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**ECOLOGY, ENVIRONMENT AND
SUSTAINABLE DEVELOPMENT IN
INDIAN FISCAL FEDERALISM**

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Ecology, Environment and Sustainable Development in Indian Fiscal Federalism

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Abstract

This paper argues that the incorporation of new references in the Thirteenth Finance Commission mandate relating to 'ecology, environment and climate change' and 'quality of public expenditure' pose new challenges. The challenges arise because the operationalization of these items require various reforms-legal, administrative, costing, valuation, institutional, and monitoring which require political will as well as reorientation in public expenditure management techniques. In this regard, there is a need for the Commission to look at the issues in a holistic manner, integrate environment considerations in public policy making and initiate ecological fiscal reforms, thereby achieving the sustainable development. The paper also suggests that for sustainable management of shared environmental resources like river basin, forest etc. the regional governance structures need to be established. The Commission should provide financial incentives for regional cooperation. This paper also reviews the UN's environmental policy and India's pollution prevention and control policy and discusses various ecotaxes on polluting inputs and outputs and provides rationale for such taxes.

Key Words: *Environment, Sustainable development, Federalism*

JEL Codes: *H77, Q01, Q53, Q57*

INTRODUCTION

Item 3 of the Terms of Reference of the Thirteenth Finance Commission states that in making its recommendations, the Commission shall have regard, among other considerations, to (viii) the need to manage ecology, environment and climate change consistent with sustainable development, and (vii) the need to improve the quality of public expenditure to obtain better outputs and outcomes.

Incorporation of the two considerations requires new challenges and new opportunities to the Commission. The challenges arise because operationalisation of the two items is not simply a financial accounting exercise based on conventional methods of budget preparation. The reforms – legal, administrative, costing, valuation, institutional, and monitoring – require political will as well as reorientation in project management techniques. The opportunity arises because the Commission can look at the issues - sectoral and cross-sectoral and intra and inter-jurisdictional - in a holistic manner, integrate environmental considerations in public policy making, initiate ecological fiscal reform and thereby help in achieving sustainable development of India.

Effective decentralization requires not only appropriate assignment of functions, resources, and fiscal transfers but also building capabilities especially in local bodies. The optimum management unit for an ecological activity may be a group of contiguous states sharing a common ecosystem. In such a case creating regional governance structure for sustainable management of shared environmental resources like river basin, wet lands and forests may be a better management option than fiscal transfers to states. The Finance Commission can provide financial incentives for regional cooperation. The advantages of such regional structures are that they help not only in internalizing the environmental externalities and ensuring decision making by the affected people but also in fostering regional cooperation.

Objectives of Environmental Policy

The United Nations Conference on Environment and Development states the following objectives of environmental policy:

- (a) To incorporate environmental costs in the decisions of producers and consumers, to reverse the tendency to treat environment as a “free good” and to pass these costs on to other parts of society, other countries or to future generations,
- (b) To move more fully towards the integration of social and environmental costs into economic activities, so that prices will appropriately reflect the relative scarcity and total value of resources and contribute towards the prevention of environmental degradation, and
- (c) To include, wherever appropriate, the use of market principles in the framing of economic instruments and policies to pursue sustainable development (UNCED (1992) Agenda 21, Chapter 8, p.85).

The concept of sustainable development has become a buzzword. It means that sustainability of policy changes must be assessed in terms of economic (efficiency), social (intra-generational equity) and environmental (internalization of externalities, inter-generational equity) benefits.

Pollution Prevention and Control

India’s pollution prevention and control policy regime is characterized “prohibit and punish” regime or “command and control” regime [Sankar (1999)]. In this regime, penalties are not proportional to the extent of violation from the standards. Enforcement of the laws is also weak. The major factor inhibiting the introduction of EIs is that all the pollution prevention and control legislations come under criminal law.

