7. CONCLUSIONS

Intergovernmental fiscal transfers are resorted to, in the countries with multiple tiers of government, for correcting the vertical and horizontal imbalances prevailing among different federal entities; such transfers, while equalizing the resource base of sub-national governments also have redistribution implication. In addition, intergovernmental transfers correct inter-jurisdictional spillovers and improve administrative efficiency. However, iniquitous distribution of natural resources and development levels also call for harmonizing the ecological and environmental concerns into the fiscal transfer system. Sustainable development, which is now set out as an important dimension of the progress of human society, requires the integration of social, economic and environmental functions into various policies and programs of respective institutions at all levels of governments.

Inter-governmental fiscal transfer system in India had been carefully designed and craft-fully managed (by the successive Finance Commissions and the Planning Commission) currently based on the socio-economic development parameters. However, the fact that India’s ecologically diversity is much larger and varies widely across states has not been given adequate consideration in the system of inter-government fiscal transfers. Whereas, international experience elsewhere demonstrates that the integration of ecological functions into inter-governmental transfers can counteract the under-provision of ecological goods and services (Ring 2007), a suitable framework has been proposed for India in this Study.

As India has low per capita availability of natural resources on account of a very large population, it does not have the luxury of overlooking ecological/environmental considerations in the decision making process. Currently, there are no incentives built into the fiscal federal system of India to conserve and manage the natural resources. As a result of it, the states that are rich in natural resources keep exploiting, thereby, deplete and degrade them. On the other hand, the industrialized states do not share the cost of utilizing the ecological space of natural resource rich states, thereby, resort to free-riding behavior.
In this context, the Study had analyzed the role of intergovernmental fiscal transfers backed up by an incentive based mechanism and appropriate institutional structures for achieving environmental sustainability in the country. The Study first explains the theory of fiscal federalism and the spatial externalities, the approaches to the integration of both and the design of inter-governmental fiscal transfer system. The empirical experience of intergovernmental fiscal transfer systems in other countries has also been discussed in detail, and it has been found that the practice of internalizing ecological/environmental concerns into fiscal transfer system is still emerging but gaining importance in Europe and elsewhere. It has been emphasized in the Study that moving towards such system is important both to address the spatial nature of environmental externalities in a federal system as well as to demonstrate India’s commitment to the protection of natural environment and ecology built upon a sound fiscal transfer system.

A comprehensive review of India’s fiscal and environmental federal systems has been undertaken in the Study so as to understand the approach, principles and broad direction of the resource sharing between the states and Union as recommended by the various Finance Commissions as well as, by the Planning Commission. The review pointed to steady addition of principles and an increasing number of parameters used in distribution, albeit with strict adherence to the federal socio-economic development principles enumerated in the Constitution of India. It has been pointed out that addressing the concerns of environment and sustainable development came into India largely out of the legislations made for protecting the natural resources and environment, which created a clear-cut separation of functions, finances and the coordination; in a limited manner to achieve the objectives. An attempt has been made by the XII and XIII Finance Commissions to provide for environment related conditional grants to state governments to ameliorate the environment and conserve natural resources through specific measures. Further, emphasis has also been made that the fiscal transfer system needs to address both negative and positive environmental externalities over space in its attempt to balance the existing asymmetry (leading to conflicting concerns of equity and efficiency) through fiscal transfers between jurisdictions.
7.1 KEY FINDINGS OF THE STUDY

The Study found that the assignment of specific responsibility for discharging various environmental / ecological functions coupled with assignment of expenditure and tax responsibilities at different levels of government has by and large, to be decided on a case-to-case basis. A robust intergovernmental fiscal system needs to understand strategic interactions amongst constituting units; and to capture fiscal and other externalities. In order to address these concerns, different countries had followed indigenous processes and institutional mechanisms as suitable to their social-economic-cultural milieu (Chapter 2). Fiscal federalism in India inspite of several challenges from time to time, had withstood the litmus test and had performed miraculously to a great measure. It had been shown that despite the clear cut assignment of responsibility for protecting the environment, the genesis of environmental degradation could be found in the lack of incentive structure at various levels of governance in India (Chapter 3). We have also seen that the theory of environmental policy could be dovetailed with the theory of fiscal federalism for designing a physical model of intergovernmental system of transfers (Chapter 4). The Study evaluates the need for lump-sum and earmarked grants for internalizing the spatial environmental externalities. Experiences elsewhere demonstrate that the earmarked grants are better suited for environmental clean-up activities and for financing the ways in which human resources and built infrastructure can be improved to build resilience to environmental degradation. Similarly, the inclusion of environmental services in the disbursement of fiscal transfers could also help in reducing poverty and regional disparities because distribution of poverty, natural ecosystems and their health overlap in the country (Chapter 5).

Given the fact that fiscal federalism in India had only considered the economic and social dimensions, while grossly over looking environmental aspects of sustainability, the Study highlights the need for fiscal compensation to the states having proportionately large portion as forests and protected areas while forgoing opportunity costs in terms of alternative land use patterns, thereby offering positive externalities to other states. In order to achieve this objective we have relied on the concept of effective forest area, a refinement of the area-related approaches, acknowledging the ecological functions. Similarly, in order to financially compensate
the states suffering from negative externalities, an appropriate transfer mechanism at the cost of states causing such negative externalities had been proposed (Chapter 6).

