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Public debt versus environmental debt: Is there any similarity?

Economy



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Public debt versus environmental debt: Is there any similarity?



New Delhi: Tendency of any generation is to use resources excessively to satisfy their material needs and this leaves limited resources available for future generations to satisfy their needs. Overexploitation leads to depletion and degradation of natural resources and environmental pollution (e.g., overexploitation of groundwater, land degradation, deforestation, air and water pollution).

If each generation is bounded by a strict constraint of using natural resources and 'environmental space', there is possibility of achieving 'sustainable development'. These constraints need

to be assessed at national, sub-national and local level keeping in mind the present 'state of environment and natural resources'. There is also a need for environmental regulators to enforce environmental constraints strictly at all levels. Given the 'environmental space' available for each generation, if the present generation cannot control environmental pollution and/or overexploit natural resources it will have spill-over effects on future generations in terms of 'environmental debt'. Scarcity of natural resources and clean environment will be borne by the society at large. It is mostly the poor and marginal sections of our society which suffer the most, as they cannot afford to protect themselves from the impact of pollution or scarcity of natural resources (e.g., adopting water/ air purification devices, source substitution).

Therefore, protection of environment and conservation of natural resources can be seen as collective self-protection (or self-insurance), as compared to adoption of averting behaviour (point of use purification) by individuals – private (individual) self-protection (or private self-insurance). Collective self-protection could be cost effective as compared to individual self-protection when available remedial actions (point of use purification) are costly. There is also limit to expand the available environmental space by increasing efficiency in uses of natural resources (e.g. water use efficiency), controlling pollutions (e.g., abating pollutions), conservation of natural resources (e.g., water conservation, land conservation) and enterprising innovations and investments in technological breakthroughs (e.g., replacing fossil fuels by renewable energy). There is also a limit to adopt averting behaviours to cope up with environmental pollution. Moreover, some environmental damages are irreversible (e.g., loss of species).

In public finance, if government expenditure exceeds the available public resources, it runs into revenue deficit and/or fiscal deficit. Accumulations of deficits over the years, net of repayments, increase the public debt of the government. If the burden of servicing public debt (interest and principal payment liabilities) is considerably high in terms of current revenue generation, it leaves little resources available to spend on public goods and services. Therefore, if the government expenditure on public goods and services is higher than resources mobilised from the present generation, it may run into public debt. The costs of servicing the public debt may be borne by future generations by contributing more in the public resources to sustain consistency in the provisions of public goods and services. Inadequate provisions of public goods and services may lead to the problem of 'elite capture' and private financing (provisions) of public goods. It is the poor people who suffer the most as they cannot afford to secure public/ merit goods from the market (e.g., education, health, safe drinking water, sanitation). Achieving inter-generational equity in public finance is comparable to the concept of 'Sustainable Development' in environmental economics.

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Adoption of rule-based public finance management (PFM) helps the government to adhere to fiscal discipline by controlling revenue and fiscal deficits in the short-run and public debt in the long run. Adoptions of Fiscal Responsibility and Budget Management (FRBM) Act at the national and sub-national level in India since early 2000s helped the governments to achieve fiscal prudence. Similarly, adoption of rule based environmental management can help achieving sustainable development.

Unlike environmental space, fiscal space of the government could be expanded by increasing tax base (as measured by size of the economy and economic growth) and revenue (tax) buoyancy. Given economic growth, tax buoyancy depends on tax compliance, tax efforts, plugging loopholes in the tax system, and political supports in favour of revenue generation. Environmental space is also limited as there is limit to carrying capacity of an environment and ecosystem. If the capacity of regeneration of the environment and the ecosystem breaches the limits, it results in environmental pollution and disruptions in ecosystem services. Like fiscal space, the limit to carrying capacity of the environment (or environmental space) could also be measured by the methods of Natural Resources Accounting (NRA). Integration of NRA with National Income Accounting (NIA) could help us to measure the true progress of our wellbeing. Given the local conditions, a bottom up approach may help to assess the environmental space available for a generation. Like public debt, environmental debt could also be estimated, given the accumulation of pollution loads in the environment (e.g., water environment, air environment, land environment) over time.

In case of high public debt, government resorts to public debt management by increasing revenues and controlling public expenditures. Similarly, if lesser environmental space is available, it becomes our responsibility to protect the environment by restricting exploitation of natural resources and controlling pollutions. Conservation of natural resources (e.g., reducing, recycling and reusing of wastewater), and investments in enhancing regeneration capacity of the environment could help to reduce the deficits in environmental space.

Physical accounting of depletion and degradation of natural resources and the environment could help us to understand current state of environmental debt. Linking the physical accounting with economic activities and underlying environmental management practices could help us to identify interventions required to protect our environmental wellbeing. Both environmental regulations as well as market based instruments to control exploitations of environmental space may help to reduce environmental impacts in the long run. For example, mandatory adoption of water efficiency standards in all water fittings may help to reduce water uses. Similarly restricting uses of polluting inputs in manufacturing could help to reduce pollution loads entering to environment, e.g., replacing phosphate by zeolite in detergents to reduce the menace of foam and froth in our rivers and water bodies.

Since there are numerous economic agents involved, there is also need for social mobilisation by involving communities. Involvement of existing institutions like Pollution Control Boards and Universities/ Colleges in environmental assessment, Comptroller Auditor General of India in environmental auditing could help to achieve the goals.

When today environment is becoming the most important concern for the whole world it makes sense to think about the environmental debt bestowed on us by our ancestors and the burden that we are passing on to our future generations. Environment supplies inputs for production as well as acts as a sink of wastes. In addition, various ecosystem services help our production systems. Multiple functions of the environment and ecosystem help to sustain our wellbeing. There is need for periodic assessment of 'state of the environment and natural resources' in a comprehensive manner to identify the gap between availability and utilisation of environmental space. NRA of water resources, land and forests could help to assess the 'environmental debt'. We also need to reorient our production and consumption systems aiming at the reductions of carbon and water footprints. Like FRBM Act in PFM, rule-based approach in utilisation of environmental space and restricting pollution loads to the environment could help us to achieve sustainable development.

Sacchidananda Mukherjee is a guest contributor. Views expressed are personal.

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