sources together, the share of loans for agricultural purposes is 48 percent and rest for non-agricultural purposes.

### 3.4 Livelihood Crisis: Access to Food and Other Basic Necessities

In this section the livelihood issues are discussed. Some of the issues are access to food, energy and water.

#### a. Food and Public Distribution System

*The average household size in the poor is 5.35 and they have a per capita annual income of Rs. 3651 with a per capita annual expenditure of Rs. 4081. A large portion of expenditure is spent in purchase of food and about three-fifths of them have also access to the market. About 61 percent of the rural households in stratum I are below the updated official poverty line. The reach of electricity and availability of water facility in their own premises is dismal. About 12 percent of the households have no access to food through out the year.*

Prior to the discussion of the relative position of the poor and non-poor, some basic characteristics of the poor in terms of their vulnerability is shown in Table 3.12.

**Table 3.12: The Key Characteristics of Stratum 1**

	(Percent)
Average Household Size	5.35
Per Capita Annual Income (Rupees)	3650.92
Per Capita Annual Expenditure (Rupees)	4081.23
Average Share of Food to Total Expenditure	56.30
Percentage of Households Accessing PDS	94.23
Percentage of Households Accessing Food from the Market	59.88
Percentage of Households Holding White Ration (BPL) Card	89.66
Percentage of Households Below Official Poverty Line	60.96
Percentage of Households Electrified	8.62
Percentage of Households Having Drinking Water Facilities Within Premises	14.75
Percentage of Households Having Access to Food Throughout the Year	87.59

As can be seen from the above table the average household size is 5.4 members and have a per capita income of Rs 3651 while their per capita expenditure of Rs. 4081 exceeds their income. A large part of the expenditure (56 percent) is for food. About 60 percent of the poor also have access to market for purchase of food items. Nearly 90 percent for the poor hold BPL ration cards. There is still 10 percent of the poor outside the PDS system. About 61 percent of the rural households are below the official updated poverty line. Major part of the rural households (91 percent) are not yet electrified and 85 percent do not have water facility

within their premises. About 12 percent of the rural households have to struggle to get food throughout the year.

**Table 3.13: Average Size, Distribution and Expenditure According to MPCE Class**

<b>Rupees</b>	<b>Average Household Size</b>	<b>Percent Distribution Of Households</b>	<b>Percent Distribution of Total Expenditure</b>	<b>Share of Food to Total Expenditure</b>
<b>Stratum 1</b>				
< 190	5.98	13.15	6.57	67.76
190 – 210	5.10	5.40	3.01	62.23
210 – 235	6.13	7.82	5.82	62.66
235 – 265	6.23	9.12	7.79	60.69
265 – 300	5.57	12.57	10.83	59.56
300 – 355	6.05	12.90	13.93	61.59
355 – 455	5.25	16.10	18.56	58.99
455 – 560	4.01	10.84	11.80	57.27
560 – 650	4.41	3.11	4.53	52.55
650 – 750	3.94	2.96	4.45	49.72
750 – 1,000	4.50	3.65	7.71	30.93
> 1,000	2.88	2.20	4.99	36.47
Not Specified	0.00	0.18	-	-
<b>Total</b>	<b>5.35</b>	<b>100</b>	<b>100</b>	<b>56.30</b>
<b>Stratum 2</b>				
< 190	7.31	1.78	0.66	61.19
190 – 210	5.00	2.51	0.75	45.32
210 – 235	5.97	8.16	3.19	70.62
235 – 265	7.06	1.80	0.95	59.68
265 – 300	5.15	2.26	0.96	67.00
300 – 355	7.55	4.64	3.45	57.40
355 – 455	5.56	24.97	16.49	51.85
455 – 560	5.91	16.46	15.04	47.02
560 – 650	6.02	3.04	3.34	58.89
650 – 750	5.77	11.90	14.37	60.60
750 – 1,000	4.61	10.63	12.05	46.35
> 1,000	5.10	11.86	28.74	32.84
Not Specified	-	-	-	-
<b>Total</b>	<b>5.70</b>	<b>100.00</b>	<b>100.00</b>	<b>47.51</b>
<b>Combined</b>				
< 190	6.26	5.57	1.94	66.00
190 – 210	5.05	3.47	1.24	54.19
210 – 235	6.02	8.05	3.76	67.95
235 – 265	6.46	4.24	2.43	60.38
265 – 300	5.46	5.70	3.09	61.36
300 – 355	6.67	7.40	5.72	59.61
355 – 455	5.48	22.01	16.94	53.54
455 – 560	5.44	14.59	14.34	48.85
560 – 650	5.48	3.06	3.59	57.16
650 – 750	5.56	8.92	12.22	59.75
750 – 1,000	4.60	8.30	11.11	44.03
> 1,000	4.91	8.64	23.60	33.01
Not Specified	-	0.06	-	-
<b>Total</b>	<b>5.56</b>	<b>100.00</b>	<b>100.00</b>	<b>49.42</b>

With the above background next we analyse the average size of household, distribution and expenditure according to the monthly per capita consumer expenditure

(MPCE) class. Table 3.13 shows the average size, distribution and expenditure according to monthly per capita consumer expenditure class.

About 61 percent of the total households in stratum 1 belong to the MPCE class of less than Rs. 355 while for stratum 2 it is 48 percent. The share of food expenditure is higher for the lower MPCE classes. In Stratum 1 distinct inequalities are observed as 9 percent of the households with MPCE claim more than 17 percent of the total expenditure. The share of expenditure of food decreases as monthly per capita income increase. On the whole about 56 percent of the expenditure is towards food. This share is very high (68 percent) for the poorest of the poor and gradually decreases over the MPCE.

In the case of stratum 2, the average size of household is 5.7. About 79 percent of the households fall in the MPCE of Rs. 355 and above. This group accounts for bulk of the expenditure. Also, the share of expenditure is higher in the lower levels of income. On the whole in stratum 2 about 47 percent of expenditure is on food.

Public distribution system was introduced in India to provide essential items to the public in general. Since the overhead costs were increasing and some of the essential items were available for lower prices in the market, government came out with plans of targeting the distribution to vulnerable sections of the society. The access of households to public distribution system and the market as per the monthly per capita consumer expenditure classification is shown in Table 3.14. About 94 percent of the households in stratum 1 have access to public distribution system and also 60 percent of them have access to market. The dependence on PDS is substantial for both the stratas. The point to be noted here is that the poor have to purchase from the market despite government targeting through PDS. No difference in strata in access to PDS in the backdrop of 6 percent of households not having access in stratum 1. This implies that the targeting is not proper.

Targeted public system was introduced according to depth and severity of the poverty. Different colours of ration cards are given to each of these groups for easy identification and targeting. Table 3.15 shows the distribution of households according to the colour of ration card. It is observed that 90 percent of ration goes to white colour cardholders (BPL) in stratum 1 and about 89 percent in stratum 2 have yellow cards.

**Table 3.14: Percentage of Households Accessing PDS and Market as Per MPCE Class**

Rupees	(Percent)					
	Accessing PDS			Accessing Market		
	Stratum 1	Stratum 2	Combined	Stratum 1	Stratum 2	Combined
< 190	100.00	100.00	100.00	16.58	6.21	14.38
190 – 210	100.00	100.00	100.00	17.20	-	8.93
210 – 235	90.02	100.00	96.76	43.65	16.35	25.20
235 – 265	93.43	78.56	89.23	55.93	83.28	63.65
265 – 300	96.76	100.00	97.61	68.16	10.36	52.92
300 – 355	91.28	100.00	94.92	78.50	67.37	73.85
355 – 455	88.80	96.49	94.61	73.13	64.56	66.65
455 – 560	97.41	81.71	85.60	69.17	77.84	75.69
560 – 650	82.11	94.47	90.28	92.12	42.32	59.20
650 – 750	93.49	100.00	99.28	76.70	84.07	83.25
750 – 1,000	100.00	93.87	94.77	82.24	39.97	46.17
> 1,000	99.04	99.10	99.09	89.45	72.56	73.99
Not Specified	100.00	-	100.00	100.00	-	100.00
<b>Total</b>	<b>94.23</b>	<b>94.80</b>	<b>94.61</b>	<b>59.88</b>	<b>59.38</b>	<b>59.55</b>

**Table 3.15: Share of Households in Total Households According to the Colour of Ration Cards**

Rupees	(Percent)							
	Blue	Yellow	White	Green	Red	Pink	Not Specified	Total
	<b>Stratum 1</b>							
< 190	-	-	91.28	1.34	1.24	1.48	4.66	100
190 – 210	-	4.85	92.75	-	-	2.39	-	100
210 – 235	2.43	2.48	81.18	1.29	2.09	4.04	6.49	100
235 – 265	-	-	93.48	-	-	3.35	3.17	100
265 – 300	1.04	-	89.05	-	2.84	4.81	2.26	100
300 – 355	-	-	93.99	0.78	-	5.23	-	100
355 – 455	0.66	0.70	91.05	1.42	1.69	3.29	1.20	100
455 – 560	-	3.19	86.63	2.16	6.10	1.41	0.51	100
560 – 650	-	-	89.21	3.24	5.78	-	1.77	100
650 – 750	7.05	-	78.72	7.72	-	-	6.51	100
750 – 1,000	2.90	-	87.18	8.42	-	1.50	-	100
> 1,000	-	2.51	88.11	9.39	-	-	-	100
Not Specified	-	-	100.00	-	-	-	-	100
<b>Total</b>	<b>0.74</b>	<b>0.97</b>	<b>89.66</b>	<b>1.68</b>	<b>1.80</b>	<b>2.96</b>	<b>2.19</b>	<b>100</b>
<b>Stratum 2</b>								
< 190	-	6.21	93.79	-	-	-	-	100
190 – 210	-	61.80	38.20	-	-	-	-	100
210 – 235	-	64.85	35.15	-	-	-	-	100
235 – 265	-	65.61	34.39	-	-	-	-	100
265 – 300	-	100.00	-	-	-	-	-	100
300 – 355	-	93.17	6.83	-	-	-	-	100
355 – 455	-	92.63	7.37	-	-	-	-	100
455 – 560	-	85.02	3.39	-	-	-	11.58	100
560 – 650	-	100.00	-	-	-	-	-	100
650 – 750	-	94.81	5.19	-	-	-	-	100
750 – 1,000	-	100.00	-	-	-	-	-	100
> 1,000	-	99.23	0.77	-	-	-	-	100
Not Specified	-	-	-	-	-	-	-	-
<b>Total</b>	<b>-</b>	<b>88.56</b>	<b>9.54</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1.91</b>	<b>100</b>

## b. Energy Consumption

*Almost the entire households (poor and non-poor) rely on the PDS system for kerosene. They also depend on other energy sources like wood and electricity. About 13 percent of the entire households are electrified but only 9 percent of the poor households are electrified.*

In rural India, access to kerosene is the major benefit the households receive from the government through the public distribution system. Table 3.16 shows the percentage of households according to the type of fuel. Almost the entire households rely on the PDS system for kerosene. Other major forms of energy resources used are wood and electricity. In stratum 1, about 40 percent of the rural households use firewood and about 21 percent also consume electricity. Bulk of the expenditure is spent in purchasing kerosene, wood and electricity. In interpreting this table, it may be noted that a household may use more than one form of energy and the share of expenditure depends on the intensity of use of a particular energy source.

**Table 3.16: Distribution of Households According to the Type of Fuel Use and the Corresponding Share of Expenditure**

Type of Fuel	Share of Households		Share of Expenditure	
	Stratum 1	Stratum 2	Stratum 1	Stratum 2
Kerosene	99.95	100.00	44.76	18.96
Cow Dung	8.65	4.66	5.25	0.64
Wood	38.79	27.79	28.19	8.12
Twigs, Dry leaves	0.22	0.32	0.00	0.00
Electricity	20.86	49.54	16.22	24.14
Diesel	0.19	4.65	0.32	27.44
Gas	3.71	23.08	5.22	19.76
Other	0.59	2.93	0.03	0.94

In stratum 2, about 28 percent use wood and about 50 percent use electricity and 23 percent gas. About 20 percent of the expenditure is spent on kerosene, 24 percent on electricity, 27 percent on diesel and about 20 percent of gas.

The per capita monthly expenditure by strata is given in Table 3.17. It shows that in stratum 1, the monthly expenditure works out to Rs.143.67 while for stratum 2 Rs. 298.32. As shown earlier in stratum 2 diesel and gas form an important part of their expenditure.

**Table 3.17: Per Capita Monthly Expenditure on Fuel**

Type of Fuel	(Rupees)	
	Per Capita Expenditure	
	Stratum 1	Stratum 2
Kerosene	64.31	56.56
Cow Dung	7.55	1.92
Wood	40.50	24.24
Twigs, Dry leaves	0.00	0.00
Electricity	23.30	72.00
Diesel	0.46	81.86
Gas	7.50	58.94
Other	0.05	2.80
<b>Total</b>	<b>143.67</b>	<b>298.32</b>

Table 3.18 shows the percentage of households electrified and the type of connection. About 8.6 percent of the rural houses in Uttaranchal in stratum 1 are electrified. Of this 89 percent are authorised connections and metered, and the rest are illegal. In stratum 2, 15.2 percent of the households are electrified and 95 percent are legal connections.

**Table 3.18: Percentage of Households Electrified and the Type of Connection**

	% of Houses Electrified	(Percent)		
		Type of Connection		
		Legal	Illegal	Total
Stratum 1	8.62	89.17	10.83	100
Stratum 2	15.15	94.76	5.24	100
Combined	12.54	93.22	6.78	100

### c. Availability of Water

*Majority of the rural households have no drinking water facility in their premises. They mainly rely on provision of public water supply.*

Another important factor in the context of livelihood is the access to regular water supply, the distance from the dwelling place and the time spent in fetching water. Table 3.19 shows the source of drinking water and the distance from the dwelling. About 68 percent of the households in stratum 1 has to cover less than 100 meters to access drinking water while about 15 percent access have in the dwelling premises. In case of source less than 100 meters from the house the households mainly rely on public tap and public hand pump. In the case of stratum 2 about 35 percent have access within the premises and 46 percent within 100 meters from the premises.

**Table 3.19: Source of Drinking Water and Distance from Dwelling**

	<b>Within Premises</b>	<b>Less than 100 Mtrs.</b>	<b>Between 100 to 500 Mtrs.</b>	<b>Between Half to 1 Km.</b>	<b>More Than 1 Km.</b>
<b>Percentage of Total Households: Stratum 1</b>					
Own Well	2.03	0.19	0.06	-	-
Own Tap	1.67	0.85	0.02	-	-
Own Hand Pump	10.85	0.39	0.06	0.05	-
Public Well	-	1.03	0.11	-	-
Public Tap	-	39.03	10.62	0.29	0.53
Public Hand Pump	-	21.17	1.94	-	-
Tank	-	0.63	0.51	0.38	-
Others	0.19	4.85	1.46	0.23	0.75
<b>Total</b>	<b>14.75</b>	<b>68.15</b>	<b>14.76</b>	<b>0.94</b>	<b>1.28</b>
<b>Percentage of Total Households: Stratum 2</b>					
Own Well	0.43	1.64	-	-	-
Own Tap	9.26	-	-	-	-
Own Hand Pump	13.97	-	-	-	-
Public Well	0.62	1.71	-	-	-
Public Tap	10.24	33.70	16.24	0.35	-
Public Hand Pump	-	6.54	-	-	-
Tank	-	0.15	0.02	-	-
Others	-	2.27	1.89	-	0.62
<b>Total</b>	<b>34.51</b>	<b>46.02</b>	<b>18.14</b>	<b>0.35</b>	<b>0.62</b>

The spread of public water sources is shown in Table 3.20. It reveals that 68 percent of the total provision of public water which comprise public wells, public taps and public hand pumps, remains within the range of less than 100 meters.

**Table 3.20: Spread of Public Water Sources According to Distance**

	<b>Premises</b>	<b>Less than 100 Mtrs.</b>	<b>Between 100 to 500 Mtrs.</b>	<b>Between Half to 1 Km.</b>	<b>More than 1 Km.</b>	<b>Total</b>
						(Percent)
Public Well	21	77	2	-	-	100
Public Tap	12	62	25	1	0	100
Public Hand Pump	-	95	5	-	-	100
<b>Total</b>	<b>10</b>	<b>68</b>	<b>21</b>	<b>0</b>	<b>0</b>	<b>100</b>

Table 3.21 shows the distribution of households according to time spent in collection of water. About 82 per cent in stratum 1 spend less than one hour in fetching water. However, among the rest if we compare the two strata, the average time spent in collecting water is much higher in stratum 1, than in stratum 2.

**Table 3.21: Distribution of Households by Source of Water by Time Spent**

	(Percent)					
	Less than 1 hour	Between 1 to 2 hours	Between 2 to 4 hours	More than 4 hours	Not Reported	Total
Stratum 1	82.18	7.42	1.76	1.28	7.36	100.00
Stratum 2	84.16	8.13	0.32	0.30	7.09	100.00

### 3.5 Public Service Delivery: The Status and Access

Under the public service delivery three main issues are discussed. These relate to education, health and connectivity in the rural areas.

#### a. Education

*There is a high degree of gender inequality in Uttaranchal. Illiteracy rates of adult males and females are higher in the poor households as compared to non-poor households. In adults, the higher the standard of living the higher is the level of literacy. The literacy level in children between poor and non-poor rural households is very narrow. Among the children the most important reason for dropping out off school is the shortage of finance. The next important reason is lack of interest.*

The 42nd amendment of the Indian Constitution introduced during 1976 put education in the Concurrent List and empowered the Indian Parliament with the authority to legislate on education concurrently with the states. Under the programme of Universalisation of elementary Education, the government has been striving to enroll all children of age group 6-14 in schools and retain them till they complete elementary education. Girls' education occupies an important place under this programme. The 93<sup>rd</sup> Amendment Bill 2001 enacted the fundamental right to free and compulsory education for the children in the age group 6-14 years.

Before we examine the education at the school, literacy among adults is presented. As can be seen from Table 3.22 about 28 percent of male and 23 percent of female have education below class 5. At the level of 10 to 12, is about 11 percent of males and 5 percent of females' education. The proportion of not continuing education increased to about 45 percent for both the categories. The drop out is the highest at the professional graduate level.

**Table 3.22: Classification of Adults by Sex and Level of Education**

Codes for Education	(Percent)					
	Male		Female		Persons	
	No Adults	No Continuing	No Adults	No Continuing	No Adults	No Continuing
Less than class 5	28.01	7.64	22.70	2.10	25.67	5.48
Class 6 to 8	15.12	3.99	8.85	4.40	12.36	4.12
Class 9 to 10	14.89	18.22	5.09	6.90	10.58	15.82
Class 10 to 12	10.75	45.32	4.72	46.16	8.10	45.54
Professional graduate	0.90	93.50	0.76	98.20	0.83	95.38
Non Professional graduate	0.76	51.66	1.50	67.50	1.08	61.29
Post graduate	1.78	60.28	1.35	14.61	1.59	43.20
Prof. Cert/diploma	0.69	84.82	0.02	-	0.39	83.21
Others	0.02	-	0.09	-	0.05	-
Not specified	27.08	1.04	54.93	0.12	39.35	0.48
<b>Total</b>	<b>100.00</b>	<b>13.50</b>	<b>100.00</b>	<b>5.42</b>	<b>100.00</b>	<b>9.94</b>

In Uttaranchal, the level of literacy has been better than the other special category states. Classification of adults according to the literacy level is shown in Table 3.23. Stratum 1 refers to adults belonging to poor households and stratum 2 refers to relatively better off households. For male adults about 65 percent in stratum 1 and 78 percent in stratum 2 are literates, i.e. can read and write or read only, while for women it is about 38 and 49 percent respectively. This implies that with higher standard of living the level of literacy is higher. While for illiterates (can't read and write) the difference for male is 13 percent as compared to 11 percent for female, which implies that the level of difference is lower in case of female illiterates as compare to male. The literacy rate for Uttaranchal for the year 2001 was 84 and 60 for male and female respectively and for the state as a whole the literacy rate was 72.

**Table 3.23: Adult Education Status: By Sex and Stratum**

	(Percent)		
	Stratum 1	Stratum 2	Combined
<b>Male</b>			
Can Read and Write	64.87	72.31	70.33
Read Only	0.33	5.56	4.17
Can't Read and Write	34.80	22.14	25.51
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>
<b>Female</b>			
Can Read and Write	36.85	44.36	41.96
Read Only	1.31	4.50	3.48
Can't Read and Write	61.85	51.14	54.55
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>
<b>Persons</b>			
Can Read and Write	51.32	60.56	57.89
Read Only	0.81	5.11	3.87
Can't Read and Write	47.87	34.33	38.25
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

Classification of children according to the literacy level is shown in Table 3.24. It is observed that the gap between stratum1 and stratum 2 is very narrow. In the case of male children in stratum 1, the literates form 84 percent while in stratum 2, it is 86 percent. In the case of female child, it is 79 and 82 percent respectively. The gap is only 2 to 3 percent. The gap between illiteracy is about 10 percent for both male and female.

**Table 3.24: Children's Education Status: By Sex and Stratum**

	(Percent)		
	Stratum 1	Stratum 2	Stratum 3
<b>Male</b>			
Can Read and Write	83.69	85.9	85.11
Read Only	0.44	7.9	5.13
Can't Read and Write	15.87	6.0	9.76
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>
<b>Female</b>			
Can Read and Write	78.64	82.3	81.06
Read Only	1.23	7.7	5.43
Can't Read and Write	20.13	9.8	13.51
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>
<b>Persons</b>			
Can Read and Write	81.25	84.1	83.09
Read Only	0.82	7.8	5.28
Can't Read and Write	17.93	8.0	11.63
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

State governments have introduced a range of strategies to enhance girls' participation at primary stage by way of bringing gender parity in enrolment and reduction in dropout. Various types of facilities were provided like facilities for crèches, flexible school schedules, provision of free education and direct incentives. The direct incentives include Free Uniform, Mid-Day Meals, Free Textbooks, transport and scholarship for girls. The Mid-Day Meal programme is essentially a child welfare programme<sup>2</sup>. This programme is considered to be the most potential incentive for children belonging to disadvantaged class of society to attend school regularly and improve their health and academic status at the same time. The remaining incentives are intended to increase attendance in schools and for improving academic status. The system of incentives is basically to overcome social, economic and educational handicaps. Uttaranchal is doing better than some of the advanced states as can be seen from the high level of literacy among female child.

<sup>2</sup> First time in the world at the initiative of a Frenchman, Victor Hugo in the year 1865 a "School Lunch Programme" was launched for the children of France.

The benefit incidence of government programmes in Uttaranchal can be seen from Table 3.25.