The National Environmental Policy (NEP), 2006 recognizes the problem. It states that 'the present environmental mechanism is predominantly based on doctrines of criminal liability, which have not proved sufficiently effective, and need to be supplemented'. It notes that, civil law 'offers flexibility, and its sanctions can be more effectively tailored to particular situations. The evidentiary burdens of civil proceedings are less daunting than those of criminal law. It also allows for preventive policing through orders and injunctions'.

The NEP recommends a review of the existing legislations to arrive at a judicious mix of civil and criminal processes and sanctions. It states that civil liability law, civil sanctions, and processes would govern most situations of non-compliance. Criminal processes and sanctions would be available for serious, and potentially provable, infringements of environmental law, and their initiation would be vested in responsible authorities. Recourse may also be had to the relevant provisions in the Indian Penal Code and the Criminal Procedure Code. Both civil and criminal penalties would be graded according to the severity of the infraction.

The NEP notes that EIs 'work by aligning the interest of economic actors with environmental compliance, primarily through application of "polluter pays" principle and recommends an action plan for preparation and implementation on the use of EIs for environmental regulation in specified contexts'.

As introduction of direct EIs such as pollution charges and tradable pollution permits does not have a legal backing now and as the design and implementation of the instruments is information-intensive and requires capacity building, the Ministry of Environment and Forests, Government of India requested the Madras School of Economics to recommend proposals for eco-taxes on polluting inputs and outputs.

Main recommendations include (see Chelliah et al., 2007 for more details):

(a) Considerations

- (i) No legal obstacle. They can be part of the budget
- (ii) Taxes coming under the central government tax net
- (iii) Administrative feasibility: the tax departments have the information base and capability to levy such taxes
- (iv) Interaction with concerned industries and government departments to assess behavioural reactions of the affected parties.

(b) Proposed Taxes

(i) Eco-cess on coal based on ash content

Rationale: Indian coal has high ash and moisture. Environmental problems are emissions in the form of particulate matter, toxic elements, fly ash, and oxides of nitrogen, sulphur and carbon. Coal beneficiation can reduce the pollution, result in savings in transportation cost, and improve operational efficiency of the consuming units. Administrative notification in 1998 on the use of beneficiated coal was ineffective. The aim is to reduce the ash content to 34 % based on technical feasibility and cost considerations.

Proposals: Eco cess on coking coal is between Rs 20 to Rs 50 per tonne initially depending on the grade. The tax burden would be at most 8% of the final price. On non-coking coal the cess is between Rs 50 to Rs 70 per tonne initially depending on the grade. The tax burden would be at most 25 % of the final price.

Clean Coal Fund: Use of cess revenue for setting up of infrastructure for coal washing, selective mining and R&D to identify activities for gainful utilization of coal ash and safe storage and disposal of the residual ash.

(ii) Resource tax on two wheelers, cars and jeeps

Rationale: The Expert Committee on Auto Fuel Policy, 2002, has laid down a road map regarding vehicle and fuel norms. The aim is to encourage fuel economy.

Resource Taxes

Vehicle	Fuel Economy (km/lr)	Rate of tax (%)
Two wheelers	0-40	3.0
	41-50	2.5
	51-60	2.0
	>60	--
Passenger cars/jeeps	<10	5.0
	10-14	3.0
	12-18	2.0
	>18	--

Petrol vs. Diesel Cars

Issues

- (1) High subsidy for diesel relative to petrol
- (2) Alleged higher pollution from diesel.

Suggestions

- (1) Reduce diesel subsidy in a phased manner.
- (2) Evidence for 2 is inconclusive. Higher emission rates for sulphur dioxide, nitrogen oxide, and particular matter but lower emissions of CO and HC and higher fuel efficiency in diesel vehicles.

In-use vehicles

- (a) An annual emission fee increasing with the age of vehicle.
- (b) Periodic Inspection and Maintenance Programme.

(iii) Chlorine Use in Pulp and Paper and Viscose Rayon Industries

Problem

The chlorine use results in discharge of organochlorine compounds which are highly toxic. Encourage use of chlorine substitute like hydrogen peroxide.