**Table 3.25 Benefit Incidence of Government Programme in Education:  
State-Wise Estimates by Stratum**

Type of Benefits	Stratum 1		Stratum 2		Combined	
	No. Benefiting (Percentage Share)	Expenditure Dist. Across Benefits	No. Benefiting (Percentage Share)	Expenditure Dist. Across Benefits	No. Benefiting (Percentage Share)	Expenditure Dist. Across Benefits
Scholarship	25.07	48.94	24.59	37.65	24.80	42.58
Free Books	32.98	19.48	36.18	28.02	34.81	24.29
Free Uniform	4.31	0.16	3.23	0.24	3.69	0.20
Midday Meal	25.50	17.77	26.13	23.67	25.86	21.09
Others	12.13	13.65	9.88	10.42	10.84	11.83
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>
As % to School Going Children	173.59		118.85		137.39	
Per Capita Exp. Benefit	157.62		151.95		154.38	
As % to School Going Children*	129.32		87.80		101.86	

Note: \* Benefit excluding mid-day meal.

The number of beneficiaries is about 6 lakh in stratum 1 (poor). Of which 25 percent receive scholarships, 33 percent free books, 4 percent free uniform, about 26 percent avail of Mid-day meal and others account for 12 percent. In terms of expenditure, the bulk goes in payment of scholarships (49 percent), followed by free books (19 percent), mid-day meal (18 percent) and others (14 percent). The scenario seems to be similar in stratum 2 in terms of ranking. The number of beneficiaries is about 8 lakh. Here the composition shows that not so poor receive less in terms of scholarship but more in terms of free books and mid-day meal. Consequently the expenditure is more on these items. Benefits are classified across the stratum in Table 3.26. Stratum 1 accounts for 43 percent and stratum 2 account for 56 percent of the benefits. The per capita benefit in stratum 1 is marginally higher than in stratum 2.

**Table 3.26: Expenditure Benefit Across Stratum**

Type of Benefits	(Percent)		
	Stratum 1	Stratum 2	Total
Scholarship	50.21	49.79	100.00
Free Books	35.03	64.97	100.00
Free Uniform	34.26	65.74	100.00
Midday Meal	36.80	63.20	100.00
Others	50.40	49.60	100.00
<b>Total</b>	<b>43.68</b>	<b>56.32</b>	<b>100.00</b>

If the benefits are taken as percentage of total school going children (stratum 1) the share works out to 174 percent. The reason for the share being more than 100 percent is that beneficiaries are availing multiple benefits. If the share of mid-day meal is excluded then the share works out to 129 percent.

The mid day meal scheme is being implemented in all the primary government aided institutions. Under the scheme cooked food is being provided. Shed for cooking, utensils etc. have been provided by the government. The Uttaranchal Government has budgeted for Rs. 24.26 crores for 2003-04. The food (wheat/rice) is provided free by Government of India and pulses, vegetables etc. are provided by the state government.

The most important aspect in current education system is to know the reasons for children not attending school. Table 3.27 shows some of the reasons for dropping out from the school. The most important reason is shortage of finance. The poor are unable to finance their wards to carry on studies. The other reason being lack of interest in the formal education system, not doing well in studies and earn to sustain their family. In stratum 2 the reasons attributed seems to be the same but with some differences. The distance of school from their homes seems to be important. Though shortage of finance is the main criteria, there is a marked difference between male and female children. In the case of males, shortage of finance accounts for 52 percent of the dropout while for female it is 34 percent. Also the lack of interest in studies is higher in female as compared to male. In stratum 1, there is not much difference between male and female.

**Table 3.27: Distribution of Children Not Attending School by Sex, Reason and Strata**

Persons	(Percent)								
	Stratum 1		Stratum 2			Combined			
	Male	Female	Persons	Male	Female	Persons	Male	Female	Persons
Not Well	2.70	0.51	1.48	4.71	1.26	2.18	3.26	0.85	1.75
Shortage of Finance	59.61	58.56	59.03	51.57	33.51	38.33	57.37	47.12	50.95
School is Too Far	1.54	1.89	1.73	7.07	-	1.89	3.08	1.03	1.79
Poor Quality in Affordable School	-	-	-	-	-	-	-	-	-
Waiting Admission in Next Level	-	-	-	-	-	-	-	-	-
Discontinued After Marriage	-	0.26	0.14	-	-	-	-	0.14	0.09
Have to do Household Work	1.65	4.82	3.42	-	3.50	2.57	1.19	4.22	3.09
Have to Earn for Family	3.89	2.14	2.91	9.47	4.03	5.48	5.45	3.00	3.92
No Interest	13.06	13.99	13.58	11.62	18.57	16.72	12.66	16.09	14.81
Not Doing Well in Studies	4.36	2.89	3.54	3.45	-	0.92	4.11	1.57	2.52
Made Way for Siblings	-	-	-	-	-	-	-	-	-
Not Specified	13.18	14.95	14.17	12.11	39.12	31.92	12.88	25.99	21.10
<b>Total</b>	<b>100.00</b>								

The school density is not a significant factor in the context of accessing it. Distribution of children according to weekly attendance by distance and stratum shows that the percentage of attendance has been significantly high across distance. In the case of

education children tend to go wherever services are available (Table 3.28). This only shows that rural poor are aware of the benefits of being educated.

**Table 3.28: Distribution of Children Attending School by Distance and Stratum**

Attendance	Stratum 1				Stratum 2				Combined			
	< 1 Km.	1-2 Km.	2-5 Km.	> 5 Km.	< 1 Km.	1-2 Km.	2-5 Km.	> 5 Km.	< 1 Km.	1-2 Km.	2-5 Km.	> 5 Km.
Last Week												
Less than 0.20	2.54	9.96	1.90	27.36	16.73	0.55	0.00	14.18	7.46	2.69	0.88	18.14
0.20 to 0.40	0.66	0.00	0.00	0.00	0.51	0.00	0.00	0.00	0.77	0.00	0.00	0.00
0.40 to 0.60	1.90	2.58	0.00	1.09	0.34	0.00	0.00	0.00	6.64	0.59	0.00	0.33
0.60 to 0.80	22.64	24.58	13.78	17.62	18.08	19.81	28.00	4.62	14.30	20.89	21.38	8.53
0.80 to 1.00	22.52	23.60	21.86	24.49	19.54	15.60	14.30	26.35	22.74	17.41	17.82	25.79
Equal to 1.00	49.73	39.28	62.46	29.43	44.79	64.04	57.70	54.85	48.10	58.42	59.92	47.21
<b>Total</b>	<b>100.00</b>											

From the village level questionnaire it is observed that in the case of higher education distance of most of the educational institutions like senior secondary college, polytechnic, vocational degree college, degree college, university headquarters and medical college is more than 2 km from the village (Table 3.29).

**Table 3.29: Distribution of Villages According to Educational Facilities by Distance**

Facilities					(Percent)	
	< 0.5 Km.	0.5-1 Km.	1-2 Km.	> 2 Km.	Not Specified	Total
Medical College	0.00	0.86	0.00	87.92	11.22	100.00
Senior Secondary College	7.28	3.34	4.84	78.56	5.98	100.00
Polytechnic	0.00	0.00	0.35	91.88	7.77	100.00
Vocational Degree College	0.86	0.00	0.00	93.17	5.98	100.00
Degree College	0.86	0.00	0.00	95.31	3.83	100.00
University Headquarters	0.00	0.00	0.00	94.11	5.89	100.00

## b. Health

*Majority of the households preferred primary health centres, private doctors and others when they fell sick. The modal value of average consultation fee is below Rs 19 for both the strata. Majority of the expenditure goes towards purchase of medicines.*

The notion of well being of a person is to live a life free from illness and ailments and to have a reasonable life span. The relationship between health and poverty is complex, multi-faceted and multidirectional. Poverty has a direct bearing on the morbidity and longevity of people. Nutritional deficiencies have been observed to affect physical and mental development of children, impairing health and productivity of work

The stratum-wise analysis of health service seeking behaviour in Uttaranchal is shown in Table 3.30. In stratum 1 about 87 percent of the households depend on primary health centres, followed by private doctors, health workers and jhola chhap quacks. The others category which consists of charitable/NGO dispensary, mobile dispensary, maternity centre, indigenous practitioners, faith healer/relative chemist accounts for 34 percent. In case of stratum 2 also, households depend more on primary health centres, private doctors and others.

**Table 3.30: Households by Type of Health Service Seeking Behaviour**

	(Percent)	
	<b>Stratum 1</b>	<b>Stratum 2</b>
Health Worker	13.82	10.00
PHC	86.68	80.69
Private Doctor	56.32	53.48
Jhola Chhap Quack	2.09	4.28
Others	34.51	46.08
Not Specified	6.57	5.47

Note: This is as a percentage of total households.

Table 3.31 shows the distribution of households as per average consultation cost according to the type of health services. About 94 percent of cases of consulting health worker, the fee is Rs. 19 or less. similar is the feature for PHC, private doctor and other though with somewhat lower proportions. It is surprising that for jhola chhap quacks, the modal value is about Rs. 25 for 44 percent of consultations.

Table 3.32 shows the distribution of households and health expenditure as per the monthly per capita consumer expenditure (MPCE) classes. The second column shows the percentage of households reporting illness across MPCE class. The third column shows the distribution of households reporting illness. The fourth, fifth and sixth columns capture the structure of health expenditure. The last column presents the per household health expenditure. The number of households reporting illness is 96.75 per cent in stratum 1. The reason for high morbidity may be due to one-year reference period of reporting illness. The distribution of households reporting illness across MPCE class reveals that MPCE class upto Rs. 355 accounts for 60 per cent of the households reporting illness in stratum 1. The structure of health expenditure between medicine, doctors and others<sup>3</sup> reveal that major share

<sup>3</sup> Other medical expenditure includes hospital charges, charges on account of X-ray and various other medical diagnostic tests.

of total health expenditure is on medicine. The share of expenditure on account of medicine is about 63 per cent. The per household health expenditure across MPCE class reveals that generally the health expenditure increase as households move up MPCE particularly, above the poverty line. The per capita health expenditure in stratum 1 is Rs. 1572.

**Table 3.31: Distribution of Households as Per Average Consultation Cost and Type of Health Service**

(Percent)

	<b>Stratum 1</b>					<b>Total</b>
	<b>&lt; Rs 10</b>	<b>Rs 10-19</b>	<b>Rs 20-29</b>	<b>Rs 30-49</b>	<b>'Rs 50+</b>	
Health Worker	45.36	48.51	2.09	3.67	0.36	100.00
PHC	46.66	29.13	13.02	4.02	7.16	100.00
Private Doctor	47.21	27.59	16.55	2.40	6.25	100.00
Jhola Chhap Quack	19.16	31.63	44.28	-	4.93	100.00
Others	38.93	22.89	9.95	10.70	17.53	100.00
Not Specified	34.16	49.84	14.07	-	1.94	100.00
	<b>Stratum 2</b>					<b>Total</b>
	<b>&lt; Rs 10</b>	<b>Rs 10-19</b>	<b>Rs 20-29</b>	<b>Rs 30-49</b>	<b>'Rs 50+</b>	
Health Worker	40.53	35.18	14.49	7.97	1.82	100.00
PHC	33.16	22.19	10.83	5.71	28.11	100.00
Private Doctor	39.38	31.12	14.88	2.23	12.39	100.00
Jhola Chhap Quack	29.70	48.86	21.44	-	-	100.00
Others	11.31	18.35	10.45	6.21	53.69	100.00
Not Specified	18.69	42.10	34.74	2.44	2.03	100.00
	<b>Combined</b>					<b>Total</b>
	<b>&lt; Rs 10</b>	<b>Rs 10-19</b>	<b>Rs 20-29</b>	<b>Rs 30-49</b>	<b>'Rs 50+</b>	
Health Worker	42.57	40.80	9.27	6.16	1.21	100.00
PHC	37.85	24.60	11.59	5.13	20.83	100.00
Private Doctor	42.11	29.89	15.46	2.29	10.25	100.00
Jhola Chhap Quack	27.78	45.71	25.61	-	0.90	100.00
Others	18.57	19.54	10.31	7.39	44.18	100.00
Not Specified	25.04	45.27	26.26	1.44	1.99	100.00

In the case of stratum 2 the percentage of households reporting illness is 97 percent. About 79 percent of the households reporting illness fall in MPCE range of Rs. 355 - 455 and above. Most of the expenditure goes towards to medicines. About 57 percent of the households expenditure goes for medicines, 20 percent for doctors fee and others account for 23 percent. The per capita health expenditure in stratum 2 is Rs. 2363. As compared to stratum 1 it is higher by Rs 781.

**Table 3.32: Distribution of Households and Health Expenditure Across MPCE Classes**

MPCE (Rupees)	Percentage of Households Reporting Illness in Total	Distribution of Household Reporting Illness	Structure of Health Expenditure				Percentage of Total Health Expenditure
			Medicines	Doctors	Others	Total	
<b>Stratum 1</b>							
< 190	99.58	13.54	78.55	4.58	16.87	100.00	2.60
190 – 210	99.67	5.56	68.25	9.10	22.65	100.00	2.20
210 – 235	99.32	8.02	77.68	4.95	17.37	100.00	3.00
235 – 265	86.03	8.11	70.85	5.61	23.54	100.00	4.16
265 – 300	94.33	12.26	61.95	18.29	19.76	100.00	3.78
300 – 355	91.28	12.17	66.28	15.04	18.69	100.00	4.19
355 – 455	100.00	16.65	66.11	8.30	25.59	100.00	6.09
455 – 560	99.85	11.19	63.67	11.60	24.73	100.00	6.53
560 – 650	100.00	3.21	65.72	9.49	24.78	100.00	7.06
650 – 750	100.00	3.06	58.77	10.59	30.65	100.00	5.28
750 – 1000	100.00	3.77	59.20	19.42	21.38	100.00	25.74
> 1000	100.00	2.27	52.41	7.07	40.52	100.00	16.79
Not Specified	100.00	0.19	50.00	12.50	37.50	100.00	-
<b>Total</b>	<b>96.75</b>	<b>100.00</b>	<b>62.58</b>	<b>12.65</b>	<b>24.77</b>	<b>100.00</b>	<b>7.01</b>
<b>Stratum 2</b>							
< 190	100.00	1.83	91.35	8.65	-	100.00	0.97
190 – 210	100.00	2.58	60.84	-	39.16	100.00	26.62
210 – 235	96.82	8.14	66.89	14.00	19.11	100.00	2.02
235 – 265	100.00	1.85	51.82	10.45	37.73	100.00	4.80
265 – 300	100.00	2.32	72.89	11.54	15.57	100.00	1.89
300 – 355	94.40	4.51	64.20	5.24	30.56	100.00	3.51
355 – 455	90.61	23.31	54.98	22.77	22.25	100.00	5.61
455 – 560	100.00	16.96	65.94	9.33	24.74	100.00	3.70
560 – 650	100.00	3.13	61.53	10.55	27.92	100.00	5.45
650 – 750	99.45	12.19	75.43	6.44	18.13	100.00	3.89
750 – 1000	100.00	10.95	70.88	3.01	26.10	100.00	3.32
> 1000	100.00	12.22	48.49	29.23	22.28	100.00	9.44
Not Specified	-	-	-	-	-	-	-
<b>Total</b>	<b>97.07</b>	<b>100.00</b>	<b>56.87</b>	<b>19.78</b>	<b>23.35</b>	<b>100.00</b>	<b>5.79</b>

The most important aspect of the rural health is the well being of the female family members, specially the married women. Table 3.33 gives the frequency of clinical consultation of currently married women during last pregnancy. In stratum 1 about 36 percent visited twice and about 26 percent visited four times. However, when we examine the distribution of the nature of consultation, it becomes evident that majority of them go to untrained dai in visit of single class (Table 3.34). For those visiting twice about 36 percent go to nurse/trained dai and about 47 percent to untrained dai. Those visiting four times about 30 percent go to nurse/trained dai and 65 percent to untrained dai.

**Table 3.33: Frequency of Clinical Consultation of Currently Married Women During Last Pregnancy**

Number of Visit	(Percent)		
	Frequency		
	Stratum 1	Stratum 2	Combined
1	16.41	8.62	10.68
2	36.13	32.72	33.62
3	10.84	29.46	24.52
4	26.38	14.23	17.45
5 or more	10.24	14.98	13.72
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

In case of stratum 2 the number of visits is concentrated in two to three consultations class accounting for 62 percent. The number of women visiting twice go to nurses.

**Table 3.34: Frequency and the Nature of Clinical Consultation of Currently Married Women During Last Pregnancy**

Number of Visit	(Percent)						Total
	Doctor	Nurse	Trained Dai	Untrained Dai	Others	NS	
	<b>Stratum 1</b>						
1	0.00	0.00	0.00	63.69	0.00	36.31	100.00
2	6.71	23.97	11.92	46.85	0.00	10.55	100.00
3	15.79	15.47	8.53	60.21	0.00	0.00	100.00
4	0.00	4.44	25.58	64.78	5.19	0.00	100.00
5 or more	0.00	0.00	15.02	54.91	30.07	0.00	100.00
<b>Total</b>	<b>4.14</b>	<b>11.51</b>	<b>13.52</b>	<b>56.62</b>	<b>4.45</b>	<b>9.77</b>	<b>100.00</b>
<b>Stratum 2</b>							
1	0.00	0.00	0.00	20.30	0.00	79.70	100.00
2	0.00	94.30	2.11	3.59	0.00	0.00	100.00
3	0.00	0.00	10.87	73.34	0.00	15.80	100.00
4	0.00	0.00	0.00	100.00	0.00	0.00	100.00
5 or more	0.00	0.00	24.35	75.65	0.00	0.00	100.00
<b>Total</b>	<b>0.00</b>	<b>30.86</b>	<b>7.54</b>	<b>50.08</b>	<b>0.00</b>	<b>11.52</b>	<b>100.00</b>
<b>Combined</b>							
1	0.00	0.00	0.00	37.96	0.00	62.04	100.00
2	1.91	74.28	4.90	15.91	0.00	3.00	100.00
3	1.85	1.81	10.59	71.80	0.00	13.95	100.00
4	0.00	1.78	10.25	85.89	2.08	0.00	100.00
5 or more	0.00	0.00	22.51	71.55	5.95	0.00	100.00
<b>Total</b>	<b>1.10</b>	<b>25.73</b>	<b>9.12</b>	<b>51.81</b>	<b>1.18</b>	<b>11.06</b>	<b>100.00</b>

In Uttaranchal, the village level questionnaire showed that about 74 percent of the villages have primary health centre 2 km. away from their village (Table 3.35).

**Table 3.35: Distribution Villages According to Hospital Facilities by Distance**

Facilities	< 0.5 Km.	0.5-1 Km.	1-2 Km.	> 2 Km.	(Percent)	
					Not Specified	Total
Primary Health Centre	11.14	3.90	7.88	73.92	3.15	100.00
Maternity Health Centre	13.64	2.82	6.06	70.95	6.54	100.00
Sub-divisional Hospital	3.15	3.88	0.00	84.90	8.06	100.00
Divisional Hospital	1.60	0.86	0.00	95.30	2.25	100.00
Medical College	0.00	0.86	0.00	87.92	11.22	100.00

As regards the maternity health centre 71 percent of the villages reported it above 2 kms. from the village. Divisional and medical colleges were also available beyond 2 kms. The infrastructure bottlenecks are very high as can be seen from the distances the villagers have to travel.

### c. Connectivity and the Rural Poor

*Roads do not connect about 26 percent of the villages in certain seasons. Due to various bottlenecks the poor have to spend on an average per household about Rs. 44 monthly and this constitutes 2.52 percent of the total expenditure. The other important means of connectivity are post office and telephone booth. Access to newspaper is dismal inspite of high literacy level.*

Rural connectivity is one of the main issues in the discussion of poverty. This gives an idea of the mobility of rural poor. From the analysis of the village level questionnaire, it is ascertained that villages remained connected to the main road for most part of the year. The village or panchayat response to the question of road connectivity is shown in Table 3.36.

**Table 3.36: Village Road Connectivity**

	(Percent)
Throughout the Year	65.84
During Certain Seasons	25.70
Not Specified	8.46
<b>Total</b>	<b>100.00</b>

Majority of the roads are accessible throughout the year (66 percent), while certain roads are approachable during certain seasons only (26 percent) and about 8 percent did not respond to the question.

The percentage of households using various other means of connectivity, viz., post office, telephone booth, television, radio, newspaper and internet is shown in Table 3.35. In stratum 1 the main means of connectivity is post office, followed by telephone booth. Television, radio and newspaper are used minimally. The percentage of households using internet is nil.

**Table 3.37: Percentage of Households Reporting Use of Means of Connectivity**

	(Percent)		
	<b>Stratum 1</b>	<b>Stratum 2</b>	<b>Combined</b>
Post Office	51.57	69.10	63.25
Telephone booth	41.62	64.13	56.61
Television	3.59	3.82	3.75
Radio	1.02	12.90	8.94
Newspaper	0.35	4.17	2.89
Internet	-	-	-
<b>Total</b>	<b>98.15</b>	<b>154.12</b>	<b>135.43</b>

At the village level enquiries regarding the distance of various infrastructure facilities was ascertained. The distribution of villages according to various infrastructure facilities and by distance is shown in Table 3.38.

**Table 3.38: Distribution of Villages According to Various Infrastructure Facilities by Distance**

Facilities						(Percent)	
	< 0.5 Km.	0.5-1 Km.	1-2 Km.	> 2 Km.	Not Specified	Total	
Bus Stand	18.67	6.21	15.03	60.09	0.00	100.00	
Ration Shop	53.94	12.35	12.09	21.63	0.00	100.00	
Pucca Road	20.67	8.25	11.86	58.91	0.32	100.00	
Highway	7.03	2.39	4.97	85.60	0.00	100.00	
Railway Station	0.86	1.12	0.00	95.78	2.25	100.00	
Post Office	30.63	10.33	9.14	49.90	0.00	100.00	
Commercial Bank	3.06	3.84	2.70	88.49	1.90	100.00	
Irrigation Canal	13.95	5.51	6.99	25.00	48.54	100.00	
District Head Quarter	0.86	1.30	0.00	93.42	4.43	100.00	
<b>Total</b>	<b>9.90</b>	<b>3.52</b>	<b>4.31</b>	<b>76.04</b>	<b>6.22</b>	<b>100.00</b>	

About 60 percent of the villages reported that bus stand is beyond 2 km from their village. Pucca roads for 59 percent reported beyond 2 km. In the case of post office, 31 percent of the villages has one within half a kilometer and about 50 percent beyond 2 km. In

the case of highways and railway station, the access was beyond 2 km. Banking facilities were also beyond 2 km. 53 percent of the ration shops are located within half a kilometer.

The cost of travel across monthly per capita consumer expenditure MPCE class is shown in Table 3.39. The average per household expenditure on travel is Rs. 45.89 in stratum 1. Per household expenditure on travel generally increases as the MPCE class increases. On an average, the expenditure on travel constituted 2.52 per cent of the total expenditure in stratum 1.

In stratum 2, the average per household expenditure on travel is Rs. 39.29. On an average, the expenditure on travel constituted 1.19 percent of the total expenditure.

**Table 3.39: Cost of Travel Across MPCE Class**

MPCE Rupees	Stratum 1		Stratum 2		Combined	
	Per Household Cost of Travel (Rs.)	Percentage to Total Expenditure	Per Household Cost of Travel (Rs.)	Percentage to Total Expenditure	Per Household Cost of Travel (Rs.)	Percentage to Total Expenditure
< 190	-	0.00	4.46	0.36	0.95	0.10
190 – 210	-	0.00	8.86	0.89	4.26	0.42
210 – 235	3.23	0.24	2.17	0.17	2.51	0.19
235 – 265	0.20	0.01	16.06	0.92	4.68	0.29
265 – 300	-	0.00	6.45	0.46	1.70	0.11
300 – 355	0.14	0.01	63.96	2.61	26.80	1.24
355 – 455	103.86	4.95	23.08	1.06	42.81	1.98
455 – 560	23.47	1.18	15.69	0.52	17.62	0.64
560 – 650	4.56	0.17	7.43	0.21	6.46	0.20
650 – 750	263.77	9.65	8.29	0.21	36.64	0.95
750 – 1000	178.53	4.64	16.51	0.44	40.27	1.07
> 1000	539.34	13.06	203.17	2.54	231.74	3.02
Not Specified						
<b>Total</b>	<b>45.89</b>	<b>2.52</b>	<b>39.29</b>	<b>1.19</b>	<b>41.49</b>	<b>1.48</b>

The cost of travel across MPCE class is shown in Table 3.40. The average per household expenditure on travel is Rs. 45.89 in stratum 1. Per household expenditure on travel generally increases as the MPCE class increases. On an average, the expenditure on travel constituted 2.52 percent of the total expenditure in stratum 1.

### 3.6 Pro-Poor Fiscal Intervention: The Ground Realities

Uttaranchal has a three-tier panchayat structure with 13 Zila Panchayats, 95 Kshetra Panchayats and 7055 Gram Panchayats.

The village heads were quizzed as to how frequently the elected functionaries visited their constituencies. It was observed that about 75 percent of the Members of Parliament did not visit their area for more than once in a year while it was about 60 percent for Legislative Assembly Members (Table 3.40).

**Table 3.40: Frequency of Visits of Public Representatives to Rural Areas**

	(Percent)
<b>Frequency of Visits by Member of Parliament</b>	
Once in a Month	1.46
Once in Six Month	0.97
Once in a Year	3.53
More than One Year	74.26
Not Able to Specify	19.78
<b>Total</b>	<b>100.00</b>
<b>Frequency of Visits by Member of Legislative Assembly</b>	
Once in a Month	4.96
Once in Six Month	12.59
Once in a Year	7.62
More than One Year	59.99
Not Able to Specify	14.85
<b>Total</b>	<b>100.00</b>

The village heads were asked if the MPs and MLAs had initiated any schemes under the MPLADS/MLALADS. It was observed that 13 percent of the schemes were for community halls in the villages, 7 percent were for laying of village roads, and 72 percent responded that no schemes were undertaken (Table 3.41).

**Table 3.41: Nature of Developmental Schemes Run by Public Representatives**

	(Percent)
Hand Pumps	1.84
Village Roads	7.43
Community Halls	13.05
Others	5.34
No Scheme Reported	72.34
<b>Total</b>	<b>100.00</b>

To ascertain the functioning of the village panchayat, some basic questions as to their sources of funds were raised. Table 3.42 shows the size of panchayat and sources of funds. The first column gives the number of panchayat members, second column presents the percent of villages fall within the size class of panchayats, and the rest of each the columns give funds raised through various sources.

**Table 3.42: Size of Panchayat and Sources of Funds**

Size of Panchayat by Number of Members	Percentage of Villages	Structure of Revenue Resources by Sources					(Percent)
		Centre	States	Own	Others	Total	
1-5	19.41	10.16	50.11	39.73	0.00	100.00	
6-10	43.71	25.72	65.11	9.16	0.00	100.00	
11-15	36.88	52.51	41.45	3.05	2.99	100.00	
> 16	0.00	-	-	-	-	-	
<b>Total</b>	<b>100.00</b>	<b>34.24</b>	<b>50.01</b>	<b>14.33</b>	<b>1.41</b>	<b>100.00</b>	

About 19 percent of the villages have 1-5 panchayat members, 44 percent have 6-10 members, 37 percent have 11-15 members. Panchayat having 11 - 15 members get 53 percent of their funds from the centre, 42 percent from the state and 3 percent each from own and others. In the case of 6-10 member panchayats, 65 percent of the funds come from state, 26 percent from the centre and rest from own. In the case of 1-5 member panchayats, 50 percent comes from the state, 40 percent from own sources and the remaining from the centre.

The village level queries also included the various types of public services provided by the Panchayats. It was observed that they helped in village sanitation, dispute resolution, maintenance of pumps/well/ponds, running of schools, maintenance of roads and bridges, construction of roads and puliyas etc. The various types of schemes, amounts spent on these schemes and per capita village expenditure are shown in Table 3.43.

Almost half the expenditure is going towards the construction of roads and puliyas, about 19 percent is going towards maintenance of pumps/wells/ponds, 8 percent for setting up of hand pumps, 9 percent for maintenance of roads and bridges, above 3 percent each for running of schools and village sanitation. On the whole per village expenditure for these services works out to Rs. 15778.

**Table 3.43: Various Public Services Performed by the Panchayat**

	Percentage of Villages Reporting	Percentage Distribution of Expenditure	Per Village Expenditure (Rupees)
Street Lighting	3.32	0.67	6670
Vaccination Programmes	13.54	0.19	463
Running of Village Hospitals	4.69	0.00	0
Setting Up of Hand Pumps	17.10	8.34	16076
Maintenance of Pumps/Wells/Ponds	27.78	18.89	22424
Village Sanitation	44.72	3.42	2525
Running of Schools	20.43	3.10	5006
Construction of Roads & Puiyas	18.46	49.34	88121
Maintenance of Roads & Bridges	19.54	9.40	15866
Construction of Irrigation Water Channels	7.38	6.14	27426
Dispute Resolution	30.74	0.11	121
Others	1.30	0.39	10000
<b>Total</b>		<b>100.0</b>	<b>15778</b>

The role of panchayat in implementation of various government schemes was enquired into. This is basically to know as to what extent panchayats participated in the implementation of these schemes.

The role of panchayat in implementation of various government schemes is shown in Table 3.44. The table captures the panchayat's role in initiation, formation of people's self help groups, mobilising labour time of people, community monetary contribution, capacity of building, others.

**Table 3.44: Role of Panchayat in Implementation of Various Government Schemes**

	Initiating	Formation of People's Group	Mobilising Labour Time of People	Community Monetary Contribution	Capacity Building	Others	Not Participating	Total
Swarn Jayanti Gram Swarozgar Yojana	12.00	14.42	10.70	4.96	0.00	3.86	54.06	100
Jawahar Gram Samridhi Yojana	14.95	13.54	13.01	0.00	1.25	4.65	52.60	100
Sampoorna Gram Rozgar Yojana	10.73	5.22	4.38	4.51	0.00	3.91	71.25	100
Sampoorna Gram Rozgar Yojana	5.21	2.08	2.57	0.00	0.89	0.00	89.25	100
Pradhan Mantri Gram Sadak Yojana	5.48	4.60	0.33	1.80	0.00	0.00	87.78	100
PM Rural Drinking Water Project	6.53	0.00	3.15	0.00	2.89	0.00	87.44	100
Anganwadi	18.38	4.71	3.82	6.97	1.94	2.41	61.78	100
Balika Samridhi	7.30	2.56	0.00	3.49	2.89	3.26	80.49	100
Bal Poshahar	15.06	3.88	8.17	6.97	2.89	6.93	56.09	100
Widow Pension	38.92	9.01	1.74	8.78	2.89	11.89	26.76	100
Kisan (Old Age) Pension	28.75	7.89	1.74	5.29	0.00	8.76	47.57	100
Others	0.00	1.37	0.00	0.00	0.00	0.00	98.63	100

The participation of panchayats in implementation of Swarn Jayanti Gram Swarozgar Yojana and Jawahar Gram Samridhi Yojana are limited to 54 and 53 percent respectively. 71 percent of the panchayats did not participate in the implementation of Sampoorna Gram Rozgar Yojana. About 87 to 89 percent did not participate in PM Rural Drinking Water Project, Pradhan Mantri Gram Sadak Yojana and Sampoorna Gram Rozgar Yojana. However, panchayat participating in initiating widow pension (39 percent) and kisan (old age) person schemes (29 percent). Considering in totality, panchayats participation in the schemes has been rather limited.

The rural households were enquired if they benefited from any of the government schemes mentioned above. Their views are summarised in Table 3.45.

**Table 3.45: Households Benefiting from Government Schemes and Nature of Benefits**

	(Percent)	
	<b>Stratum 1</b>	<b>Stratum 2</b>
Percentage of households Benefiting	8.79	10.33
Nature of Benefit (in percent)		
Temporary Employment	70.40	95.59
Regular Employment	2.94	0.00
Improvement in living Condition	0.63	3.34
Cash Benefit	26.63	68.08
Food Grains	17.70	0.00
Augment Infrastructure	0.00	0.00
Others	0.00	1.07

The percentage of rural household received benefits in stratum 1 in 9 percent and in stratum 2, it is higher at more than 10 percent. About 70 percent of households receiving benefits mentioned that they receive temporary employment. 3 percent regular employment, 27 percent received cash benefit and about 19 percent foodgrains. In the case of stratum 2, 10 percent of the rural households received benefits from the various schemes. They were able to get temporary employment and some cash benefit.

The distribution of the households receiving benefits was classified as per the MPCE classes. These findings are captured in Table 3.46.

**Table 3.46: Distribution of Households Reporting Benefit and Its Nature by MPCE Class**

MPCE (Rupees)	(Percent)			
	Distribution of Households Reporting	Distribution of Benefits	Distribution of Households Report	Distribution of Benefits
	Stratum 1		Stratum 2	
< 190	1.72	2.08	0.00	0.00
190 - 210	8.21	6.71	0.00	0.00
210 - 235	1.32	2.01	0.00	0.00
235 - 265	16.38	14.13	0.00	0.00
265 - 300	16.17	13.74	0.00	0.00
300 - 355	10.00	10.21	3.34	3.67
355 - 455	17.13	17.66	18.06	9.93
455 - 560	9.91	9.84	1.07	1.17
560 - 650	1.83	2.99	0.00	0.00
650 - 750	10.33	10.90	51.95	57.11
750 - 1,000	4.16	5.06	12.79	14.06
> 1,000	2.85	4.66	12.79	14.06
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

In stratum 1, 60 percent of the households falling in the monthly per capita expenditure class of Rs. 235 -265 to Rs. 355-455, are able to receive about 56 percent of the benefits. In stratum 2, 78 percent of the households in Rs. 650 -750 and above account for 85 percent of the benefits. In other words, households at higher end of the MPCE class in stratum 2 enjoyed most of the benefits.

### 3.7 Poverty Alleviation Strategies: The Perception of Poor

*Most of the households feel that employment generating schemes are helpful to them to earn their livelihood, followed by housing, health and education facilities. When they are asked what is their perception of poverty, the rural households cited lack of employment, lack of land possession, undernourishment, lack of housing facility, lack of wealth and lack of education. Availability of food was a problem for one-eighth of poor households in Uttaranchal.*

Government formulates poverty alleviation strategies to uplift the weaker sections of the society. It is important to know how the affected populace feels about the programmes. In this survey specific questions were asked as to which are the most helpful government schemes and services they prefer to have. The results are tabulated in Table 3.47.

In stratum 1, most of the households (66 percent) felt that employment-generating schemes are helpful to them to earn their livelihood, housing schemes (8 percent), health facilities (6 percent) and about 2 percent education facilities. The other category accounted for about 15 percent.

**Table 3.47: Most Helpful Government Schemes and Services: Perception of Poor**

	(Percent)		
	<b>Stratum 1</b>	<b>Stratum 2</b>	<b>Combined</b>
Employment Scheme	65.91	47.37	53.27
Food for Work Programme	0.70	-	0.22
Health Facilities	6.09	18.42	14.50
Provision of Electricity	0.16	-	0.05
Provision of Irrigation Facilities	0.49	0.09	0.22
Provision of Communication Facilities	0.88	13.49	9.48
Provision of Housing Facilities	8.44	1.12	3.45
Drought Relief Work	-	-	-
Public Distribution System	0.13	-	0.04
Removal of Poverty	0.21	-	0.07
Education	1.60	5.29	4.11
Others	15.40	14.22	14.59
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

In stratum 2, the emphasis is on employment schemes (47 percent), health facilities (18 percent), communication facilities (13 percent), education facilities (5 percent). Others category accounts for about 14 percent.

Some of the poor felt that few of the programmes did help them in day-to-day management of their lives. When they were asked what is their perception of poverty, the rural households cited lack of employment, lack of land possession, undernourishment, lack of housing facility, lack of wealth, lack of education etc. These are tabulated in Table 3.48.

**Table 3.48: Perception of Poverty: The Perspective of Rural Households**

	(Percent)		
<b>Perception</b>	<b>Stratum 1</b>	<b>Stratum 2</b>	<b>Combined</b>
Lack of Employment	31.64	29.88	30.48
Lack of Land Possession	2.86	13.39	9.79
Undernourishment	6.32	10.39	9.00
Lack of Housing	10.77	9.50	9.93
Lack of Wealth	13.21	21.45	18.64
Lack of Education	0.80	0.33	0.49
Others	34.41	15.06	21.66
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

In stratum 1, about 32 percent felt that lack of regular employment is one of the main reasons for poverty in the rural households, followed by lack of wealth (13 percent), lack of housing (11 percent), undernourishment (3 percent). Other reasons occupy an important part in their perception of poverty.

Another important question put to the rural households was whether they had any problem in getting food throughout the year. The findings are tabulated in Table 3.49.

**Table 3.49: The Food Security: The Availability**

	(Percent)		
<b>Availability of Food</b>	<b>Stratum 1</b>	<b>Stratum 2</b>	<b>Combined</b>
Throughout the year	87.59	95.77	92.98
Some months	12.41	4.23	7.02
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

About 88 percent of the rural households in stratum 1 replied that food was available throughout the year, while 12 percent mentioned that it was available for few months. In stratum 2, 96 percent received food throughout the year while 4 percent for few months. From this it appears that availability of food was a problem for one-eighth of poor households in Uttaranchal.

## **Chapter 4: SUMMARY AND CONCLUSIONS**

Uttaranchal came into existence in November 2000 as the 27<sup>th</sup> State of India. The state has 13 districts and is ranked at 18<sup>th</sup> place in terms of area in the country and 20<sup>th</sup> in terms of population. It is the 11<sup>th</sup> most sparsely populated state. Service sector plays a dominant role in the Uttaranchal Economy.

As per the Census 2001, the literacy rate in the state is higher than that of all India. The sex ratio at 964 females per 1000 males is above the all India ratio of 933. There is wide variation in sex ratio among the districts. The density of population varies from 37 per square km in Uttarkashi to 612 in Hardwar. Out migration is a major characteristic of the state. Due to vast hilly terrains, there are infrastructure bottlenecks. As per the BPL survey in 1997-98, 36.44 percent of the rural families are below the poverty line. Service sector plays a dominant role in the Uttaranchal economy, followed by agriculture and industry.

The finances of Uttaranchal show a marked deterioration in revenue and fiscal balance. However, the decline in the share of revenue deficit in fiscal deficit shows improvement in the quality of fiscal deficit. Fiscal deficit stood at 10 percent of GSDP in 2003-04, and the outstanding debt relative to GSDP, at 34 percent. Capital expenditure as percent of GSDP has exceeded 4 percent in 2003-04, which is welcome, but the state needs to bring its revenue account into balance in order to avoid persistent fiscal stress.

The survey results of Uttaranchal are summarized as for social and demographic characteristics, economic opportunities for the rural poor, access to livelihood, access to public service delivery, pro-poor fiscal intervention, and poverty alleviation strategies.

### **a. Social and Demographic Characteristics**

- i. The proportion of the poor households varies widely from 16 percent in Rudraprayag to 46 percent in Hardwar. The sex ratios also show variation between hilly terrains and the plains. Women illiteracy is high in the poor households, and there is a clear difference between the poor and the non-poor households, the former being much higher.

- ii. The percentage distribution of males and females in the poor and non-poor in various groups seems identical. The proportion of children and pre-adults (0-18 years age group) is larger in poor as compared to the non-poor. Which implies that in non-poor there is a shift towards the older age groups.
- iii. The sex ratio for the poor adults is higher as compared to the non-poor but in the case of children, it is reverse. The number of children per thousand adults is higher in the poor and this indicates that they are more dependent on their parents. The dependency stress is more in poor, as they have to shoulder greater responsibility of bringing up the children in the non-poor.

**b. Economic Opportunities and the Rural Poor**

- i. The number of women not in labour force is high in the case of females both in the poor and non-poor households. The rate of unemployment among the poor is much higher than the non-poor. In the poor households, about 38 percent of the persons are in construction activity and are in paid employment. About 28 percent are agricultural labourers. The average annual income of those in paid employment is higher as compared to those in self-employment. The feature that strikes most is that the income for an agricultural labourer or for a construction worker in paid employment is almost double that of a small cultivator in self-employment, indicating that farming is not a viable occupation for the poor.
- ii. Animal husbandry accounts for 74 percent of the establishments in Uttaranchal, followed by basket making, carpentry, blacksmiths and agro-based industries.
- iii. In all, 5 percent of the households migrated to other places and almost all of them went for a regular job.
- iv. Out of every four households there is one indebted household in the poor. More than one fourth of the households are indebted in both the poor and non-poor. Almost 65 percent of the indebted households borrowed from their relative/neighbours and they were taken for considerations other than agricultural purposes. If all the loans are considered, about 42 percent were for agricultural purposes and the remaining for other purposes. In the case of non-poor almost equal share of the loans is for purposes of agriculture or otherwise.

**c. Access to Livelihood**

- i. The average household size in the poor is 5.35 and they have a per capita annual income of Rs. 3651 with a per capita annual expenditure of Rs. 4081.
- ii. A large portion of expenditure is spent in purchase of food and about three-fifths of them have also access to the market. About 61 percent of the rural households are below the poverty line. About 12 percent of the households have no access to food through out the year.
- iii. Almost all the households (poor and non-poor) rely on the PDS system for kerosene. They also partly depend on other energy sources like wood and electricity. About 13 percent of the all households are electrified, but only 9 percent of the poor households are electrified.
- iv. The availability of water facility in their own premises is very low.

**d. Public Service Delivery**

- i. There is a high degree of gender inequality in Uttaranchal. Illiteracy rates of adult males and females are higher in the poor households as compared to non-poor households. In the case of adults, the higher the standard of living the higher is the level of literacy. The difference in literacy rates among children between poor and non-poor rural households is quite narrow, which is a welcome feature.
- ii. Among the children, the most important reason for dropping out of school is the shortage of finance. The next important reason is lack of interest.
- iii. 25 percent of the poor households received scholarships, 33 percent free books, 4 percent free uniform and about 26 percent avail of Mid-day meals. In terms of expenditure, the bulk goes in payment of scholarships (49 percent), followed by free books (19 percent), mid-day meals (18 percent) and others (14 percent). The scenario seems to be similar in stratum 2, in terms of ranking.
- iv. Majority of the households preferred to use the services of primary health centres, private doctors and others when they fell sick. The modal value of average consultation fee is below Rs 19 for both the strata. Majority of the expenditure goes towards purchase of medicines.

- v. 26 percent of the villages remain unconnected in certain seasons. Due to various bottlenecks the poor have to spend on average, per household, about Rs. 44 monthly and this constitutes 2.52 percent of the total household expenditure.
- vi. The other important means of connectivity are post offices and telephone booths. Access to newspapers is dismal inspite of high literacy levels.

**e. Pro-Poor Fiscal Intervention**

- i. Visits by elected functionaries to villages in their constituencies was infrequent. About 75 percent of villages did not report a single visit in a year by the MPs. The corresponding figure for there MLAs was 60 percent.
- ii. About 72 percent could not specify the nature of schemes run by MP/MLA's. The schemes initiated by them in the village were mainly community halls, village roads and public water supply. Almost half the expenditure is going towards the construction of roads. About 45 percent of the villages reported village sanitation, about 31 percent mentioned settlement of disputes.
- iii. The pattern of financing large panchayats was different from that for smaller panchayats. Own resources of panchayats contributed only 14 percent of their expenditures.
- iv. Panchayats were play active role in initiating schemes for widow pensions (39 percent) and kisan (old age) person (29 percent).

**f. Poverty Alleviation Strategies**

- i. Most of the households felt that employment-generating schemes were helpful to them to earn their livelihood, followed by housing, health and education facilities.
- ii. In terms of their own perception of poverty, the rural households cited lack of employment as the main reason for poverty. Lack of land possession, undernourishment, lack of housing facility, lack of wealth and lack of education were the other reasons mentioned by them. Availability of food was a problem for one-eighth of poor households in Uttaranchal.

In conclusion, the study of Uttaranchal shows one redeeming feature, *viz.*, high literacy for male and female children among the poor households, although for the female children, it is relatively lower. What is disturbing is the deteriorating sex ratio in the rural areas of the state. However, there are children not continuing studies due to lack of finance. Credit markets and instruments need to be acquired greater depth in the rural areas. The participation of panchayats is very limited in the case of many of the centrally sponsored schemes. The preferred mode for poverty alleviation in terms of the perception of the poor is employment generation. Schemes designed by the state government for poverty alleviation will incur higher per capita costs due to the low density of population.

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## **Annexure 1: Guidelines for Field Workers**

### **Surveys of Rural Households and Urban Slum Households**

- 1. Introduction**
- 2. Concepts and Definitions**
- 3. Some Important Steps**
- 4. Instructions for Survey of Villages**
- 5. Instructions for Rural Household Questionnaire**
- 6. Instructions for Urban Slum Survey**

**April 2003**  
**NIPFP- Cida Project**  
**INDIA: FISCAL REFORMS FOR POVERTY REDUCTION**  
**New Delhi**

## 1. Introduction

This survey in a general sense is all about the poor. Their activities, occupations, income accruing from different sources and expenditure on food and other necessities are to be investigated. The objectives of the survey however, are concerned not merely with their level of living but also with the situation prevailing in respect of their education, health, water, sanitation, law and personal security, awareness of the political system and lastly and importantly the benefits they have received from the various Government schemes.

### Usefulness of Survey Results

The results would throw light on the conditions under which the poor carry on their daily existence, the constraints they are subject to, their expectations from the government and their perception of poverty. Poverty-reduction programmes have been launched by the government since long. Insufficiencies if any, of the government measures including those by the local panchayats to uplift the lot of the poor would be revealed. The adequacy or otherwise of the on-going government schemes will be studied in the light of which reforms could be formulated and placed before the planners.