Proposals

- Withdraw rebate on the basic excise duty of 16% on chlorine and continue the rebate for chlorine substitutes.
- Accelerated depreciation at the rate of 50 % for investment in new machinery needed for use of chlorine substitutes.

(iv) Phosphate –based Detergents

Problem

Phosphates are used as 'builders' to soften the water in order to improve the cleansing action. But it contributes to an oversupply of nutrients to water bodies, and hence to eutrophication of lakes and ponds. The top three brands of detergents contain more than 20% of sodium tri-poly-phosphat (STPP) by weight while the preferred % is 5 or less. There are non-phosphate detergents like zeolite.

Proposals

- Reduce CENVAT on non-phosphate detergents. No rebate on VAT on STPP.
- Encourage use of compact detergent powders which save energy and materials by reducing CENVAT to 8%.
- Reduce duty on import of innovative pollution-free technologies

(v) Pesticides

Problem

Chemical pesticides residues in drinking water and the products; occupational exposure to workers who apply the pesticides; and the need to promote organic farming.

Proposals

- Ecess on chemical pesticides based on the level of toxicity.
- Reduce CENVAT on bio-pesticides from 16% to 8%.

(vi) Fertilizers

Problem

Subsidy for chemical fertilizers, particularly urea, results in fertiliser imbalance and discourages use of bio-fertilisers

Proposals

- Phased reduction of subsidies on chemical fertilisers.
- Capital subsidy for investment in R&D to improve the quality of bio-fertilisers.
- Promote the use of bio-fertilisers to the scale implied in the Integrated
- Plant Nutrition Management System.

(vii) Lead Acid Batteries

Problem

Lead is a toxic material. Lead and lead components are carcinogenic. Recycling of used batteries by informal sector smelters cause environmental problems.

Proposals

- In order to improve the competitiveness of the licensed smelters, reduce CENVAT on production of secondary lead by organized smelters.
- Levy of an environmental cess on the sale of scrap batteries in auctions by the bulk consumers and the cess be set off against the levies on production of secondary lead.
- Battery manufacturers should incentivise the return of scrap batteries to the approved dealers

(viii) Plastics

Problem

Plastic products like carry bags, beverage containers and thin sheets cause significant solid waste problems. Recycling may not be environmentally safe.

Proposals

- Removal of 16% CENVAT on biodegradable plastics
- Deposit Refund Scheme at the rate of Re 1 on PET bottle at the time of sale
- 50% rebate on customs duty on imported upgraded recycling technologies for use- in facilities set up by the recyclers.

Ecotaxes as an Integral Part of the Proposed Goods and Services Tax (GST) Regime [Srivastava and Bhujanga Rao (2008)]

There is a concerted effort both by the central government and the Empowered Committee of State Finance Ministers to move towards a National GST by April 1, 2010. There may be a central GST and a system of state GSTs .The ecological tax reform has to be an integral part of the GST.

In a VAT regime, where input taxes are fully rebated, taxation of polluting inputs will be rebated, unless they are made non-vatable or a non-rebatable cess is levied on inputs. This cannot be done on large scale as it will make the tax system complex. One possibility is taxing outputs at higher rates, outputs that are polluting or using highly polluting inputs.

Under the VAT system covering about 550 goods, only two rates is permitted. The basic VAT rate of 4% and a core rate of 12.5%, plus a specific category of tax- exempted goods, and a special VAT rate of 1% for gold, silver ornaments and bullion. One possibility is to levy a higher rate of 12.5% on outputs which use highly polluting inputs.

Levy of ecess/tax on a polluting output at a rate higher than 12.5% because of higher marginal damage/abatement cost is feasible only on a few items.

Research is needed on ecological tax reforms in the framework of GST at the state level.

Natural Resource Management

Regarding conservation, NEP 2006 states that 'the dominant theme of this policy is that while conservation of environmental resources is necessary to secure livelihoods and well-being for all, the most secure basis for conservation is to ensure that people dependent on particular resources obtain better livelihoods from the fact of conservation than from degradation of the resources'. It stresses the two-way linkages between poverty and environmental quality.