### Need for Sample Survey

It is obvious that each and every poor household cannot be contacted for data collection because of the cost involved, enormous time it would take and the difficulties of organization. A fraction of the population is therefore, surveyed for collection of desired information. There are definite rules for selection of the sample. The results of an arbitrarily selected sample cannot be generalized. It is to be noted therefore, that arbitrary or subjective criteria are not used in sample selection. A sample survey carried out according to specified principles of probability sampling (or in short, as a random sample) is the one from which it is possible not only to estimate the values of characteristics for the population but also to get valid estimates of the sampling errors. These sampling errors provide in turn the confidence limits that contain the parameters being estimated with a high probability. In other words, we get the margin of uncertainty of the estimates.

### Control of Errors

In any survey it should be our objective to minimise the errors. Since we are surveying a part of the population, the estimate obtained for any characteristic from this survey may not be equal to the true value of the population parameter; first because of the sampling fluctuations and secondly due to the other factors like coverage errors, response and ascertainment errors, processing errors. There are therefore, two types of errors:

- i. Sampling Error: This error is in-built when a particular method of random sampling is adopted. There are various methods of reducing this type of error.
- ii. Non-Sampling Error: This category of error comprises a whole lot of possible sources. In particular, the investigator should pay attention to errors arising in the field out of
  - a) wrong understanding of concepts and definitions
  - b) incorrect identification of sampling unit
  - c) numerical errors in recording
  - d) faulty selection of households
  - e) incorrect classification of households while stratifying
  - f) wrong way of putting questions to the respondent by putting words in respondent's mouth or in short, defective interviewing technique and so on

The investigator has to be careful right from the start of identifying the village from the sample list to the final submission of the filled in questionnaire. In what follows some of the important concepts and definitions, heavily drawn from the National Sample Survey Organization, are explained.

In a later section some of the important steps are given for the special attention of the investigators. The steps may be followed to reduce the non-sampling errors. Lastly, the salient points of the household questionnaires are explained, The instructions given must be studied and followed.

## **2. Concepts and Definitions**

### **Household**

A group of persons normally living together and taking food from a common kitchen will constitute a household. The members of a household may or may not be related by blood to one another. Therefore, family and household are not necessarily interchangeable. The number of normally resident members of a household is its size; it will include temporary stay-aways but exclude temporary visitors and guests. In deciding the composition of a household, more emphasis is to be placed on 'normally living together' than on 'ordinarily taking food from a common kitchen'. A resident employee or domestic help or a paying guest will be considered as a member of the household with whom he resides even though he is not a member of the family. Floating population that is, persons without any normal residence will not be listed. But households residing in open space, roadside shelter, under a bridge etc. more or less regularly in the same place will be listed.

### **Economic Activity**

Any activity that is performed for production of goods and services for market for pay or profit is defined as an economic activity. The non-market activities like production of agricultural produce for own consumption and those relating to own-account production of fixed assets like construction of own houses; machinery, tools for household enterprise are also considered economic activities.

### **Unusual Activity**

The economic activity or non-economic activity on which a person spent relatively longer time during the 365 days preceding the date of survey is considered the usual activity status of the person. The broad principal usual activity status could be one of the three categories: 'employed' (working); 'unemployed' (available for work) and 'not in labour force'. The first category includes both salaried/wage earners and self-employed in household enterprises. In the second category are those who are not working but available for work. The third category includes those who are not involved in any economic activity *viz.*, students, domestic help, pensioners and so on.

### **Status Code**

For each adult and child, the status code has to be given. While during the 365 days preceding the date of survey, if a person did not have any income, the status code will by definition be 0. The rest of the members will be divided into 2 categories: working and non-working. The sub-categories are self-explanatory; a few are however, explained.

### **Self-Employed**

Persons who operate their own farm or non-farm enterprises or are engaged in a profession or a trade on own account or with a few partners are self-employed in household enterprises.

### **Salaried/Wage Earning**

Persons in others' farms or non-farm enterprises and getting in return salary or wages on regular basis and not on daily or periodic renewal of work contract are only to be considered. The persons may be part time or full time workers.

### **Casual Worker**

A person, getting wage in return of his casual employment in others' farm or non-farm enterprises according to the terms of daily or periodic work contract is a casual wage labourer.

### **Agricultural Labour**

A person will be treated as a wage-paid manual labourer in agriculture or an agricultural labourer if he/she follows one or more of the following agricultural occupations in the capacity of a labourer on hire or on exchange, whether paid wholly in cash or in kind or partly in cash and partly in kind:

- i. farming including cultivation and tillage etc,
- ii. dairy farming
- iii. production, cultivation, growing and harvesting of any horticultural commodity
- iv. raising of livestock, bees or poultry
- v. any practice performed on a farm as incidental to or in conjunction with farm operations

### **Public Distribution System (PDS)**

It means the distribution of some essential commodities by the government at subsidized rate through ration shops, fair price shops and control shops. These shops may be owned by the government, local self- government, a government-undertaking etc. For kerosene, PDS will also include depots selling kerosene at controlled prices.

### **Slum**

A slum is a compact area with a collection of poorly built tenements, mostly of temporary nature, crowded together usually with inadequate sanitary and drinking water facilities in unhygienic conditions. Such an area will be considered as a slum if at least 20 households live in that area for the purpose of this survey. Some areas are notified as slums by the respective municipalities, corporations, local bodies or development authorities. In this survey, all the slums whether notified or not will come within the purview of the survey.

### **Squatter Settlement**

Sometimes an area develops into an unauthorised settlement with unauthorised structures put up by 'squatters'. Squatter settlement will include all slum like settlements that do not have the stipulated number of 20 households.

## **3. Some Important Steps**

### **Proper Identification of the Boundaries**

*a. First Stage Unit (FSU):* Districts being the FSUs, boundaries are fairly distinguishable. Even then in cases of doubts, the maps at the district headquarters may be seen in consultation with the officials. The problem may arise only in cases of sample villages in the rural sector falling in the fringe areas of two or more adjacent districts. There should not be any problem in identification of the FSUs that is, the sample towns in the urban sector.

*b. Second Stage Unit (SSU):* The investigator has the important task of identifying the exact boundaries of the SSU (sample village) as per the particulars supplied in the list.

Problem of Big Villages:

The investigator will have to decide after identifying the boundaries of the SSU whether the listing of the whole village is possible or not. In order to avoid arbitrariness, the following procedure is to be adopted to divide large villages into a number of hamlet groups and then selecting one of them at random for survey purposes:

Plains		Hilly Areas	
Present Population of the Sample Village	Number of Hamlet Groups	Present Population of the Sample Village	Number of Hamlet Groups
Less than 1200	Nil	Less than 600	Nil
1200 – 1799	3	600 – 999	3
1800 – 2399	4	1000 – 1199	4
2400 and more	5	1200 and more	5

The hamlets will be formed in such a way that all the hamlets are more or less of equal population content. For those villages for which 3 hamlets have been formed, one will be selected at random. But for larger villages, two hamlets will be selected at random and two questionnaires will have to be filled up, which means the listing operations also will have to be done twice, one for each of the selected hamlets. The number of hamlets must be noted in the relevant item of the questionnaire.

A freehand sketch-map of the village showing the boundaries of the hamlets should be drawn on a separate sheet and attached with the village questionnaire. It need not be drawn to scale. The selected hamlet is to be shaded.

### **Listing of Households**

Once the boundaries of the sample village are identified, as a rule, the listing of households should be taken up from the north-west corner of the village, moving in a serpentine manner towards the southern part of the village taking care not to miss out any household.

The sampling serial number of the village as given in the sample list should be copied properly in the appropriate item. As will be observed from the structure of the listing schedule, the households are to be stratified into two strata. For identifying the poor in the village, a twin criteria is used: its vulnerability and its placement in village records as falling below the poverty line. Those households designated as either landless or agricultural labour or marginal farmers or SC or ST or headed by women will be taken as the vulnerable group and if so, a tick mark is to be given in the column. Those households having tick marks both in 'vulnerable' and 'BPL' will be included in the first stratum. All the other households will feature in the second stratum. In the subsequent two columns, the households will be given separately the running sampling serial numbers for sampling. From stratum 1 eight households will be selected at random and from stratum 2 two households.

The total numbers of households in the two strata are to be noted in relevant items in the first block.

### **Substitution of Villages (SSU's)**

It may happen that a sample ssu could not be identified or traced or it may be a restricted area like military barracks or it could not be reached despite best of efforts. In such cases the ssu has to be substituted by another from the Sample List provided. The reasons for substitution are to be given in codes:

Original sample ssu	not identifiable/ traceable ---1
	not accessible ----- 2
	restricted area ----- 3
	others (specify) ----- 4

The name of the substitute village and its sampling serial number are to be given on the cover page of the questionnaire and also the reason code.

## **Survey Codes**

There could be three possibilities:

- i. selected village has been surveyed -----1
- ii. selected village is a casualty but a substitute village has been surveyed--2
- iii. selected village is a casualty and no substitute has been surveyed --- 3

In the third case it is assumed that efforts have been made to go for the next serial number in the list of substitute villages in case the substitute village happens to be uninhabited, not accessible or unidentifiable.

The survey codes are to be given on the cover page of the questionnaire.

### **Sub-Sample Number**

The total sample has been divided into two subsamples to be surveyed independently by two different parties of investigators. It is very necessary that the subsample number is given on the cover page.

### **Shortfall in the Number of Households**

If the number of households in any of the two strata is less than the required number to be surveyed, all the households in the concerned stratum are to be surveyed.

### **Use of Random Number Tables**

The layout of the two digit random numbers is in the form of 50 rows and 20 columns in a page. The leaflet given to the investigator will contain two pages of 20 columns each, the columns given a running serial number. The nth column will be consulted where n is the two digits of the sampling serial number. For successive draws, proceed down the column and if after rejections, there is a shortfall in the required random numbers, move to the next column.

## **4. Instructions for Survey of Villages (R1)**

All the information sought for in the cover page are to be given; the information for the sample village are to be obtained from the sample list. The survey code is to be given from among the code list given at the bottom. If a substitute village is surveyed, the reasons are to be supplied in codes.

### **Page 1**

The first four items of village identification are to be filled up from the sample list. If hamlets are formed because of the large size of the sample village, it is very necessary to record the total number of hamlets formed and the name of the selected hamlet. If two hamlets are selected, for each hamlet one village questionnaire is to be filled up with hamlet no. added in item 5 ii) and a footnote at the bottom.

### **Page 2, item 2.01**

Primary schools have classes I to V. Non-formal schools claiming to be primary schools are not to be recorded.

The information on items 2.03 to 2.11 as also on facilities are to be collected as on date of survey.

### **Page 3, item 3.01**

Secondary schools have classes from VI to VIII.

The information on items 3.03 to 3.11 as also on facilities are to be collected as on date of survey.

In a school having classes I to X, the details as per format of the primary section and the secondary section only are to be given.

**Page 4**

Gram Panchayat and Village Panchayat are synonymous. The items are self-explanatory.

**Pages 5: item 5.05**

‘Sarpanch’ in Madhya Pradesh is the same as ‘Pradhan’ in Uttar Pradesh. Other items are self-explanatory.

**Page 6: items 6.01, 6.05, 6.09 and 6.13**

Large farmers are those who operate holdings of 10 hectares or more, ‘medium’ 2 to 6 hectares, ‘small’ 1 to 2 hectares and ‘marginal’ less than a hectare.

**Page 7**

Self Help Groups are to be included in others (7.12)

Apex organisation is the one at the State level having control over the community and cooperative activities.

Mode of financing: government-1; bank-2; cooperative credit societies-3; other institutions-4

**Page 8**

The statistics to be collected should be obtained from a reliable source e.g., the Sarpanch or Village Pradhan preferably looking into the register(s) he may be maintaining. For classifying the number of households according to income ranges too, the investigator may have to start (by asking the village pradhan) with the richest class ‘above Rs.20000’ and noting the frequency (no.) on a separate sheet. This procedure may be repeated for the next two lower size classes. The lowest class that is, 0-5000 will be the remainder. This procedure would be needed because the statistics on household income may not be available in village records.

**5. Instructions for Rural Household Questionnaire (R3)**

**Page 1**

**Household Identification:** Items 1.01-1.04 are to be copied from the Sample List whereas items 1.05-1.07 from the Listing Schedule. Item 1.08 is to be filled by counting the member codes (item 1.09).

**Demographic & other particulars:** Item 1.09: Member ID code

The existing version as appearing at the bottom of Page 1 is to be changed as : ‘List adults (completed 18 years) in sequence from eldest to youngest as A1,A2,-----and pre-adults and children C1, C2 -----respectively’

The usual activity during last year of the economically active members and those who were not, are to be entered in 1. 12 in codes (as explained in Concepts & Definitions).

Members not having any income during last 365 days are to be given 0 in status code.

**Page 2**

**Occupation and Income (last year):**

**Income from paid employment:** This block is to be filled up for all those members whose status code is 2 that is, salaried/wage earning. The appropriate ID code is to be mentioned.

**Item 2.03 to 2.05**

If a person works for 4 hours or more during a day, he will be considered to be a full time worker for the entire day.

If a member worked during last year less than full time, item 2.02 will be left blank but the amount received in cash as salaries and allowances (if any) will be recorded in item 2.03, value of benefits in kind in item 2.04 and hence the total of the two in item 2.05. If however, a member worked full time for some days and less than full time for some period, the total salary, allowances and total value of benefits in kind received for these two periods will be recorded in respective columns.

**Income from self-employment activities (last year):** In 2.06 first the ID code of the member is to be written and then the appropriate occupation code. For perennial non-agricultural activities, 2.07 and 2.08 may be left blank; the value of output may be entered in the total column i.e. 2.09

**Estimated value of output 2.14 (Total)** = 2.09(total) - {2.10(total) + 2.11 (total)}

**Net Income 2.18(total)** = 2.14(Total) - 2.17 (Total)

**Total income of the household last year 2.21:** This will be equal to 2.05(total) + 2.18(total) + 2.19 + 2.20

As the erstwhile members who had migrated to places outside the village are no longer members of the household the remittances sent by them should not be included.

### Page 3

#### **Assets and Liabilities**

**Rented House:** In this case when the ownership code is 3 in 3.01, expenditure on rent **last month** is to be given in 3.03

In the blank space below, introduce a new item 3.03a to record the amount spent on cesses and taxes paid by the household as a domestic consumer. Only taxes and cesses are included which are considered to be levied on the household as a consumer unit. Road cess, chowkidari tax, municipal rates are some examples.

License fees are paid against firearms, vehicles etc. For taxes to be paid monthly/quarterly/annual basis entries will be the amount last paid divided by the number of months for which paid. Professional tax or income tax will not be taken into account.

Item 3.04 that is, value of house should include cost of land.

**Assets:** The particulars of all assets including land, livestock and consumer durables are to be collected **as on the date of survey**.

#### **Borrowing and Debt:**

Source of borrowing: Introduce Self Help Group as code 8

The initial amount of loan as at the beginning of last year is to be recorded by sources from where the loan was procured. The loans taken during last year for agricultural activities are to be separately recorded while the total loan in the next column includes all types of loans taken for agricultural and non-agricultural activities and personal ones.

Outstanding loan at the end of the last year will be the sum of 'initial' + 'total loan during the year' - 'repaid during the year' as shown in column heading of 3.17

Expenditure on social ceremonies will be given in 3.18.

The relevant code (3.19) for mortgage taken for this purpose, if any will be ticked.

#### **Page 4**

##### **Expenditure on Food Consumption**

The expenditures on the listed items of food consumption in Rs.0.00 are to be collected for last 30 days. These expenditures for each item are broken up by source that is, spent on purchase from PDS (4.01) and market (4.02). If the consumption is from self-produced stock or received in lieu of work under the ' food for work' scheme, the imputed value of the quantity consumed has to be recorded in 4.03 or 4.04. Based on the consumption expenditure for one month (4.06), the estimated total annual expenditure on food (4.07) is to be obtained after including any abnormal expenditure say, on weddings or social ceremonies during last year.

#### **Page 4 contd.**

##### **PDS**

The break up of total quantities procured (4.08) in respect of the four items is to be given in 4.09 to 4.12 that is from PDS, market, self-produced or 'Food for work' during last month; to assess the price difference between PDS and market, price/ unit for each is also to be obtained in Rs. 0.00

The questions asked in respect of the quality of the commodities from PDS are self-explanatory.

##### **Expenditure on Clothings & Footwear:**

The investigator has to go into the detailed item list provided to obtain the aggregate figures.

Item head Personal expenses: The title should be changed to 'expenses on miscellaneous goods and services' but expenses on conveyance, medical and post & telephone will be excluded from the scope of this item. Expenses in cash and imputed value of expenses in kind for non-productive purposes are to be recorded.

Sundry articles will include electric torch, bulb, batteries, earthenware, glassware, plastic goods, coir, rope, washing soap, soda, agarbatti, insecticide etc.

Consumer services will include those of domestic servant/cook, sweeper, barber, washerman, tailor, priest etc. Repair charges of non-durables are to be included if the goods are used for domestic consumption and not for productive purpose.

#### **Page 5**

The information sought for on water supply and sanitation should pertain to the situation as on **date of survey except for the total cost including maintenance which should be obtained for last month.**

#### **Pages 6-7**

Information are to be collected for both adults and children though the structure of questions for the latter is more detailed. The items are self-explanatory except attendance last week (7.04) for children attending school which is to be calculated upto 2 places of decimal.

As explained in the footnote, this in fact is a ratio of number of days attended last week to no. of days school was open. The maximum value of this ratio is 1.00

Item 7.11: The codes for transport may be taken from Page 2 of R1. It may be noted that 'no transport' will be the same as 'on foot'

Benefits from Government, items 7.18-7.25: The reference period for obtaining or assessing the benefits is last year. If a child got some preference in admission, code 1 is to be entered in 7.22, otherwise code 2. The amount by way of scholarship during last year is to be given in item 7.18. Since for each child the class of study is given in 7.01, the books received free of cost may be

seen and the total calculated amount may be entered in 7.19. For free uniform, the number of sets received free may be multiplied by the price ascertained from any knowledgeable person in the school and entered in 7.20. For mid-day meals, item 7.21, the cost may again be ascertained from the school authorities. If the school happens to be in another nearby village, the price of the mid-day meal may be ascertained from the 'mukhia'. The total of 'total benefits' for all children is to be given in 7.25

### **Page 8**

Item 8.05 will include other expenses incurred on transport and for boarding and lodging required for treatment outside the village.

### **Women's Antenatal and Postnatal Care**

This block is to be filled up for currently married women and questions are to be addressed in respect of the last pregnancy. BP means blood pressure, HB haemoglobin, TT tetanus toxoid; LB means live birth, SB still birth, AB aborted

Child's Health: It is expected that the investigator is familiar with the diseases for which a child is immunized. Hep is the abbreviation used for Hepatitis.

### **Page 9**

Expenditure on Fuel & Light: The consumption of electricity (9.05) will be in units as per the bill of last month. For gas (9.07) however, the household will be asked the number of days a cylinder (14.5 kg.) lasts. Based on that the consumption for 30 days will have to be calculated. In respect of cowdung, wood, twigs/dry leaves, efforts may be made to get the consumption in kg.

### **Electricity**

Items 9.05 & 9.06: Electricity and diesel consumed by the household during 30 days prior to the date of survey will be recorded. The consumption for other purposes like agriculture is not to be included

Items 9.20 – 9.24: Delete monthly cost (Rs.) above 9.20. The codes for 'how connected' will be recorded against the box below 9.20. Codes for alternative means will be given in 9.21 and its monthly cost in 9.23. Against item 9.22 will be recorded the estimated annual cost of electricity and alternatives. Annual cost of alternatives alone will be recorded in 9.24.

Total expenditure on intoxicants and gambling: In **9.31** the total of drinking, pan, tobacco and gambling for all the members will be recorded.

### **Page 10**

This is a summary block providing household expenditure culled from different pages. Introduce 'cesses and taxes (3.03a)' just below Rent (3.03) and label this as 10.15a

Item 10.37 refers to annual column and not the monthly column.

### **Page 11: Self-explanatory**

### **Page 12**

Law matter: The total of personal costs during last 12 months will be recorded in the box against 12.02, the breakdowns that is, spent on lawyer, court fees and others to be given separately.

The rest of the items are self-explanatory except item 12.15 where if the particular household did not need approach police or jail authorities, code '0' is to be entered; otherwise the codes for 'time taken' are to be consulted.

### **Page 13**

Item 13.01 & 13.03: In case of more than one mode of travel used, the most frequently mode used during last month is to be given

**Migration** The incidence and reasons of out- migration of members during last year are taken up in 13.08- 13. 1 0 to know the push factor. On the contrary, the pull of the particular village is also sought to be examined by getting the details of the in-migrants in the household as members.

There are two sets of codes for mode of transport, one for within the village and the other for outside the village. Care is to be taken to use the appropriate set for use in 13.01 or 13.03.

For items 13.09 and 13.11 the code list given for `migration` is to be consulted.

Migration code: A nearby town means urban area near the village having less than 1 lakh of population and a nearby city 1 lakh or more.

#### **Page 14**

**Elections** Details are to be collected on the members eligible to vote, in possession of voter identity card, when the eligible members last voted for Lok Sabha, Vidhan Sabha, Panchayat. The household's opinion of the services rendered by the Panchayat is also sought on individual public services

For item 14.36, the months are to be entered in two digits for example, the month of may be recorded as 05.

#### **Page 15:**

Member ID code is to be given in the third column.

Out of the several benefits to the particular member, only two most important ones are to be given in fourth and fifth columns as indicated by the informant.

Item 15.22: For schemes like `Annapurna`, another code may be added: `getting food grains-12` and another `others-13`

### **6. Instructions for Urban Slum Survey (U1-U3)**

**Schedule 0.1:** Listing of Slums(SL) and Squatter Settlements(SQ)

**Schedule 0.2:** Listing of Households in Sample Slum

The investigator will first approach the Municipal Board or the Municipal Corporation or any such local body for obtaining a copy of the map of the selected town giving the location of the slums. While covering the entire town methodically, the slums will be serially numbered and the locations of squatter settlements noted and also serially numbered. These will be filled up properly in the 'Listing Schedule for slums(SL) & squatter settlements(SQ) ' for selection of the required number of sample SLs and SQs in the first stage. In the second stage, the 'Listing Schedule for households' will be filled up for each sample SL and SQ for selection of households. In both stages the selection will be simple random sampling without replacement. For this purpose the random number tables given is to be used, instructions for which are explained in the section 'Some important steps'.

In Sch 0.2, the sampling particulars of the selected slum will be copied from Sch 0. 1 and then the particulars of the selected slum as noted in the schedule will be collected. The items are self-explanatory.

#### **Urban Household Questionnaire**

As the household questionnaires for the rural household and the urban slum household are more or less the same, the clarifications and amendments as indicated for the former are to be noted for the latter too. The clarifications wherever necessary, are given below.

#### **Page 1**

The identification particulars are to be copied from Schedule 0.2. The format for filling of demographic block is the same as that of the rural counterpart.

**Page 2**

Occupation and Income: The occupation codes for the urban slum households are different from the rural codes. Moreover, the format of collection of data of this block is different. Slum dwellers may have more than one occupation and hence the distinction between primary and secondary occupation. The occupation on which a person devotes major time will be treated as the primary occupation. For children, two separate sets of occupation are listed: hazardous and non-hazardous. Data are to be collected on child labour for both of these sets.

Item 2.13: Some of the hazardous occupations for the children are carpet weaving, glass blowing, cotton ginning, dealing with cracker-preparation and so on

Gross income (2.17) = Total (2.04) + Total (2.08) + Total (2.12) + Total (2.16)

Net income (2.19) = 2.17 - 2.18

**Pages 3-12** Same as in the Rural questionnaire

**Page 13**

Migration History: Since there is a heavy influx of migrants from villages of different States in urban areas to form a major component of the slum population of any town, details on their native place, whether settled permanently in urban areas, frequency of visits to the original village, frequency and amount of remittances, if any sent to the village etc are to be collected.

**Page 14:** Same as in Rural

**Page 15:** Except for the change in the list of Government Schemes for the urban sector as compared to rural, the essence remains the same that how far the schemes have benefited the poor people.

# **INDIA: FISCAL REFORMS FOR POVERTY REDUCTION**

## **PAPER 7: SUMMARY, COMPARATIVE PERSPECTIVE, AND CONCLUSIONS**

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March 2004

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## **Preface**

This study has been undertaken by the National Institute of Public Finance and Policy at the instance of the Canadian International Development Agency (CIDA), Canada.

The study team consists of D. K. Srivastava, S. K. Sanyal, C. Bhujanga Rao, and Pinaki Chakraborty. Opinions and analyses here are those of the authors. The members of the Governing Body of the National Institute of Public Finance and Policy are in no way responsible for these.

March 2004  
New Delhi

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## PAPER 7: SUMMARY, COMPARATIVE PERSPECTIVE, AND CONCLUSIONS

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# **INDIA: FISCAL REFORMS FOR POVERTY REDUCTION**

## **PAPER 7: SUMMARY, COMPARATIVE PERSPECTIVE, AND CONCLUSIONS**

From a policy perspective, combating poverty is essentially a fiscal task. Viewed in a comprehensive sense, poverty involves not only income or nutritional thresholds but also issues of access to services like education, health, water, and security. It manifests itself in many ways: chronic and transient, core and marginal, and static and dynamic. While, specific employment and asset generating programs can help keep the poor temporarily afloat near or above the poverty line, sustained budgetary support to education and health can strike at the root of chronic poverty. Transient poverty and the vulnerability of the poor to economic volatilities can be attended to by well designed and fiscally supported safety nets.

While a number of poverty related studies are available, particularly in the Indian context, not many of these look at the poverty issues in a fiscal perspective. The question becomes even more important in the wake of extensive economic reforms undertaken since the early nineties aimed at opening up the Indian economy, its increasing globalization, and greater reliance on market forces. Since the question of poverty alleviation cannot be left to the market forces which, left to themselves, may worsen the poverty profile, the case for effective fiscal intervention becomes even stronger. This study has examined the poverty issues in India focusing on four high poverty-incidence states, *viz.*, Uttar Pradesh, Madhya Pradesh, Uttarakhand, and Chhattisgarh.

### **1. Poverty: Concept, Measurement, and Issues**

While the narrow and conventional view of poverty is limited to shortfalls in income related to deficiency in food consumption, a broader view of poverty visualizes it as a multi-dimensional deprivation covering health, education, access to water supply and sanitation, security and other relevant services. Poverty is seen not just as an objective phenomenon but rather in terms of deficient or constrained capacities.

The measurement of poverty necessitates defining a poverty threshold in one or more dimensions and aggregation over shortfalls of individuals from the relevant thresholds. Various summary measures and axiomatic frameworks have been suggested in the literature. Some of the frequently used measures in most countries are the head count ratio, the poverty gap ratio and the Foster-Greer-Thorbecke index. The human poverty index provides one example of measuring poverty in multiple dimensions. Poverty lines can be defined both in absolute and relative terms.

This study, looking at poverty in a multi-dimensional perspective, examines the role of fiscal policies in poverty reduction in the India. It particularly, addresses following issues:

- i. Has the rate of decline in the incidence of poverty accelerated in India during the reform era in the nineties?
- ii. What accounts for the considerable inter-state variation in performance regarding poverty reduction? To what extent, state-specific policies account for it?
- iii. What role can fiscal instruments play in poverty reduction as indicated by the inter-state differentials in the poverty reduction performance? Does the role of fiscal policy widen when poverty is measured more broadly encompassing health, education, and other important publicly provided services and when a distinction is made between chronic and transient poverty, especially temporary increases in the extent and depth of poverty when natural calamities like drought, floods, etc., occur?
- iv. In what way and to what extent do (i) growth, (ii) composition of output, (iii) expenditures on health, education and other social services, and (iv) governments' poverty alleviation programmes differentially affect the poverty reduction performance of states?
- v. How can the efficacy of budgetary intervention be strengthened by improved targeting, design of programmes, and cost effectiveness?
- vi. What are the options for better targeting of subsidies for poverty reduction?

## **2. Poverty in India: Changing Profile**

### **a. Reduction in Poverty**

The methodology of measuring poverty in India, in terms of the head count ratio, has evolved over time. The present set of official poverty lines are based on the recommendations of the Expert Group, headed by D.T. Lakdawala, whose report was presented in July 1993. The Expert Group had set out an alternative estimation methodology and provided estimates of poverty Head-Count Ratios (HCR) based on state-specific poverty lines. Based on this

methodology, a set of estimates of incidence of inter-state poverty are available for five reference points, viz., 1973-74, 1977-78, 1983, 1987-88, 1993-94 and 1999-00. These estimates utilize data from NSS quinquennial surveys of consumer expenditure. Estimates of HCRs of rural and urban poverty in India (Table 1) show that over the period 1973-74 to 1999-00 the rural poverty ratio has come down from 56 to 27 percent and the urban poverty ratio from 49 to 24 percent. Considering the overall poverty ratio, a decline of about 29 percentage points is visible over the 26 years' period, i.e. by a margin of a little over 1 percentage point per year.

**Table 1: Poverty Head Count Ratios and the Number of Poor in India: Official Estimates**

Years	Rural		Urban		Total	
	Head Count Ratio (%)	Number of Poor (crore)	Head Count Ratio (%)	Number of Poor (crore)	Head Count Ratio (%)	Number of Poor (crore)
1973-74	56.44	26.13	49.01	6.00	54.88	32.13
1977-78	53.07	26.42	45.24	6.46	51.32	32.88
1983	45.65	25.2	40.79	7.09	44.48	32.29
1987-88	39.02	23.19	38.2	7.52	35.35	30.71
1993-94	37.27	24.4	32.36	7.63	35.97	32.03
1999-00	27.09	19.32	23.62	6.70	26.10	26.02

Source (Basic Data): Government of India, Press Information Bureau, Poverty Estimates, Press Releases, Dated March 11, 1997 and Feb.22, 2001.

Even the absolute number of poor, which remained roughly the same between 1973-74 and 1993-94, has come down from 32.9 crore in 1977-78 to 26 crore in 1999-00. The poverty (head count) ratio for rural areas has remained higher than that for urban areas, but the decline in rural poverty has been sharper. The number of urban poor in 1999-00 is more than that in 1973-74, whereas in the case of rural areas, the absolute number of poor has fallen.

Among the general category states, Orissa has the highest rural poverty ratio at 48 percent followed by Bihar at 44.3 percent, Madhya Pradesh at 37 percent and Uttar Pradesh at 31.22 percent. The number of rural poor in these four states considered together account for about 60 percent of the total number of rural poor in the country.

The sharp reduction in the rural poverty HCR in 1999-00 was all the more remarkable because growth rate of agriculture in this year was negative at -0.11 percent although the aggregate GDP grew at a little above 6 percent. In contrast, 1977-78 was a high growth year

with 12.5 percent growth over the previous year in real terms in agriculture, and 7.5 percent in GDP at factor cost. In 1983-84 also, the real growth rates in agriculture and aggregate GDP were 10.3 percent and 7.7 percent respectively. The year 1987-88 was a low growth year with growth rates of -1.4 percent for agriculture and 3.8 percent for aggregate GDP. Moderate growth was seen in 1993-94, with growth in agriculture at 4.1 percent and that in GDP at factor cost at 5.9 percent.

**b. Inter-State Profile**

Table 2 gives state-wise official estimates of rural and urban poverty head count ratio in column 1. The highest incidence of rural poverty is seen in the low income states like Orissa, Assam, Bihar, Madhya Pradesh and Uttar Pradesh. In the case of urban poverty, some of the better off states like Maharashtra also show a higher incidence of poverty. In this case some of the highest poverty ratios among the general category states are seen in the case of Orissa, Maharashtra, Bihar, Andhra Pradesh and Uttar Pradesh. On the other hand, the lower urban poverty ratios among the general category states are seen in the case of Punjab, Goa, and Haryana.

Certain features of the 1999-00 official estimates of poverty were questioned by Deaton and Dreze (2002), Deaton (2003), and Sundaram and Tendulkar (2003a, b). In particular, they examined the implications of the methodology for updating the poverty line and the juxtaposition of 7-day recall period with 30-day recall period for some items (food, pan and tobacco) in the 55<sup>th</sup> round of the National Sample Survey. The two recall periods questions were placed side by side in the same schedule. Deaton (2003) and Deaton and Dreze (2002) have argued that the answers to the 30 days recall periods were biased upwards by the juxtaposition of the 7-days recall period answers, thereby understating the poverty HCRs. For providing comparable estimates over time, they have provided alternative estimates for 1987-88, 1993-94, and 1999-00.

**Table 2: Poverty Head Count Ratio 1999-00: Alternative Estimates**

(Percent)

States	Rural			Urban		
	Official	Deaton	SD (MRP)	Official	Deaton	SD (MRP)
Andhra Pradesh	11.05	14.9	22.01	26.63	27.7	25.91
Assam	40.04	44.1	53.41	7.47	8.3	9.58
Bihar	44.30	49.2	51.49	32.91	33.8	44.11
Gujarat	13.17	15.4	18.89	15.59	16	16.81
Haryana	8.27	12.7	7.83	9.99	9.5	7.49
Himachal Pradesh	7.94	18.9		4.63	4.5	
Jammu & Kashmir	3.97			1.98		
Karnataka	17.38	25.7	24.09	25.25	25.5	17.59
Kerala	9.38	12.6	16.47	20.27	18.7	23.49
Madhya Pradesh	37.06	36.4	32.93	38.44	37.9	38.89
Maharashtra	23.72	29.2	37.65	26.81	28.1	25.82
Orissa	48.01	47.3	56.27	42.83	41.4	41.92
Punjab	6.35	5.9	8.73	5.75	6.3	2.91
Rajasthan	13.74	19.6	11.39	19.85	22.8	15.72
Tamil Nadu	20.55	19.9	27.69	22.11	24.4	22.99
Uttar Pradesh	31.22	33.7	25.5	30.89	30.4	31.75
West Bengal	31.85	37.1	44.18	14.86	19.5	12.95
<b>All India</b>	<b>27.09</b>	<b>30.2</b>		<b>23.62</b>	<b>24.7</b>	
<b>15 States</b>			<b>31.86</b>			<b>24.58</b>

Source: Planning Commission (2001), Deaton (2003), and Sundaram and Tendulkar (2003) Deaton refers to estimate by Deaton adjusting for recall periods (30 days instead of 7 days) SD (MRP) refers to estimate by Sundaram and Tendulkar using mixed record period of 30 days and 365 days using unit record data.

The main results following from their methodological revisions may be summarised as below.

- i. The adjustment for the questionnaire design (i.e. using the 30-day recall period questions) imply that the rural head count ratio for 1999-00 is higher by a little more than 3 percentage points (implying a lower decline rate in the nineties than officially claimed). However, revising the poverty line brings it a little lower than the official estimates.
- ii. For the urban head count ratio, the first adjustment (using the 30-day recall period questions) takes the estimates a little higher than the official estimate, but the revision of the poverty line brings down the urban estimates significantly lower than the official estimates. For 1999-00, the difference is of more than 12 percentage points.
- iii. Similar changes are noted in respect of the poverty gap index. With the revised poverty lines the urban poverty gap index is lower by 3.6 percentage points, becoming less than half of the official estimates.

Sundaram and Tendulkar (2003a, b) also examined the issue of comparability of the 1999-00 estimates with those of the earlier full NSS rounds. In their view, the more important question was that of 'mixed reference period' (MRF). There were certain items, *viz.*, 'clothing, footwear, durables, education and (institutional) health' where the 55<sup>th</sup> round used only 365 days as the reference period. In the earlier rounds, the period of reference for all items including the durable goods group was 30 days. In order to make the comparison valid, Sundaram and Tendulkar reworked the 1993-94 results with a mixed reference period using 365 days as the reference period for the relevant group. This became possible because in the 50<sup>th</sup> round, information on 'clothing, footwear, durables, education and (institutional) health' was collected for two alternative reference periods, *viz.*, 30 days and 365 days. The poverty head-count ratios for 1993-94 for the mixed reference period were lower than those based on the uniform reference period. The finding of the decline in the poverty HCR was confirmed although the extent of decline was lower by about 3 percentage points on average.

### **c. Growing Regional Concentration**

Even as the poverty HCR has fallen over time, it has done so differently across state in a manner that poverty has become spatially more concentrated. As per the official estimates in 1999-00, nearly 74 percent of the rural poor were found to live in just six states *viz.*, Orissa, Bihar, Assam, Madhya Pradesh, West Bengal and Uttar Pradesh. In the case of urban poverty, just eight states, *viz.*, Orissa, Madhya Pradesh, Bihar, Uttar Pradesh, Maharashtra, Andhra Pradesh, Karnataka and Tamil Nadu accounted for a little less than 80 percent of the urban poor.

Five states, *viz.*, Orissa, Madhya Pradesh, Bihar, Uttar Pradesh and Maharashtra account for 56 percent of the urban poor. Their individual poverty HCR ratios range from little above 26 percent (for Maharashtra to about 43 percent for Orissa). The next four states accounting for a significant share in the total urban poor of the country are Andhra Pradesh, Karnataka, Tamil Nadu and Kerala and middle to high income states.

In this study the increase in spatial concentration was estimated by using an index of concentration [1]. It is shown that concentration has increased by about 35 percent and than in urban areas by about 19 percent over the period from 1973-74 to 1999-00.

It has been observed that:

- i. Spatial Concentration of rural poverty has been higher than that of urban poverty throughout these years;
- ii. In both cases, the poverty concentration has increased; and
- iii. That the increase is sharper for the rural areas than for the urban areas.

**d. Increasing Urbanisation of Poverty**

Another visible trend is the growing urbanization of poverty in almost all states as indicated by the increasing ratio of urban poor to total poor in almost all states. Thus for example, for Andhra Pradesh, in 1973-74, only 21 percent of the total poor resided in urban areas. This ratio steadily increased, until in 1999-00, 51.2 percent of total poor are reported to be urban poor in Andhra Pradesh. The general trend of urbanization of poverty is visible in states like Goa, where the share of urban poor in total poor increased from 24 percent in 1973-74 to 84 percent in 1999-2000. In Gujarat and Haryana, there is an increase of about 10 percentage points. In Karnataka, Kerala, and Maharashtra the increase is of a much larger order. Considering, the All India picture there has been an increase of 7 percentage points in the share of urban poor to the total poor.

The trend of increasing urbanization of poverty is seen in all states except Assam. But in this case also, analysts have argued that 1999-00 estimates provided by the Planning Commission need to be revised because they are based on an urban poverty line, which is lower than the rural poverty line.

The all India figures of slum population show that the share of slum population in total urban population has increased from 17.5 percent in 1981 to 21.30 percent in 1991. With the exception of Bihar, Punjab, and Delhi all states show that the share of slum population in total urban population had increased in 1991 compared to 1981. Considerably large increases are noticeable in the case of Haryana, Kerala, Maharashtra, Orissa, Rajasthan, Uttar Pradesh, and West Bengal. These figures are based on the Report of the Working Group on Urban Housing and Urban Poverty with Focus on Slums prepared for the Tenth Plan. The figures for 2001 slum population however show a partial reversal of this trend. The share of slum population in total urban population has increased for Andhra Pradesh, Haryana, Madhya Pradesh and marginally also for Maharashtra. In other states, this trend has been reversed. A

substantial fall in the share of slum population to total population has been seen in states like Bihar, Gujarat, Kerala, Orissa, Punjab, Rajasthan, Uttar Pradesh, and West Bengal.

**e. Human Poverty Index**

The human poverty index is generally higher than the head count ratio for the lower income states, indicating that poverty is understated in respect of some critical dimensions for the lower income states. Estimates of human poverty index have been prepared by the Planning Commission for 1981 and 1991. The human poverty index captures three dimensions of deprivation: economic, educational and health. It consists of a weighted average of (i) proportion of population below poverty line, (ii) proportion of population without access to safe drinking water/sanitation/electricity/medical attention at birth/vaccination and proportion of population living in kutcha houses, (iii) proportion of illiterate population and children not enrolled in schools, and (iv) proportion of population not expected to survive beyond the age of 40. Estimates are available for 1981 and 1991. Because of some changes in methodology, two sets of estimates were prepared for 1991: one comparable to 1991, and the other, incorporating the revised methodology. Census years are being used because several of the sub-indices require census data. Using the 1991 estimates based on revised methodology show that for the combined human poverty index for rural and urban areas among the states, the lowest poverty is seen in Himachal Pradesh at 20.9 and the highest at 50.5 percent in Bihar. In general the value of the human poverty index is higher than the head count ratio (1991 compared with 1993-94). There are also considerable differences in the rural and urban values of index for the same state, with the urban index being significantly lower than the rural index. It is also noted that human poverty index of Union territories remained lower than the special and non-special category states.

Looking at the trends in poverty inter-state and all India, the following salient features may be highlighted:

- i. All India, state-wise, rural as well as urban – in all cases – poverty head count ratio shows a steady decline, the rate of the decline being the fastest in the nineties, i.e., during 1993-94 to 1999-00, a period characterized by some of the highest annual growth rates of income.
- ii. The 1999-00 estimates indicate average rural poverty head count ratio of about 27 percent for all India, with Bihar, Madhya Pradesh, Orissa, Uttar Pradesh, West Bengal, and Assam showing above average poverty levels.

- iii. In the context of urban poverty, the 1999-00 average head count ratio is 23.62 percent for all India, with Andhra Pradesh, Bihar, Karnataka, Madhya Pradesh, Maharashtra, Orissa, and Uttar Pradesh and Assam showing more than average incidence of poverty. The inclusion of some of the higher income states in this list and the non-appearance of West Bengal in this list are the notable features.
- iv. The urban head count ratio is higher than the rural head count ratios in the following states: Andhra Pradesh, Gujarat, Haryana, Karnataka, Kerala, Maharashtra, and Rajasthan.
- v. A visible general pattern is that the overall poverty ratio is higher for lower income states. This pattern is discernible more clearly for the rural incidence of poverty.
- vi. The incidence of poverty has steadily gone down both for rural and urban areas in all states.
- vii. Rural poverty has become more and more spatially concentrated.
- viii. Urban poverty has also been focused more and more in a limited number of states, but the list includes some of the better off states.
- ix. The concentration of poverty is higher in rural areas, and the spatial concentration has increased markedly over the years.
- x. Human poverty index shows a higher incidence of poverty than the conventional measure. Although the broad inter-state pattern is the same as that for conventional poverty, human poverty index is relatively higher in the poorer states.

### **3. Poverty, Growth, and Human Development**

Growth affects poverty and poverty in turn affects growth. There is considerable evidence that rapid growth has been associated with significant decline in poverty. However, the impact of growth on poverty reduction depends on a number of initial conditions including those relating to asset inequalities. Estimates indicate that the elasticity of income growth of the poor with respect to overall growth is well above 1. Initial inequalities in the distribution of land and of human capital have a clear negative effect on economic growth, and the effects are almost twice as large for the poor as for the population as a whole. An unequal distribution of assets, especially of human capital, affects overall growth, and it affects income growth of the poor disproportionately. A more equitable distribution of assets increases the incomes of the poor, reducing poverty directly. Also, by reducing the negative effect on growth of income inequality, it increases aggregate growth and further reduces poverty indirectly. The more “connected” the poor are with the rest of the economy, the more effective will growth be in reducing poverty. Policy interventions that can improve credit and

insurance market conditions for the poor and address issues of asset inequalities can improve the impact of growth on poverty reduction.

The impact of growth can be seen by looking at how mean income as measured by per capita NSDP at current prices have changed in relation to the poverty line. For example, the rural poverty line in Andhra Pradesh, which was 42.75 percent of NSDP in 1983 is only 20.55 percent in 1999-00. Correspondingly, the rural poverty head count ratio has fallen from 26 to 11 percent. In contrast, for Bihar at the other end, the rural poverty line as percentage of NSDP was 81 percent in 1983-84 and fell only to 67 percent in 1999-00. In consequence the rural poverty HCR, which was 64 percent in 1983 fell but remained at the high level of 44 percent. Clearly, states which have shown higher growth will show lower ratios of poverty line relative to NSDP and lower poverty head count ratios.

Empirical analysis in the Indian context indicates that enhancement of mean income is essential for poverty reduction. The results also show positive impact of better income distribution on the reduction of poverty. The structure of sectoral growth is also important, and under certain conditions non-farm growth can have a significant impact on poverty reduction. In a recent study, Dhongde (2003) looks at the incidence of poverty of states in India in 1999-00 in relation to the all India poverty levels in order to measure as to how much of the total difference of poverty of a state and poverty at the all India level could be explained by the difference in the mean incomes as compared to extent to which it could be explained by the difference in the distribution of income. The study finds that the difference between state and national level poverty is largely explained by the difference in the mean incomes. Differences in state and all India distribution of income were less important in explaining differences in poverty levels. Similar findings are reported by Deaton (2002).

The structure of sectoral growth is also important, and under certain conditions non-farm growth can have a significant impact on poverty reduction. Ravallion estimates that while growth in agriculture as well as in non-agriculture helps to reduce poverty, the effect of the later differs across states.