The challenge is how to achieve the goals of conservation, sustainable development, and access and benefit sharing for biological resources and traditional knowledge while ensuring livelihood security for tribals and locals depending on forests, wetlands, coastal and other ecosystems.

Forest policy 1988 recognizes the customary rights and privileges of the dwellers. Joint forest management a community based forestry has 1.06 lakh Joint Forest Management Committees, covering 22mha and 22 million people in 2007. The Scheduled Areas and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2007 would enable Gramsabhas to initiate the process for determining rights at the village level, identify the local community, receive, consolidate and verify claims on individual and community rights and passes appropriate rights and claims. Clear demarcation of private, community, usufruct and other rights and enforcement of secure the rights for the dwellers is a

necessary condition for sustainable utilization of the natural resources and also for market development and value addition.

Some Suggestions

Interstate Cooperation on Environmental Matters

It is desirable to foster regional governance structures to deal with environmental problems common to more than one state in areas such as biodiversity, watershed protection and serious pollution spillovers. This support may be in the form of seed money for innovative proposals on project mode basis.

Internalizing Environmental Externalities

Prices of many natural resources are below their costs .As a result over extraction/use is common. There are also many perverse subsidies like free electricity for agricultural pump sets, under pricing of urea, and under pricing of irrigation water. Because of competitive populism no state has an incentive to reduce the subsidies unilaterally. The Finance Commission may recommend measures to induce states to eliminate the perverse subsidies and to target subsidies only to poor. There is also ample scope for augmenting resources of states and local bodies via a system of user charges incorporating efficiency equity trade- offs.

Weak Sustainability Principle

This principle suggests than rent from exhaustible resources should be used for replacing the loss of physical capital so as to maintain a constant capital stock. At present states are more interested in raising current revenues in the form of higher prices /royalties than in rehabilitation of mines and quarries after closure and ear-marking a large part of the incomes to replace the loss of physical assets. The Finance Commission may devise a system of incentives and penalties for implementation of the principle.

Capacity Building in Natural Resource Management

Innovative proposals for establishing incentive-based institutional structures for management of forest ecosystems, wetlands, conservation and sustainable use of biodiversity, waste recycling and reuse may be encouraged. Financial support in the form of seed money and matching grants may be given.

The National Natural Resource Management System (NNRMS) aims at providing a proper and systematic inventory of natural resources available using remote sensing data in conjunction with conventional data techniques. It uses advanced technologies of satellite and aerial remote sensing, geographic information system and advanced ground-based techniques. The Planning Commission Committee of NNRMS is responsible for generating data on agriculture and soils, bio-resources, water resources, geology and mineral resources, ocean resources and so on. The Natural Resource Census will provide periodic inventory of land use/ land cover, land degradation, soil quality, geomorphology, wildlife and vegetation. The advantages of remote sensing data are synoptic coverage multi-spectral capability, multi-temporal capability and digital capture of data. The data are unbiased. The potential of using the data base for natural resource management as well as monitoring environmental performances of states should be explored.

Pollution Prevention and Control Initiatives at State Level

Our pollution control laws prescribe national standards. Even though State Pollution Control Boards can tighten the standards based on the carrying capacities of regions, this is done rarely. To encourage states to come with their own solutions for dealing with environmental hotspots and coming with proposals for natural resource regeneration and remediation of contaminated sites seed money may be given. States may be given freedom in regulating local pollutants based on an assessment of their ecosystem characteristics

Climate Change Mitigation

Green house gas accumulation is a global public bad and in view of the acceptance of the principle of common but differentiated responsibilities according to the respective capabilities of states, India is under no obligation to reduce green house gas emissions. But it is in India's own interest to promote energy conservation by incentivising use of energy-efficient pump sets and energy-saving lighting. This can be done by changing the price signals and regulations. Similarly conservation and sustainable use of biodiversity and afforestation while yielding benefits in the form of local and global public goods also enhance livelihood opportunities. These efforts should be encouraged and rewarded. International support for the production of global public goods may be sought.

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