Since the income and employment of the poor are closely related to rural poor, particularly the agricultural activities, much of the volatility in agricultural growth also makes the income profile of the poor highly volatile. Similar variability is also seen in agricultural

prices relative to the implicit price deflator for the aggregate GDP. The range of annual percentage variation is between 22.84 percent in 1973-74 at the maximum and -17 percent in 1954-55 at the minimum. For the price deflator of aggregate GDP, this range is between 17.2 percent at the maximum and -10 percent at the minimum. Clearly, farmers are exposed to large fluctuations in output as well as prices, which lead to variations in agricultural incomes. The element of uncertainty in agriculture is recognized to be far higher than that in other sectors. Analysts have also noted (Bhalla and Hazell, 2003) that there has been a steep deceleration in the rate of growth of in the crop sector from the 1990s compared with the 1980s. The growth rate of all crops taken together, the average growth in the 1990s is found to be only 2.38 percent per annum against 3.46 percent per annum during the 1980s. The decline in the growth rate of infrastructure investment in agriculture over a long period of time, declining efficiencies of input use, technological stagnation and surplus cereal production along with the falling prices have been noted as the main causes in the deceleration of agricultural growth in India in 90s. The second reason that has led to the decline in the employment in agriculture is the increasing capitalization of agriculture over time. As a result, the labor-intensity in agriculture has declined. In Punjab, in the case of paddy, man-hours per hectare declined from 857.5 during 1981-82 to only 450.4 in 1998-99. The corresponding reduction in Haryana was from 831.0 man hours to 584.1 in 1998-99. A similar fall was noted in the case of Wheat in Punjab and Haryana. The overall employment elasticity for the economy has fallen from 0.473 during 1973-74 to 1993-94 to 0.156 during 1993-94 to 1999-00. In agriculture, until recently, output growth was associated with high growth in employment, but there has been a steep decline in employment elasticity which has fallen from 0.49 during 1973-74 to 1993-94 to only 0.005 during 1993-94 to 1999-00. This pattern has been noted in most states and for most crops.

Deaton (2002) speaks of two areas of “regression” during the nineties: increase of economic inequality and the decline in female-male ratio among children from 945 girls per thousand boys in the 0-6 year’s age-group in 1991 to 927 girls per thousand boys in 2001. He argues that economic growth may facilitate the spread of sex-selective determination by making use of the sex-determination technology more affordable. The largest declines of the female-male ratio among children between 1991 and 2001 occurred in some of the better-off states, viz., Gujarat, Haryana, Himachal Pradesh, Punjab and Delhi. The fall in the female-male ratio, particularly in the case of children is strongly confirmed in the case of the four states surveyed in this study.

In a long-term perspective, emphasis on human development is even more important than growth per se. Human development is by itself an improvement in capability and it also sustains growth. Fiscal policies can be used both to support human development and growth in a manner that maximizes their impact on poverty reduction.

Investment in human development is the best long-term antidote to poverty. First, lack of human development is itself a dimension of poverty. Illiteracy, poor health, and lack of education below a certain threshold are constituents of poverty. Secondly, with human development, i.e., through proper education and adequate health, choices regarding income opportunities widen, productivity is increased, and capacities are augmented. Thirdly, focus on human development is a potent means of fiscal intervention to reduce poverty in a country where provision of health and education is largely publicly provided. Public expenditure on education and health, especially elementary education and primary health can lead to sustained reduction in poverty levels.

Human development strikes at the root of chronic poverty. Education and health increase the capabilities of the individual to seek and sustain income earning opportunities. Restructuring public expenditure to support human development is critical fiscal intervention. Rains and Stewart (2000) suggest that government's capability and stance in supporting human development can be looked at by examining three ratios:

- i. share of public expenditure in GDP,
- ii. share of human development expenditure (on health and education) in public expenditure, and
- iii. share of priority human development expenditure (e.g., on elementary education and primary health in total human development expenditure.

Discussion in the next section shows that in India the share of development expenditure has fallen over the last fifteen years, as also that on education and health.

#### **4. Poverty and Fiscal Processes**

**a. Role of Fiscal Policy**

Since poverty encompasses not only income deficiency but also dimensions that relate to access to services like education, health, water supply and sanitation, and security, public provision of these services assumes critical importance. Budgetary policies play a significant role in terms of levels of expenditures, quality and delivery of service, cost of access, and volume and incidence of subsidization. Fiscal policies affect poverty directly through participation by the government in the provision of important social services including health and education and government's support of economic activities like agriculture and irrigation. Governments also undertake a number of direct poverty alleviation and social security programs. Indirectly, fiscal policies help by supporting overall growth and by catering to macroeconomic stability, which can protect the poor from vulnerabilities that come from economic fluctuations in the overall and sectoral growth rates.

Among a list of important 'Fiscal Tasks', Musgrave (1999) includes one as "Relief on Poverty". He observes: "... There is a wide agreement that a safety net is called for and that some minimum should hold. The problem is how to provide it efficiently. The best solution is preventive, for example, education, a buoyant labor market, and adequate child care facilities. But direct support is needed as well".

An extensive policy regime in India provides for fiscal intervention with the objective, explicit or implicit, of poverty alleviation at the level of central, state, and local governments. All three tiers of the government, namely, central, state, and local are involved in poverty alleviation programs. The central and state governments sponsor a variety of programs and schemes aimed at these objectives while the local governments implement many of these programs. The Central government provides fiscal intervention by using a large number of central sector and centrally sponsored schemes. It also runs a large subsidy regime, particularly for food and fertilizers. The state governments also run large subsidy regimes supporting such economic sectors as agriculture, irrigation, power and transport.

Some empirical studies in the Indian context highlight the role of fiscal policy variables. For example, estimates provided by Ravallion and Datt (2001) show that an increase in real per capita state development expenditure, which represents a fiscal variable successfully reduces the incidence of poverty. An increase in per capita development expenditure by one percent leads to 0.14 percent fall in the head count ratio. Inflation, on the

other hand, increases poverty. It is estimated that a one percent increase in the inflation rate leads to a 0.42 percent increase in the poverty.

**b. Budgetary Trends in India**

Table 3 shows trends in budgetary expenditure considering centre and states together net of any inter-governmental flows as percentage of GDP at market prices over the period 1987-88 to 2001-02. A comparison is made using three-year averages over 1987-88 to 1989-90 and 1998-99 to 2001-02. The aggregate expenditure relative to GDP has increased by about 2.2 percentage points over the period. However, interest payments alone have increased by 2.65 percentage points and pension payments by 1.9 percentage points. Clearly, total budgetary expenditures net of interest and pension payments has fallen to below 19 percent of GDP in the period 1998-99 to 2001-02. Since interest payment and pension reflect transfer payments, clearly there has been a fall in expenditure of government relating to the purchase of current goods and services. This also indicates a fall in the capacity of the government to intervene directly for poverty alleviation programs. Development expenditure has fallen by a little less than 1 percentage point. It is also clear that expenditure on education and allied heads has fallen by 0.64 and 0.1 percentage points during the period under reference. These sectors will require an increase in their relative shares if human development and sustainable poverty alleviation are to be considered as primary fiscal objectives.

Restructuring that favors infrastructure investment (both social and economic infrastructure) would augment growth, which will have a pro-poor impact provided initial asset inequalities can be attended to. Further, a restructuring favoring human development can have a long-term and lasting impact on poverty alleviation provided the incidence profile of government expenditure on health and education can be made pro-poor.

**Table 3: Expenditure of Central and State Governments Relative to GDP: Selected Heads**

Years	Non-Development expenditure	Interest Payments	Pension and Oth. Ret. Benefits	Development Expenditure	Education	Medical & Pub. Health etc.	Family Welfare	Agriculture & allied items	Total
1987-88	11.29	3.67	0.99	10.23	2.97	1.17	0.17	1.89	21.73
1988-89	11.06	3.90	0.98	10.01	2.88	1.11	0.16	1.83	21.31
1989-90	11.23	4.22	0.99	10.69	5.33	1.08	0.16	1.88	22.15
1990-91	11.32	4.40	0.91	10.11	2.96	1.05	0.15	1.94	21.62
1991-92	11.42	4.75	0.94	10.36	2.85	1.01	0.15	1.88	21.98
1992-93	11.36	4.79	0.99	9.65	2.79	1.00	0.13	1.93	21.25
1993-94	11.80	4.95	1.00	9.38	2.75	1.00	0.15	1.91	21.35
1994-95	12.10	5.13	1.21	8.92	2.65	0.97	0.14	1.88	21.19
1995-96	12.02	4.96	1.02	8.65	2.65	0.94	0.15	1.74	20.68
1996-97	11.64	5.11	1.09	8.87	2.64	0.94	0.13	1.61	20.67
1997-98	12.14	5.16	1.22	8.77	2.71	1.00	0.14	1.62	21.09
1998-99	12.72	5.32	1.51	9.19	2.95	1.05	0.13	1.77	22.13
1999-00	13.59	5.68	1.91	9.41	3.20	1.03	0.14	1.74	23.15
2000-01	13.59	5.69	1.84	9.26	2.97	0.98	0.13	1.49	24.24
2001-02 (RE)	14.34	6.06	1.88	9.79	3.10	1.04	0.12	1.59	24.47
Avg. (1987-88 to 1989-90)	11.19	3.93	0.99	10.31	3.73	1.12	0.16	1.87	21.73
Avg. (1999-00 to 2001-02)	13.84	5.81	1.88	9.49	3.09	1.02	0.13	1.61	23.96
Difference (2-1)	2.65	1.88	0.89	-0.82	-0.64	-0.10	-0.03	-0.26	2.22

Source (Basic Data): Indian Public Finance Statistics (various issues).

### c. Budgetary Subsidies: Volume and Incidence

Most of this fiscal intervention is untargeted and general in nature. The volume of subsidy is large, but the pattern is regressive, and the benefits are appropriated to a large extent by the non-poor population. A discussion paper brought out by the Ministry of Finance, Government of India in 1997 had estimated the total explicit and implicit budgetary subsidies in India as accounting for more than 13.5 percent of GDP at market prices.

These estimates, along with selected estimates pertaining to 1987-88, 1992-93, and 1994-95, which are roughly comparable in terms of approach and methodology, provide an idea as to the volume of continued subsidization in spite of fiscal reforms. Table 4 shows that relative to GDP, the combined budgetary subsidies of the centre and states were at 13.51 percent in 1994-95 and 13.54 percent in 1998-99, although these were less than 13 percent for the earlier two years.

In order to segregate subsidies that may be considered desirable and justifiable vis-à-vis those that are not so, some studies (1) have divided services into three categories Merit and Non-Merit categories. The Merit group contains services like elementary education and primary and preventive health care deserving of a high degree of subsidization. As per the

estimates for 1998-99, the non-merit services continue to claim relatively larger share of the overall subsidies being 56.5 percent of the total subsidies of the centre and states whereas Merit group had a share of 43.5 percent.

**Table 4: Estimates of Budgetary Subsidies of Centre and States**

Year	Subsidies	Subsidies as Percentage of	
	(Rs. Crore)	GDPmp (%)	Revenue Receipts (%)
1987-88 (M-R)	42324	11.90	63.32
1992-93 (Tiwari)	95373	12.74	70.43
1994-95 (NIPFP)	136844	13.51	76.87
1998-99 (NIPFP)	235752	13.54*	85.80

Source: Srivastava and Rao (2003).

Note: \* Estimates of income elasticity of subsidies (Srivastava and Sen, 1997) show a clear regressive pattern.

Targeting of the implicit subsidies is difficult abinitio. Here, no targeting can be done by definition. The benefits of these subsidies are distributed according to the pattern of consumption of subsidized goods (inputs/outputs). Since this pattern reflects the pattern of income distribution, the effect is likely to be highly regressive. Some evidence is provided in Srivastava and Sen, *et. al.* (1997) about the overall regressivity of the state subsidies. The higher per capita income of a state, the higher tends to be the per capita subsidy. This is especially noticeable in the case of non-merit subsidies. It is best to make subsidies explicit and progressive in their incidence.

In reforming the subsidy regime, the issue of subsidizing agriculture should be considered as a whole. Agriculture claims subsidies through the subsidization of inputs like fertilizers, power, and irrigation. In addition, it has a share of the food subsidies which goes through the system of MSP to the farmers of wheat and rice. Much of this subsidization leaks out to subsidise industrial inefficiencies as in the case of power and fertilizers, or inefficiencies of the government or public sector, as in the case of irrigation and power. Even those subsidies that filter down to the farmers, it is the richer farmers who are able to take the larger benefits. These undesirable features arise because of the method of administering the subsidy through inputs. The correct method for supporting agriculture is to identify the justifiable objectives of subsidization of agriculture and subsidise the potential beneficiary as directly as possible. The main objective of support to agriculture, apart from making food

available to BPL population at reasonable prices, should be to protect the farmers against excessive volatility in incomes, and to support the poorer farmers in terms of income or credit support enabling the purchase of inputs at the right time. But subsidies should not be designed to support selected crops against others, especially in times of sustained excess supply and availability of the global market to overcome any temporary shortages. The farmers should be allowed to respond to the market signals reflecting demand and supply imbalances, formulate short and medium term expectations, and accordingly select their cropping patterns. The poorer farmers should be given subsidies and credit facilities for the purchase of inputs, without interfering with prices, which should reflect economic and efficiency costs.

#### **d. Central and Centrally Sponsored Schemes**

The pattern of utilisation of the grants for central and centrally sponsored schemes also indicates lack of adequate targeting. Considering average per capita grant for central and centrally sponsored schemes over the period 1999-00 to 2000-01, Bihar's per capita grant was only one-third of that of Goa and half of that of Andhra Pradesh or Tamil Nadu , and less than half of that of Karnataka. UP's per capita grant under central and centrally sponsored schemes was the lowest among all major states. In contrast, Rajasthan was able to avail of these grants, which in per capita magnitudes were nearly three times the per capita grants of UP, and has shown considerably lower HCRs in spite of continued droughts. This indicates that poverty ratios can be brought down by increasing grants on central and centrally sponsored schemes but making sure that the pattern of their distribution reflects the pattern of incidence of poverty across states.

There are other difficulties with the quality and implementation of policy aimed at social welfare and poverty reduction. Some of the main shortcomings arise from the fact that these are too numerous to effectively implement. The same design for all states is irrelevant in the context of centrally sponsored schemes. Further, the administration of schemes at the local level is characterized by considerable leakages and states, often due to lack of resources at their end, are unable to take full advantage of the central schemes as they often fail to provide the counterpart funds. Generally, untargeted programs waste a lot of resources. Table 5 shows that the distribution and utilization of the central and centrally sponsored schemes does not show a pattern that can be considered as related to the pattern of income levels or the pattern of incidence of poverty.

**Table 5: Per Capita Grants for Central and Centrally Sponsored Schemes**

	Average: 1991-92 to 1992-93	Average: 1993-94 to 1995-96	Average: 1996-97 to 1998-99	Average: 1999-00 to 2000-01
Andhra Pradesh	68.21	84.58	87.70	105.98
Assam	59.57	92.74	67.87	91.24
Bihar [old]	54.10	65.72	15.65	57.05
Goa	98.08	129.15	118.22	151.83
Gujarat	35.81	71.75	50.73	57.41
Haryana	61.50	78.87	95.15	91.87
Karnataka	63.39	89.98	83.08	136.17
Kerala	56.20	84.14	73.90	72.73
Madhya Pradesh [old]	71.87	100.05	110.02	87.97
Maharashtra	61.88	67.64	56.37	63.28
Orissa	93.10	95.46	82.62	88.31
Punjab	52.74	67.22	63.05	87.24
Rajasthan	91.77	123.98	117.88	124.96
Tamil Nadu	61.28	68.74	69.23	94.63
Uttar Pradesh [old]	72.64	65.82	44.11	45.90
West Bengal	29.62	29.84	48.96	54.54

Source (Basic data): RBI Bulletin on State Finances.

There are at least six institutional mechanisms looking at programmes that may have a bearing on poverty alleviation at the local level: the elected local body (Panchayat, Gram Sabha, Block and Zila Samiti), the District Rural (Urban) Development Agency which is a registered body and handles many central schemes bypassing the state government departments, the M.P. and M.L.A. local area development funds, the state government, and a number of autonomous user societies (like irrigation). There are many alternative centrally sponsored schemes virtually addressing the same subject. In some of the micro-credit schemes, commercial, and cooperative banks are involved. Given the involvement of a large number of agencies handling the same subject, there are considerable overlaps and coordination problems resulting into efficiency losses.

#### **e. Scale of Intervention**

In this study, estimates were made to determine the magnitude of additional fiscal intervention, in terms of budgetary resources, translated into additional person-days of employment generation, which, if fully targeted, can help different states achieve near zero levels of poverty.

State-wise estimates (Table 6) for rural areas indicate, for example, that in Andhra Pradesh per poor household, 51 more person days of additional employment per year needs to

be created whereas in Assam or Orissa a little more than 3 months of additional employment per poor household needs to be created. Corresponding estimates for urban areas show that as compared to the rural areas, where on average, considering the all-state position, 2.5 months additional employment per household needs to be created, in the case of urban poverty 4 month of additional employment per poor household needs to be created.

**Table 6: Additional Employment Per Household Needed for Eliminating Poverty  
(With reference to 1999-00 Estimates)**

States	(No. of Days Per Household)	
	Rural	Urban
Andhra Pradesh	51.40	115.4
Assam	93.09	82.9
Bihar	78.49	92.8
Gujarat	63.93	87.6
Haryana	68.44	100.9
Himachal Pradesh	55.54	65.3
Jammu & Kashmir	59.41	50.9
Karnataka	57.71	136.1
Kerala	71.92	110.1
Madhya Pradesh	77.62	142.8
Maharashtra	70.93	161.9
Orissa	94.73	147.1
Punjab	54.83	48.6
Rajasthan	63.10	95.8
Tamil Nadu	68.26	123.9
Uttar Pradesh	75.10	106.7
West Bengal	85.76	82.6
<b>All India</b>	<b>75.45</b>	<b>120.0</b>

Source: Estimates are based on official poverty head count ratios for 1999-00, mean income of the poor derived from Deaton's estimates of the poverty gap ratio using official poverty line. Average size of the household is assumed to be 5 and average wage per day is assumed to be Rs. 50.

Table 6 shows that with reference to the undivided Uttar Pradesh and Madhya Pradesh for rural areas, additional 75 days and 78 days per household, and for urban areas, additional 107 and 142 days of employment, will keep poverty at near zero levels. Our primary survey in these states have clearly indicated that in the perception of the poor, the best schemes for tackling poverty are those that generate employment. The fiscal cost for creating additional person days of this order of employment comes to 0.76 percent of GDP for rural areas and 0.42 percent of GDP for the urban areas, adding to a total of 1.18 percent of GDP. These estimates were made in respect of the 1999-00 estimates of poverty. As noted earlier, this was a year when agricultural growth was marginally negative at -0.11 percent. In

years in which agricultural growth is more buoyant, the requirement of creation of additional employment through government schemes would be less. However, to keep the additional fiscal burden at a minimum, the quality of targeting the poor households has to increase considerably.

**f. Issues in Targeting**

In India, a large part of fiscal intervention, even though often justified on the grounds of helping the poor, is very general in nature and untargeted. Consequently, a significant proportion of these benefits accrue to the non-poor. The impact of well-targeted interventions in reducing poverty could considerably increase the poverty reducing impact of fiscal policies, while reducing their costs. In principle, the finest of targeting can be done because a survey of 'Below Poverty Line' (BPL) households and within that, the sub-category of 'Antyodaya', which consists of the 'extreme' poor is being compiled every five years. However, the BPL numbers indicate a poverty incidence ratio which is much higher than the conventionally measured poverty head count ratio, and is known to suffer from both exclusion and inclusion errors. While considering targeting strategies broadly, State-wise (area-wise) and group-wise (e.g., ST/SC population, landless agricultural laborers ) targeting may be better and would involve lower administrative costs than very finely targeted interventions. In developing targeting strategies, incentive effects, and asymmetric importance of exclusion and inclusion errors need to be recognised. A greater weight should be attached to minimizing errors of exclusion of the poor rather than errors of inclusion of the non-poor.

**5. Investigating Poverty through a Primary Survey**

A primary survey was canvassed in four poverty-incidence states, viz., Uttar Pradesh, Madhya Pradesh, Uttaranchal and Chhattisgarh on the basis of Village level as well as Household levels questionnaires. Given cost and operational constraints, it was decided to have a total sample size of 9000 households split into two components: rural sector- 7000 households and urban sector- 2000 households. The sampling designs of the survey are different for the two sectors. A three- stage design was adopted for the rural sector with district as the first stage unit, village as the second stage and household as the ultimate stage unit. The sampling fraction of one in four districts was kept on the higher side because the number of first stage units should be large to reduce the variance. The design envisaged 10

questionnaires within each sample village. The total sample size of 7000 households was allocated to the four states in proportion to the number of sample districts. The allocated numbers were then divided by ten to arrive at the numbers of second stage units for the four states. The State allocations were then distributed over the districts in proportion to their rural population. Within the framework of the three-stage design in order to reach the poor, the selections of districts (first stage units) and villages (second stage units) within selected districts were done with probability proportional to size, size being female illiteracy rates as poverty is supposed to be associated with high illiteracy rate among females.

In the selected village the households were stratified into two strata. The poor judged on the basis of twin criteria of belonging to vulnerable group and below poverty line cardholders formed stratum 1. The remaining households comprised the second stratum. As the emphasis was on the poor, eight households were selected with simple random sampling without replacement from stratum 1 and two from stratum 2.

In the urban sector the scope of the survey was limited to slum households in Class I towns of the four states. The allocation of a total of 2000 households to the four states was done on the basis of proportion of slum population. The procedure of selection of towns differs from State to State because of non-availability of slum population in some. For Uttar Pradesh and Madhya Pradesh towns were first stratified and then selected with probability proportional to size (pps), size being the proportion of slum population. For Chhattisgarh, two towns were selected with pps without stratification. In Uttaranchal, there being considerably smaller number of slums, two towns having more than a lakh of population were selected for the survey. The selection of slums was done at the field level after mapping out the location of all the slums in the town. The required number of slums was selected based on simple random sampling without replacement.

The survey was taken up concurrently in the four states during September 2003-January 2004, both in rural as well as urban sectors, the survey instruments designed to elicit information via the interview method on a wide range of topics both at the village level as well as household level keeping the objectives of the survey in mind.

## **6. Comparative Perspective: M.P., Chhattisgarh, U. P., and Uttaranchal**

### **a. The State Economies**

Madhya Pradesh, undivided as well as at present, is predominantly an agriculture-based economy. The share of agriculture and allied activities in GSDP accounted for 37.8 percent in 1999-00. In terms of real per capita income, Madhya Pradesh ranked the fourth lowest among the fifteen major states in the year 2000-01. Between 1990-91 and 2000-01, the real per capita income growth was as low as 2.72 percent per annum. Madhya Pradesh can be divided into six regions, *viz.*, Central, Malwa Plateau, Northern, South Central, South Western, and Vidisha. Malwa plateau has the maximum number of districts (11 districts), followed by Vidisha (10 districts), North (7 districts), South central and central (each 6 districts) and south west (5 districts).

As per the 2001 census, the total population of Chhattisgarh is 2.08 crore with male population of 1.05 core and female population of 1.03 crore<sup>1</sup>. The sex ratio of the state is 990 females per 1000 males, which is above the national average of 920. The percentage of tribal population in total population is 32.46 percent as against 8.08 percent for all India and 19.9 percent for Madhya Pradesh. The population density is 154 persons per sq. km., which is much lower than the national average of 324. The work participation rate in the state is 42.10 percent, which is higher than the all India average of 37.46 percent. The increased work participation rate in the state compared to the national average is mainly due to the very high rate of work participation by females (GOC: 2003). The state has achieved overall literacy rate of 65 percent (which is equal to that of national average) with male and female literacy at 78 and 52 percent respectively<sup>2</sup>.

Uttar Pradesh has one of the highest shares of the service sector in GSDP, which was close to 50 percent in 2000-01. Although the share of agriculture in GSDP has been falling, it is still high at 32.4 percent. The industrial sector shows a narrow and stagnating base. Its share in GDP 2000-01 was only 18.3 percent.

Uttaranchal came into existence in November 2000 as the 27<sup>th</sup> state of India. The state has 13 districts and is ranked at 18<sup>th</sup> place in terms of area in the country and 20<sup>th</sup> in terms of population. It is the 11<sup>th</sup> most sparsely populated state. Service sector plays a dominant role in the Uttaranchal economy. Its share was 48.99 in 2000-01. The share of industry has

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<sup>1</sup> Population figures are taken from the Statistical Abstract, India, 2002, pp.-3.

stagnated around 11 percent during the years 1998-99 to 2000-01. The share of agriculture has been hovering around 40 percent. The per capita income has risen from Rs. 11500 in 1993-94 to Rs. 18427 in 2000-01.

About 90 percent of the rural population of Uttaranchal depends on agriculture. The percentage of number of operational land holdings of the size of less than 2 hectares is very large. Nearly 88 percent of landholdings, covering about 55 percent of the cultivated area fall under this category.

#### **b. State Finances**

Table 7 brings together some key fiscal parameters for the four states in 2001-02 for which full year data was available for all these newly created states. In terms of tax-GSDP ratio, Uttar Pradesh at 4.3 percent is at the lowest position while Chhattisgarh at the highest shows tax performance of 6.5 percent relative to GSDP. Madhya Pradesh has the highest revenue and fiscal deficit relative to GDP among the four states and the quality of its fiscal deficit is also the worst with the share revenue deficit to fiscal deficit being 74 percent.

The State finances of Madhya Pradesh show stagnating revenue receipts to GSDP ratio accompanied by a sharp increase in the revenue expenditure to GSDP contributed to the widening of the gap between revenue receipts and revenue expenditure and thus, the revenue deficit. Unable to contain the revenue expenditure, the state resorted to cut in capital expenditure. The capital expenditure (net of repayment) as a percentage of GSDP declined from 3.27 percent in 1987-88 to 0.99 percent in 1999-00. Decline in productive capital expenditure adversely affected the finances of the state government. The states' inability to change the expenditure structure away from current consumption expenditure to productive capital formation, a substantial stock of debt and growing interest burden have become a major constraint for the government to undertake necessary expenditure in social and economic services. The share of expenditure on general services increased sharply at the cost of decline in the expenditure under economic services and social service expenditure maintained near stagnant share. The outstanding debt relative to GSDP stands at 27.2 percent in Madhya Pradesh. The effective rates of interest have increased sharply during the nineties.

**Table 7: Key Fiscal Parameters in 2001-02: Uttar Pradesh, Chhattisgarh, and Uttaranchal**

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<sup>2</sup> The literacy rate figure pertains to the year 2001 obtained from Statistical Abstract, India, 2002, pp.-448.

	(Percent)			
	Uttar Pradesh	Madhya Pradesh	Uttaranchal	Chhattisgarh
Tax/GSDP	4.32	6.27	5.35	6.50
Revenue deficit/GSDP	2.59	4.55	2.40	1.80
Fiscal Deficit/GSDP	4.14	6.15	4.09	3.50
Revenue Deficit/Fiscal deficit	62.45	73.89	58.66	51.43
Outstanding debt/GSDP	34.73	27.16	25.13	19.39

Source (Basic Data): Finance Accounts of States and CSO.

The fiscal history of Chhattisgarh begins only in 2001-02, which was the first full financial year. The revenue deficit was 1.8 percent in 2001-02. It is expected to decline to 0.9 percent of GSDP in 2003-04. On the other hand, the fiscal deficit to GSDP ratio is expected to increase from 3.5 to 5.3 percent. This increase in borrowing is not welcome. The only redeeming feature would be if the additional borrowing gets spent on productive capital expenditure.

The state finances for the newly formed state of Uttar Pradesh show that while revenues relative to GSDP are marginally lower in 2003-04 (BE) compared to 2000-01, expenditures at 17.7 percent in 2003-04 (BE) are higher by a little more than 1 percentage point compared to 2000-01. As a result fiscal deficit has increased from 4.8 to 6.5 percent. The outstanding debt has increased from 34.4 percent to 35.5 percent.

State finances in Uttaranchal are characterised by growing fiscal imbalance. In spite of receiving 90 percent of plan assistance as a grant, the debt-GSDP ratio has increased from 25.13 percent in 2000-01 to 29.66 percent in 2002-03, and to 33.7 percent in 2003-04 (BE). However, the share of revenue deficit in fiscal deficit has declined over the years, indicating that emphasis is being on capital expenditure.

### c. Selected Features of the Poor Households

Some of the important characteristics of the focus group (Stratum 1) of the poor households in the four states are brought together in Tables 8 to 10 to provide a comparative perspective.

Table 8 shows that the poor in Chhattisgarh are the poorest among the poor with a relatively larger family size and lower per capita income and expenditure levels. In almost all cases, a high proportion of expenditure is accounted for by food expenditure ranging from 56

percent in Uttaranchal to 71 percent in Madhya Pradesh. About 90 percent and above of households access the PDS for their food requirement. But they still need to access the market for food to a very large extent indicating that PDS does not fully meet their requirements. An alarmingly large percentage of rural households in Chhattisgarh indicate that they do not have access to food throughout the year.

**Table 8: Key Characteristics of Focus Group (Stratum 1)**

	<b>Uttar Pradesh</b>	<b>Madhya Pradesh</b>	<b>Chhattisgarh</b>	<b>Uttaranchal</b>
Average Household Size	4.49	4.75	5.39	5.35
Percapita Annual Income	4888.88	3041.32	2632.81	3650.92
Percapita Annual Expenditure	3955.10	3007.10	2681.69	4081.23
% of food to total expenditure	62.13	71.02	68.57	56.30
% of HH Accessing food from the PDS	96.67	89.92	90.69	94.23
% of HH Accessing food from the Market	96.22	83.90	77.12	59.88
% of HH electrified	20.80	19.49	18.49	8.62
% of HH within drinking water facilities within premises	28.07	3.20	10.46	14.75
% of HH getting food throughout the year	94.42	86.12	52.77	87.59

Note: HH is Households

Male literacy rate for adults is highest in Uttaranchal and lowest in Uttar Pradesh. In all states, female literacy rates are lower than the male literacy rates of the state. In fact, the female literacy rates in the range of 25 to 37 percent in the four states are dismally low.

**Table 9: Access to Public Service Delivery: Focus Group (Stratum 1)**

	<b>Uttar Pradesh</b>	<b>Madhya Pradesh</b>	<b>Chhattisgarh</b>	<b>Uttaranchal</b>
% of Literate Adult Male	47.68	50.95	55.16	64.87
% of Literate Adult Female	26.69	24.64	28.99	36.85
% of Literate Male Children	74.06	81.98	82.01	83.69
% of Literate Female Children	66.33	78.51	78.75	78.64
% of Children Receiving Benefits in School	132.37	151.22	95.13	173.59
% of Households Accessing PHC	68.18	75.38	69.96	86.6
% of Households Accessing Private Doctors	40.30	31.69	64.75	56.3
% of Health Expenditure in Total Expenditure	4.56	6.04	6.63	7.01
% Expenditure on travel in total expenditure	7.13	5.20	3.6	2.52
% of HH benefiting through Govt. Schemes	3.45	8.93	19.57	8.79

Note: PHC is Primary Health Centre

It is a redeeming feature that male as well as the female literacy rates among children are considerably higher than the corresponding adult literacy rates. Further, although the female literacy rate among children is lower than the male literacy rate, the difference is

much narrower. In Uttar Pradesh, the literacy rate among the female children at 66.3 percent is the lowest among the four states.

Access to electricity and to drinking water facility within the premises is extremely low. Households with electricity connections range from 8.6 percent in Uttaranchal to 20.8 percent in Uttar Pradesh among the total poor households (Table 8). Although a large percentage of the stratum 1 households access the primary health centres, their dependence on private doctors is very large - about 65 percent in the case of Chhattisgarh.

**Table 10: Selected Public Services: Comparative Position of Benefits**

	Madhya Pradesh	Chhattisgarh	Uttar Pradesh	Uttaranchal
				(Percent)
% of households benefiting from PHCs	75	69	68	86
% of households seeking services of the quacks	2	33	40	only 2 percent
Ante natal care: % of women who sought assistance from dais	74	41	55	7
Village Connectivity: % of villages not connected by road during certain seasons	1.29	1.32	1.24	1.26
Water supply: % of households having access to water within 100 meters of dwelling	66	74	63	68
% of poor households benefiting from government schemes	8	19	3	8

Table 11 shows the comparative perception about poverty across states. In all states, lack of employment is cited to be main cause of poverty. In Chhattisgarh, lack of housing is considered to be high in order of importance as indicative of poverty. In Uttar Pradesh and Chhattisgarh, lack of land possession is also associated with poverty by more than 13 percent of the poor households.

**Table 11: Perception of Poverty by Focus Group (Stratum 1)**

	Uttar Pradesh	Madhya Pradesh	Chhattisgarh	Uttaranchal
Lack of Employment (%)	39.47	39.86	25.94	31.64
Lack of Land Possession (%)	13.10	4.44	13.84	2.86
Undernourishment (%)	5.73	3.49	9.33	6.32
Lack of Housing (%)	12.56	6.91	20.56	10.77
Lack of Wealth (%)	8.44	1.44	2.14	13.21
Lack of Education (%)	1.96	36.59	19.36	0.80
Others (%)	18.75	7.26	8.83	34.41
<b>Total (%)</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Table 12 shows the perception of the Stratum 1 households regarding the most helpful government schemes and other services. High percentage of households in Uttaranchal (66 percent) and Madhya Pradesh (60 percent) consider that government employment generating

schemes were helpful. But only 25 percent of Chhattisgarh households considered it so. Almost all other services, viz., electricity, irrigation, communication, housing, relief, PDS, education are rated very poorly by the households in terms of incidence of benefit.

**Table 12: Most helpful Government Schemes and Services Suggested by Focus Group (Stratum 1)**

	Uttar Pradesh	Madhya Pradesh	Chhattisgarh	Uttaranchal
Employment Schemes (%)	43.84	59.54	24.86	65.91
Food for work programme (%)	0.24	0.30	1.84	0.70
Health facilities (%)	12.25	5.34	30.97	6.09
Provision of Electricity (%)	2.09	0.06	1.34	0.16
Provision of irrigation facilities (%)	0.22	3.12	6.83	0.49
Provision of communication facilities (%)	3.04	1.00	1.80	0.88
Provision of housing facilities (%)	12.87	3.86	3.59	8.44
Drought relief work (%)	-	0.35	2.53	
Public Distribution System (%)	0.09	0.16	1.70	0.13
Removal of Poverty (%)	1.91	4.26	0.32	0.21
Education (%)	3.56	0.95	4.85	1.60
Others (%)	19.89	21.07	19.36	15.40
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Table 13 shows the relative position of Panchayats in the four states along with some other critical features of rural poverty in the four states. Evidently, in terms of average expenditure, the Panchayats in U.P. have the least resources. In Chhattisgarh, although their own resources account for only 1.9 percent of total revenue although their annual per capita expenditure is the highest. In the rural areas of Uttaranchal, the access to electricity is the minimum for the poor households. A very large percentage of households, i.e. close to 100 percent, in all the states indicate reliance on kerosene as fuel. Except for Chhattisgarh, percentage of poor who emphasized employment creation as the primary means was quite high ranging from 44 percent in Uttar Pradesh to 66 percent in Uttaranchal.

**Table 13: Panchayats in Focus States: Some Parameters**

	Madhya Pradesh	Chhattisgarh	Uttar Pradesh	Uttaranchal
Average Annual Expenditure of Panchayats	Rs. 67047	Rs. 91563	Rs. 29130	Rs. 15778
Own Revenue of Panchayats as % of Total Revenue	8.03	1.89	6.91	14.33
% of houses electrified	19.49	18.49	20.8	8.62
% of poor households using kerosene as a means of fuel	98.94	97.76	99.81	99.95
% of poor households who emphasised employment generation for alleviating poverty	59.54	24.86	43.84	65.91

#### **d. The Poor in Madhya Pradesh: Salient Features**

The poorest districts in Madya Pradesh are: Narsimhapur, Jabalpur, Seoni, Sarguja, West Nimar, Betul, Mandla, Damoh, and East Nimar. In terms of regions, South Central,

Malwa Plateau, and South Western and Central regions appear to be relatively poorer regions.

The number of females per 1000 males that is, the sex ratio in rural Madhya Pradesh is unfavourable to women. The age-sex distribution for the poor (stratum 1) brings out a higher proportion of males in 0-18 age group than females. This feature does not characterise the stratum 2 households. Further, the sex ratios are significantly lower among children in stratum 1, which is even more disturbing. Gender inequality in the field of education is very much pronounced in stratum 1, female illiteracy rate being very high (7 out of 11 sample districts reporting a rate of more than 80 percent). The poor in Madhya Pradesh exhibit a high illiteracy rate for males too, though not as much as in the case of females.

The unemployment rate among poor (stratum 1) is very high at 11 percent for males and 13 percent for females compared to 4 percent and 5 percent respectively for stratum 2. 86 percent of earners in the paid-employment category are agricultural labourers with a small average annual income of Rs. 5046, other occupations yielding more than double of this income. 85 percent of the self-employed earners among the poor are small cultivators with an average annual income of Rs. 7290, but his counterpart in stratum 2 earns Rs. 18655.

Every three out of ten poor households subsist on a per capita monthly income of Rs. 208 only, and every two households out of three survive on per capita income less than Rs. 292 only. Low incomes are accompanied by a high incidence of debt. The outstanding debt ranges from Rs. 2000 to Rs. 4000 for the poorest of the poor. The main sources of borrowing are the village moneylenders or relatives/neighbours and the purpose of loan is stated to be mostly other than agricultural. Given the bulk of earners in paid-employment working as agricultural labourers and the self-employed mostly as small cultivators with both categories with meager incomes, the Government needs to strengthen micro-credit facilities.

In the context of livelihood issues related to education, health, water supply and sanitation, the findings are discussed here. The consumption pattern of the poor indicates that 71 percent of the total consumer expenditure is accounted for by food alone. 14 percent of the households are unable to provide food for themselves throughout the year. Inadequate coverage of the vulnerable sections under the regime of targeted PDS could be the reason why 84 percent of these households depend additionally on the market for food purchases.

The distribution of poor households by MPCE class shows that 85 percent are below the updated official poverty line. A larger dependency ratio in terms of a higher average household size characterizes the lower end of the MPCE class. As regards other basic facilities, only 3.2 percent of the households have water facilities within premises and the percentage of households electrified is 19.5 percent. Spread of rural electrification is quite thin in respect of the poor households. As regards access to water, the survey reveals that there is a predominant use of public hand pumps. 64 percent of the households have to cover less than 100 meters and in terms of time spent, 80 percent of the households spend less than one hour in collection of water.

The provision of subsidized fuel through kerosene is a successful measure in the sense that 99 percent of the poor households use this fuel, accounting for 59 percent of the total expenditure on fuel. In all, the per capita monthly expenditure on fuel in stratum 2 is 2.5 times higher than in stratum 1.

Literacy level in stratum 1 is much lower for both adult males and females than in stratum 2. Gender inequality is sharply in focus with females way behind. This holds good for both the strata. Gender disparity exists among children also, but of a lower order. 80 percent of the children in stratum 1 are not able to continue their studies because of shortage of finance. No clear relationship could be established between attendance in the school and the distance from the dwelling.

The incidence of benefits of government programs in education by way of scholarship, free books, mid-day meals and others shows that the mid-day meal scheme is the predominant form of benefit received, followed by free books and scholarships. The poor households were in receipt of 65 percent of the total amount of benefit. The per capita expenditure benefit is also higher in stratum 1 than in stratum 2.

In regard to health seeking behaviour of the households, three-fourths of the households seek the services of the PHCs, a little less than one-third of private doctors, and one-fifth consult the quacks among others. The modal value of average consultation fee for the poor is less than Rs. 10 for all types of providers except quacks for whom surprisingly the modal value is around Rs. 25. Households in stratum 2 pay expectedly more. Since more or

less 75 percent consult PHCs, the PHCs need to be strengthened so that the villagers may not have to run to the quacks who in any case are not cheaper.

Roughly 5 to 5.5 percent of total expenditure goes towards expenditure on health, of which medicine alone claims 65 to 69 percent. This shows that in any scheme of alleviation of poverty, the PHCs should be furnished with pharmacies to dispense at least the frequently used medicines at subsidized rates. Since trained dais and untrained dais supply the antenatal consultation services for pregnant women, inducting them in maternity centres under the charge of doctors and nurses to check maternal and infant mortality would be beneficial.

Village infrastructure needs to be improved to provide better connectivity. The survey points out that almost all the facilities including medical, educational, banking, and transport are located more than 2 km away for a substantial proportion of the villages surveyed. The share of travel in total expenditure comes to more than 5 percent; for the poorest of the poor, this is 7 percent. Radio seems to be the most used means of connectivity. The fact that newspaper is used only by 5 percent of the households is a sad reminder to a situation of little development in the face of high illiteracy.

The survey indicates that 47 to 90 percent of the Panchayats are not participating in the implementation of the centrally sponsored schemes, although others are involved in initiating, mobilizing labor time or capacity building activities in respect of the schemes. Only 9 percent of the households in stratum 1 are benefited by the schemes, mostly via cash benefits.

More than 69 percent of villages say that their MPs did not visit even once in a year. The corresponding figure of the MLAs was 58 percent. The nature of schemes run by them pertains to provision of public water supply, village roads, community halls etc. For 75 percent of the villages, the spokesman couldn't specify the nature of schemes run by either the MLAs or the MPs.

The Panchayat services are confined to various civic services e.g., water supply, running of schools, roads and bridges, the last claiming the bulk of expenditure. The average

expenditure of the panchayats works out to be Rs. 67000 per year. Own resources of Panchayats account for only 8 percent of their finances.

The poor households in Madhya Pradesh, in their own perception, consider lack of employment schemes as the main reason for persistence of poverty, lack of education being the second most important constraint. Direct governmental intervention to remove poverty is also emphasised by households in both the strata.

**e. The Poor in Chhattisgarh: Salient Features**

In Chhattisgarh, districts like Surguja, Dantewada, Bastar and Mahasamund have a poverty ratio, which is substantially higher than the average for Chhattisgarh. Bastar and Dantewada have the highest shares in the forest area of the state.

In respect of literacy, poor relative to non-poor, and females relative to males show much lower literacy rates. A larger proportion of children and pre-adults (0-18) are reported among the poor as compared to the non-poor. The sex ratio for the poor is much higher than that of the non-poor and that female children are more than male children among the poor households. At least the poor households are not showing ante-natal bias against the female child. The number of children per 1000 adults is much higher among the poor than among the non-poor, which implies a higher dependency rate for the former.

90 percent of the poor households have per capita annual income less than Rs. 4500 or less than Rs. 375 per month against 53 percent of non-poor households. Agricultural laborers account for the bulk of the persons in paid employment, the per worker income averaging Rs. 4600 annually. A large proportion of the self-employed work as small cultivators in both the strata. The average income from self-employment is much less than that from paid employment. Almost half of the non-poor households are indebted against 36 percent of the poor households.

Animal husbandry is the most important village industry accounting for 36 percent of the establishments, followed by carpentry, blacksmiths and agro-based industries. This is true for villages, irrespective of their size measured in terms of number of households residing. One-tenth of the households reported one or more members migrating mostly to nearby

cities/towns to join the urban informal sector or to nearby villages to join as casual agricultural labourers.

The poor with average household size as 5.39 have an extremely low per capita annual income of Rs. 2633. The average share of expenditure on food to total expenditure for the poor households is about 69 percent. This is further compounded by the fact that in the regime of targeted PDS, the coverage of the poor is not total with the result that as much as 77 percent have to access the market for food. The MPCE wise distribution of households clearly brings out that the targeted PDS suffers from both exclusion and inclusion errors. Other indicators of access like drinking water facilities, percentage of electrified households, share of households getting food throughout the year paint a very gloomy picture. Around 97 percent of the total households use kerosene, other forms of energy being wood and electricity. Only one-tenth of the households in stratum 1 has provision of drinking water within premises. However, the spread of the publicly provided water supply facility shows that more than 81 percent of the public facilities are less than 100 metres away from the premises of the rural households.

Illiteracy rates of adult males (43 percent) and adult females (69 percent) are both significantly higher in stratum 1 than in stratum 2 (21 percent and 44 percent respectively) indicative of a high degree of inequality across strata and gender. However, the redeeming feature is that the disparities are not that pronounced in case of children across strata. For adults, the principal reasons for not continuing education are shortage of finance and obligation to earn for their families to provide income support.

It is heartening to note that the combined benefit of direct fiscal intervention in terms of scholarship, free books, free uniform and mid-day meal schemes reaches 95 percent of school going children of the poor households, major share going to mid-day meals. However, only 37 percent of the expenditure accrues to the poor households. The per capita expenditure benefit in stratum 1 is Rs. 177.50 compared to Rs. 222.83 in case of stratum 2, indicating a regressive distribution pattern of benefit.

The analysis of health seeking behaviour of rural households in case of illness shows that they depend heavily on PHCs, private doctors and quacks, the modal value of average consultation fee being Rs. 25 for the former two and less than Rs. 10 for quacks in respect of

stratum 1. Major share of total annual health expenditure per household (Rs. 974) is claimed by medicines. Dependence on dais, trained or untrained and others (leaving aside doctors and nurses) is very much in evidence for currently married women during last pregnancy in stratum 1 compared to nurses in stratum 2.

The distribution of villages according to various publicly provided infrastructure facilities by distance reveals a dismal scenario like educational institutions, PHCs, maternity health centres, ration shops, pucca roads etc, are all located more than 2 km. away from the village. Given the huge supply side bottlenecks, the average per household monthly expenditure for poor households on travel is Rs. 44 that is, 3.69 percent of the total household expenditure. The main means of connectivity is radio, followed by post office. The households reporting access to newspaper is as low as 1.89 percent for stratum 1.

The Panchayats, the data reveal, play an active role in initiating the implementation of Government schemes, particularly, widow pension, anganwadi, kisan (old age) pension and Bal poshahar. They work towards formation of people's groups and mobilization of labour time of the people in respect of some schemes. However, it is also to be noted that the involvement of Panchayat is minimal in certain schemes.

Whereas 89 percent of the total poor remains below the poverty line in stratum 1, only 19.57 percent of the poor households reported having been benefited from Government schemes. 70 percent of the benefits are in the nature of employment generation. The lower tail of the MPCE distribution receives most of the benefit showing a pattern of progressive distribution of benefits reaching the rural poor. However, unless the coverage of benefit increases (which currently covers only 19.57 percent of the poor households), tangible positive outcomes may not be possible in terms of reduction of multidimensional aspect of poverty.

More than 42 percent of the villages were visited by their MPs at least once in a year, as against 54 percent for MLAs. Again, 42 percent of the villages could not report the nature of schemes run by MP/MLA local area development funds. For those reporting, the funds are devoted to public water supply, village roads, community halls and others. Panchayats' functions remain mainly concentrated on civic services like street lighting, village sanitation, vaccination programmes and maintenance works. However, 74 percent of the total

expenditure of all Panchayats is spent on construction of roads and bridges. A sizeable chunk (71 to 78 percent) of the villages reported as the main function of Panchayats as the setting of hand pumps and maintenance of pumps/wells/ponds.

In their own perception, lack of employment opportunities, lack of housing facilities and lack of possession of land emerge as the main reasons for poverty. The poor also indicate the lack of education as an important reason for poverty. The most helpful government schemes for poverty alleviation in their perception are employment generation schemes and provision of health facilities at the village level.

#### **f. The Poor in Uttar Pradesh: Salient Features**

The percentage of poor households in total rural households varies from 22 percent in Balrampur and Pratapgarh to as high as 47 percent in Mahoba. There are four other districts which reported 40 percent or more households as poor, *viz.*, Rai Bareli, Pilbhit, Jhansi and Kaushambi. The average household size in Stratum 1 is 4.5 with per capita annual income of Rs. 4889 and per capita annual expenditure of Rs. 3955. The percentage distribution of households according to income class shows that more than 52 percent of the households in Stratum 1 have an earning within the range of less than Rs. 1500 to Rs. 4500.

The Occupation and Income Profile indicates that agricultural labourers constitute the bulk in paid employment with their share in total employment at 82 percent in Stratum 1. In Stratum 2 also, 70 percent of the workers in paid employment are agricultural labourers. In self employment, 76 percent are small cultivators in Stratum 1 and 25 percent are big cultivators in Stratum 2. In Stratum 2, per worker income in self employment is as high as Rs. 48,048. In the context of the scope for non-farm employment, like other states surveyed, in Uttar Pradesh also, animal husbandry and agro-based industries are the principal village industries.

A little less than 6 percent of stratum 1 households do not have food availability throughout the year. Still, the percentage of poor households accessing food from PDS as well as market is as high as 96 percent. Within stratum 1, the percentage of households holding the BPL ration card is 77 percent. The distribution of households according to MPCE classes reveals that their share of food expenditure in total expenditure is 58 percent, which is

relatively lower than that in other states. The average size in poor households being much larger than the non-BPL households across strata, larger dependency stress is indicated.

The pattern of fuel consumption shows that almost 100 percent of the households use kerosene as fuel, followed by wood. However, it is as low as 18 percent in stratum 1 and more than 38 percent in stratum 2. The per household monthly expenditure on fuel in stratum 2 is Rs.282 which is more than twice that of stratum 1.

Access to safe drinking water is another major thrust area of public intervention. 28 percent of the households in stratum 1 can access drinking water within their premises. The corresponding ratio is as high as 71 percent for stratum 2. The spread of public water system is quite dense with more than 83 percent of the households being able to access the source within 100 meters of their premises. The time use survey in terms of fetching of water reveals that 88 percent of the households spend less than one hour daily in fetching water.

There are stark differences across strata and gender in terms of educational status. The adult male literacy rate in stratum 1 is 48 percent and 62 percent in stratum 2. The adult female literacy rate is much lower compared to male in both the strata. However, in the case of children the literacy rates in both strata are almost 75 percent for male. But in the case of children female literacy rate, for stratum 1, it is lower at 66 percent as compared to 74 percent in stratum 2. The shortage of finance is cited as the major reason for discontinuing education in stratum 1 both for children and adults. In case of adults, the pressure of earning to support family income is also cited as one of the major reasons for discontinuing education. The distance of school from the place of residence did not appear as a major reason for lower attendance. In fact, it is found in the survey across states, irrespective of the distance, that children are trying to attend schools most of the days in a week. However, this should not be construed as an argument for lower school density.

The analysis of the benefit incidence of the government expenditure on school going children reveals that 132.4 percent of the students in stratum 1 are enjoying these benefits implying multiple benefits available to children. This ratio is lower at 93 percent in stratum 2 implying that as expected, all the students do not get benefits in stratum 2. The benefit distribution in Uttar Pradesh appears to be progressive with per capita expenditure benefit in stratum 1 being higher than that in stratum 2.

In regard to health, almost an equal proportion of households in both the strata accesses primary health centres. But the share of the households accessing private doctors is much less in stratum 1 than in stratum 2. There is a high proportion of rural households in stratum 1, who also consult quacks. The efficacy of government run reproductive and child health services or RCH programme is examined by asking the currently married women regarding the status of antenatal care services and deliveries. It is observed that as high as 46 percent of the women take clinical consultation only twice during pregnancy in stratum 1. More than 54 percent of women go for dais, both trained and untrained.

In regard to the road connectivity, 29 percent of the rural villages are not connected with the main city throughout the year. Other aspects of village infrastructure in terms of facilities and connectivity show clear inadequacy. Primary health centres and maternity health centres are more than 2 km. away for more than 80 and 86 percent of the villages respectively. Because of the connectivity bottlenecks, the share of cost of travel in total expenditure is more than 7 percent for both the strata.

In regard to pro-poor fiscal intervention, in Uttar Pradesh the panchayat participation in various centrally sponsored schemes and state schemes is very limited. Even in programmes like *Anganbadi*, more than 30 percent of the panchayats do not participate. The highest proportion of panchayats is in the *bal poshahar* scheme. The percentage of households benefited through government schemes in stratum 1 is as low as 3.5 percent and in stratum 2 it is 1.5 percent.

To examine the sensitivity of the public representatives towards their constituencies, in more than 52 percent of the villages, MPs did not visit them at least once in a year and for the MLAs this ratio is even lower at 49 percent. More than one third of the villages could not specify the frequency of the visits of their respective public representatives. Regarding the development schemes run by MP and MLA local area development funds, in the case of Uttar Pradesh, 63.46 percent of the villages could not report the nature of schemes implemented by these funds.

#### **g. The Poor in Uttaranchal: Specific Observations**

Based on the primary survey, the following features may be highlighted. The proportion of the poor households varies widely from 16 percent in Rudraprayag (hilly

region) to 46 percent in Hardwar (plains). The sex ratios also show variation between hilly terrain and the plains. Women illiteracy is high in the poor households and there is a clear difference between the poor and the non-poor households. The number of children per thousand adults is higher in the poor households.

The number of women not in labour force is high in the case of females both in the poor and non-poor households. The rate of unemployment among the poor is much higher than the non-poor. In the poor households about 38 percent of the persons in paid employment are in construction activity. About 28 percent are agricultural labourers. The average annual income of those in paid employment is higher as compared to in self-employment. Income for an agricultural labourer or for a construction worker in paid employment is almost double that of a small cultivator in self-employment indicating that farming is not a viable occupation for the poor. Animal husbandry accounts for 74 percent of the establishments in Uttaranchal, followed by basket making, carpentry, blacksmiths and agro-based industries.

In all 5 percent of the households migrated to other places and almost all of them went for a regular job. Out of every four households there is one indebted household among the poor. Almost 65 percent of the indebted households borrowed from their relative/neighbours for reasons other than agricultural purposes. The average household size for the poor households is 5.35 with a per capita annual income of Rs. 3651, expenditure of Rs. 4081. A large portion of expenditure is spent in purchase of food and about three-fifths of them also need to access the market. About 12 percent of the households do not have access to food throughout the year.

Almost all the rural households (poor and non-poor) rely on the PDS system for kerosene. They also depend on other energy sources like wood and electricity. Only about 13 percent of the all rural households are electrified. Only 9 percent of the poor households are electrified. The availability of water facility in their own premises is inadequate.

There is a high degree of gender inequality in Uttaranchal. Illiteracy rates of adult males and females are higher in the poor households as compared to non-poor households. The literacy level in children between poor and non-poor rural households are close to each other. Among the children the most important reason for dropping out off school is the

shortage of finance. The next important reason is lack of interest. 25 percent of the poor households received scholarships, 33 percent free books, 4 percent free uniform and about 26 percent avail of Mid-day.

In the context of health, majority of the households used primary health centers followed by consultation with private doctors. The modal value of average consultation fee is below Rs 19 for both the strata. Majority of the expenditure goes towards purchase of medicines. 26 percent of the villages remain unconnected in certain seasons. Due to various bottlenecks, the poor households have to spend on average about Rs. 44 monthly on travel. The other important means of connectivity is post office and telephone booth. Access to newspaper is dismal inspite of high literacy level.

The visit of an elected functionary to their constituencies was irregular. About three-fourths of the visit of MP falls in the category of more than once a year against 60 percent for the MLA's. About 72 percent could not specify the nature of schemes run by MP/MLA's. The schemes initiated in the village were mainly community halls, village roads and public water supply. Almost half the expenditure is going towards the construction of roads. About 45 percent of the villages reported village sanitation, about 31 percent mentioned settlement of disputes.

Panchayats took interest in initiating and implementing schemes for widow pension (39 percent) and kisan (old age) person (29 percent), child welfare (15 percent) and Anganwadi (18 percent). They have also participated in some of the important programmes like Swarn Jayanti Rozgar Yojana, Jawahar Gram Samridhi Yojana, Sampurna Gram Rozgar Yojana, Pradhan Mantri Gramodhaya Yojana, Pradhan Mantri Gram Sadak Yojana, and Pradhan Mantri Gramodaya Yojana - Rural Drinking Water Project.

In their own perception, most of the households felt that employment-generating schemes were helpful to them to earn their livelihood, followed by housing, health and education facilities. The rural households perceive lack of employment, lack of land possession, undernourishment, lack of housing facility, lack of wealth and lack of education as the main causes of poverty.

## 7. Conclusions

Poverty in India, as measured by the Head-Count ratio and other measures, has fallen over the years. The official estimates of poverty show that between 1973-74 to 1999-00, the poverty head count ratio fell by a little more than 29 percentage points, i.e. a little more than 1 percentage point per year, considering the period as a whole. The fall was sharpest in periods when the growth rate was high. Even as poverty fell in terms of the head-count ratio, its regional concentration, measured in terms of the share of number of poor in a state to total poor increased, both in rural and urban areas. As a result, more than 74 percent of the rural poor live in just six states, viz., Orissa, Bihar, Assam, Madhya Pradesh, West Bengal, and Uttar Pradesh. In the case of urban poor, more than 79 percent of the poor live in 8 states, viz., Orissa, Madhya Pradesh, Bihar, Uttar Pradesh, Maharashtra, Andhra Pradesh, Karnataka, and Tamil Nadu, the last four states notably being the better-off states. In addition to increasing spatial concentration, poverty has also become more urbanized in as much as, almost without exception, in every state, the proportion of the urban poor to total poor has increased. Our primary survey also reveals that more than 40 percent of the poor population is below 18 years of age, the percentage being 41 percent for Uttar Pradesh and 46 percent for Uttaranchal. While India has a long history of implementing poverty alleviation programs, the next generation of poverty alleviation strategies will have to take into account that many of the poor are young, regionally more concentrated, and poverty is more urbanized.

There is overwhelming evidence that growth has a strong influence in reducing poverty, and its poverty reducing impact is larger, the better are the initial conditions regarding asset distribution, and the more connected are the poor with the rest of the economy. The positive impact of growth is strong enough to overtake any adverse effect of any worsening of income distribution. The combination of strong growth and a well targeted set of poverty alleviation programs would constitute the best antidotes to poverty. Fiscal policy has a role to play in both.

Fiscal policies can support growth by adequate investment in infrastructure, human as well as physical. They can improve the initial conditions by improving rural connectivity, and investing in education and health of the poor to prepare them to better partake in the growth processes. While such policies will attack at the root of chronic poverty, no poor can wait for it to take effect. For immediate and continuing relief, a well targeted poverty

alleviation program is needed. In addition safety net programs are needed to protect the poor from volatilities of economic growth, particularly agricultural, and other risks. This requires the participation of central, state, and local governments in designing, financing, and implementing these policies. It is not as if governments at all levels are not already involved in such participation. But the programs suffer from multiplicity, lack of targeting, minimal participation by the Panchayats and other local bodies, and inadequacy of resources. Successful interventions would depend, among other factors, on fiscal strength of the states.

The four states that we have selected for detailed study are all highly fiscally stressed states, U.P. being under the severest fiscal stress with a debt-GSDP ratio of 35 percent and a revenue deficit to fiscal deficit ratio of 62 percent. In terms of this ratio, Madhya Pradesh is even worse at 74 percent. This indicates that nearly 75 percent of borrowing is not being used for capital expenditure. In terms of fiscal parameters, Chhattisgarh appears to evince better fiscal parameters, but even here, more than 50 percent of borrowing goes for revenue expenditures. Even while other states are undertaking fiscal reforms, these four states should undertake such reforms even more earnestly to increase their fiscal capacities to combat poverty in their respective states. Such reforms should focus on increasing their tax-GSDP ratios relying on least distortionary taxation such as VAT, linking user charges to cost of providing services, reducing the volume of subsidization while focusing it better on the poor, and expenditure restructuring such that borrowing is used entirely on capital expenditures. These states should arrange their finances in such a manner that they are promptly able to provide counter funds, as required, for the centrally sponsored schemes.

On the part of the central government, a complete overhaul of the system of centrally sponsored schemes is needed. These schemes have been criticized in this study as elsewhere as being too many with considerable duplication, being implemented by too many agencies, uniformly designed for attending to heterogeneous problems. There have been several rounds of rationalization and integration, but at one end their numbers are reduced, new ones are created at the other. The solution to this problems lies in creating a framework in which the centrally sponsored schemes are made to *compete* with each other and the states are given the option to *choose* from among the available schemes the most suited to their requirements, subject to their entitlement of grants for this purpose, which are determined using criteria that use the existing incidence of poverty among states. More specifically, the following suggestions are made for reforming the centrally sponsored schemes.

- i. The requirement of contribution by the states should be abolished. Centre should fully finance schemes that it wants to sponsor. Instead of providing shares in individual CS/CS schemes, states can fully finance their own schemes.
- ii. Central Ministries/Departments can lay down all other relevant conditions including provision for monitoring.
- iii. The total amount of expenditures centre wants to allocate on all such schemes should be determined. From this, the share of states should be appropriately determined. states should be provided this as an entitlement with the option that they select any combination of CS schemes according to their requirements.
- iv. States, in turn, should determine using appropriate criteria, allocation of its share as entitlements to districts which, in turn, should determine the entitlements of the Gram Panchayats. At each stage, there should be a choice for selecting any combination of CS schemes, subject to the limit of the entitlements.
- v. Actual money should be transferred directly from the centre to the implementing Panchayats by passing all intermediate steps to minimize transmission losses.
- vi. Gram Panchayats should be free to choose any scheme they want to administer with full conditionalities subject to the ceiling of their entitlement.

Even as the central government modifies the system of centrally sponsored schemes, the states should undertake their own initiatives for combating poverty in their states. The primary survey undertaken in this study has revealed that in the perception of the poor, the most effective schemes are the employment generating schemes. All the four states should undertake to set up a comprehensive employment guarantee scheme taking cue from Maharashtra, which has the longest experience in running such a scheme. Rajasthan has also shown how to keep poverty, particularly rural poverty at low levels in the face of continuing droughts. Their experiments with 'Mini-Secretariat' should be encouraged for the PRIs and the local administration to coordinate activities of various departments, using household information regarding occupation, size of family, education, health, income and expenditure profiles of the households, target assistance better to households according to the incidence of poverty.

Persisting with employment generating schemes, would result in the added benefit that the village connectivity and infrastructure would improve since most of the employment creating activities will relate to construction of roads and other village infrastructure. This, in turn, will enable the poor to take fuller advantage of the growth processes in the country. In addition, these four states must intervene financially to ensure that poor children continued in their studies beyond the lower classes. As amply illustrated by the study, the main constraint is finance. This calls for a large program of financial assistance to poor students for

continuing studies. Focus on employment and education should be the centerpiece of the reinvigorated fiscal intervention aimed at reducing poverty, particularly in the four states investigated in this study.

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**Table A1: State-Wise Estimates of Poverty Head Count Ratios: Rural**

	1973-74	1977-78	1983	1987-88	1993-94	1999-00
Andhra Pradesh	48.41	38.11	26.53	20.92	15.92	11.05
Assam	52.67	53.82	42.6	32.36	45.01	40.04
Bihar	62.99	63.25	64.37	52.63	56.21	44.30
Goa	46.85	37.64	14.81	17.64	5.34	1.35
Gujarat	46.35	41.76	29.8	28.67	22.18	13.17
Haryana	34.23	27.73	20.56	16.22	26.02	8.27
Himachal Pradesh	27.42	33.49	17	18.28	30.34	7.94
Jammu & Kashmir	45.51	42.36	26.04	25.7	30.34	3.97
Karnataka	55.14	48.18	36.33	32.82	29.58	17.38
Kerala	59.19	51.46	39.03	29.1	25.76	9.38
Madhya Pradesh	52.66	62.52	46.9	41.92	40.84	37.06
Maharashtra	57.71	63.97	45.23	40.73	37.93	23.72
Orissa	67.28	72.38	67.53	57.64	49.72	48.01
Punjab	28.21	16.37	13.2	12.8	11.95	6.35
Rajasthan	44.76	35.32	33.5	33.21	26.46	13.74
Tamil Nadu	57.43	57.88	53.99	45.8	32.48	20.55
Uttar Pradesh	56.53	47.6	46.45	41.1	42.28	31.22
West Bengal	73.16	68.34	63.05	48.3	40.8	31.85
<b>All India</b>	<b>56.44</b>	<b>53.07</b>	<b>45.65</b>	<b>39.02</b>	<b>37.27</b>	<b>27.09</b>

Source: Planning Commission (2001).

**Table A2: State-Wise Estimates of Poverty Head Count Ratios: Urban**

	1973-74	1977-78	1983	1987-88	1993-94	1999-00
Andhra Pradesh	50.61	43.55	36.3	40.11	32.33	26.63
Assam	36.92	32.71	21.73	9.94	7.73	7.47
Bihar	52.96	48.78	47.33	48.73	34.5	32.91
Goa	37.69	36.31	27	35.49	27.03	7.52
Gujarat	52.57	40.02	33.14	37.26	27.69	15.59
Haryana	40.18	36.57	24.15	17.93	16.38	9.99
Himachal Pradesh	13.17	19.44	9.43	6.23	9.18	4.63
Jammu & Kashmir	21.32	23.71	17.76	17.47	9.16	1.98
Karnataka	52.53	50.36	42.82	48.42	40.14	25.25
Kerala	52.74	55.62	45.65	40.33	24.55	20.27
Madhya Pradesh	57.65	58.56	53.06	47.09	48.38	38.44
Maharashtra	43.37	40.03	40.26	39.78	35.15	26.81
Orissa	55.62	50.32	49.15	41.63	41.64	42.83
Punjab	27.96	27.32	23.79	14.57	11.35	5.75
Rajasthan	52.13	42.53	37.94	41.92	30.49	19.85
Tamil Nadu	49.4	46.69	46.96	38.64	33.77	22.11
Uttar Pradesh	60.02	56.23	49.82	42.96	35.39	30.89
West Bengal	34.67	38.2	32.32	35.08	22.41	14.86
<b>All India</b>	<b>49.01</b>	<b>45.24</b>	<b>40.79</b>	<b>38.2</b>	<b>32.36</b>	<b>23.62</b>

Source: Planning Commission (2001).

**Table A3: State-Specific Rural Poverty Lines as % of NSDP at Current Prices  
(Using 1993-94 Base NSDP Series)**

Andhra Pradesh	42.75	36.29	26.07	20.55
Assam	58.44	51.31	47.85	44.70
Bihar	81.46	66.33	69.10	67.08
Gujarat	31.26	31.16	23.25	20.70
Haryana	31.66	29.28	25.15	20.59
Himachal Pradesh	42.83	39.17	34.13	24.81
Jammu & Kashmir	36.47	37.63	43.76	31.70
Karnataka	42.26	35.65	28.20	22.14
Kerala	47.56	43.56	35.52	24.81
Madhya Pradesh	47.88	41.37	36.39	34.64
Maharashtra	33.31	29.07	19.37	17.39
Orissa	71.23	57.03	46.90	42.22
Punjab	29.10	26.38	22.23	19.00
Rajasthan	50.93	49.91	42.36	32.93
Tamil Nadu	50.14	37.64	26.20	19.67
Uttar Pradesh	78.47	50.65	49.37	47.76
West Bengal	60.82	40.55	38.49	28.11

Source: Planning Commission (2001) and EPW (2003).

**Table A4: State-Specific Urban Poverty Lines as % of NSDP at Current Prices  
(Using 1993-94 Base NSDP Series)**

Andhra Pradesh	62.62	59.95	44.47	35.75
Assam	57.96	50.97	43.75	42.08
Bihar	93.43	82.80	77.68	76.48
Gujarat	46.24	46.92	34.19	30.79
Haryana	36.99	34.12	27.78	23.85
Himachal Pradesh	49.45	45.92	37.03	28.37
Jammu & Kashmir	39.60	44.91	47.47	40.66
Karnataka	60.96	58.41	45.76	36.57
Kerala	58.70	54.45	40.86	31.58
Madhya Pradesh	70.35	68.95	59.78	53.59
Maharashtra	47.74	47.57	32.65	29.45
Orissa	83.64	77.69	72.09	61.67
Punjab	33.20	31.11	24.11	20.33
Rajasthan	65.30	67.16	50.89	44.60
Tamil Nadu	62.74	52.79	39.54	30.41
Uttar Pradesh	103.15	68.15	59.95	59.01
West Bengal	61.02	47.06	43.16	32.85

Source: Planning Commission (2001) and EPW (2003).