On the basis of physical framework developed in Chapter 6, Fig. 7.1 indicates the range of interstate transfers after taking into account environmental externalities as earlier discussed.

Fig 7.1 Inter-State Net Transfer of Resources

The Study results also show that as horizontal imbalance narrows down on the one hand, it curbs the tendency of free ridership among the constituent units on the other hand. As the financial flows relatively increase to ecologically better performing but poorer states, their equitarian claim is reinforced. The model incorporates fiscal transfers to poorer states from relatively well-off states on the basis of environmental externalities (both positive and negative). Depending upon the actual outcomes, the intensity of engagement of fiscal transfers on the basis of environmental externalities could be gradually increased. The additional resources received by the state and local governments could be deployed for forest conservation and protected area networks, energy-saving measures and water conservation schemes as ecological functions in
equalization laws. These resources should not support end-of-the-pipe infrastructure such as sewage and waste disposal but should be deployed for conservation of various natural resource ecosystems.

As the Study is perhaps, first of its kind in India, there is a scope for further refinement of the resource allocation criteria - from the Centre to states, between the states; and from the states to districts and further down to the stakeholders engaged in the conservation of natural resources. One of the key objectives of this Study was to evolve a framework passing the financial benefits/incentives to ultimate stakeholders and compensating them for their conservation efforts and sustainable ‘life styles’ in terms of quantifiable ‘production and consumption’ patterns. These principles need to find some reflectance in the allocation criteria of grants among states and between the states and Union. It is expected that the key findings of this Study would be useful at the policy level especially, in the context of later Finance Commission in India. With the Twelfth and Thirteenth Finance Commissions having acknowledged the need for devolution of grants for the schemes to promote ecology/environment, a beginning has been made but it has to go to a next level with the incorporation the principles into the devolution of sharable resources/ grants in order to achieve the broader goal of sustainable development.

7.2 MERITS OF THE METHODOLOGY FOLLOWED IN THE STUDY

By and large spatial environmental externalities (either positive or negative) had been treated in isolation. The comprehensive methodology followed in the Study considering both positive and negative externalities together in a holistic manner, has inherent merits. Before this Study, the previous two Finance Commissions (XII and XIII) in India had considered environmental aspects in a limited manner. As against the total forest area based approach of XII FC, the subsequent FC refined it to forest cover and incorporated two additional concerns namely, use of grid connected renewable energy and the issue of recovery of water charges. As explained in Chapter 4, the treatment of environmental externalities by XIII FC is limited (completely ignoring UTs) and at best could be described as partial (ignoring negative externalities). On the other hand the methodology followed in the Study first deals
with the respective entitlements and then allocates resources to various constituent units after taking into account both types of externalities.

In various international forums, India had been a votary of two major principles - “polluter pays” and “per capita resource entitlements”. However, these principles have not yet been used in the fiscal transfer mechanism at the national level. The suggested approach of designing intergovernmental fiscal transfer system while considering ecological/ environmental externalities shall built-in environmental sustainability into fiscal system and foster sustainable development of country. The empirical demonstration of its partial attainment in the case of Andhra Pradesh and the greater empirical relevance of the value of ecological services of a national park should draw a point to the importance and relevance of such system. As a positive spin off, the suggested model also strengthens India’s arguments for resource allocations on a per capita basis in various international forums. It is hoped that a suitable mechanism for fiscal transfers on the basis of these principles could be developed at the national level that could also become path breaking even at the international level, especially when they are analyzed in empirical settings using the data of such experience.

7.3 LIMITATIONS

The Study is based on forests providing ecological services to people. As the forest cover density is an important consideration for provision of ecological services, a refined approach had been pursued in comparison to the simple forest area based approach followed by XII FC and forest cover based approach by XIII FC. One of the important limitations of this Study is that it only considers forest ecosystem for intergovernmental fiscal transfers. In reality, forest ecosystem is one among many providing ecological services and contributions of other ecosystems had not been reflected on intergovernmental fiscal transfers in this Study.

Similarly, per capita consumption of ‘MS’ and ‘HSD’ is only a proxy for measuring negative externalities. As other factors such as area of the state, agro-climatic conditions etc are excluded; these cause some distortion in determining fiscal transfers. Within a state, there is wide variation in socio-economic conditions of the population and their resultant consumption patterns. Per capita consumption of ‘MS’
and ‘HSD’ figure is unable to capture such intrastate variations. The future studies can definitely refine the methodology adopted in this Study. However, it is suffice to say the Study is a pioneering one for developing a framework for integrating environmental externalities in intergovernmental fiscal transfers in India.

7.4 THE ROAD AHEAD

In order to achieve sustainable development, it is necessary to consider social, economic and environmental dimensions at various levels of Indian federal system. Spatial externalities need to be fully incorporated in intergovernmental fiscal transfers and a beginning had been made in the country. The Study advocates the following for further consideration:

- Earmarking gradually larger financial resources to be allocated to various states and UTs in a more refined (based on the complex environmental indicators) manner on the basis of their overall ecological foot-prints.

- States could deploy a part of such resources apportioned to them for inter-district / state wide ecological purposes, while remaining part should be allocated individual districts / institutions in the districts on the basis of their Environmental Index. Aim should be to pass on the cost / benefit to the ultimate stakeholders for developing an appropriate incentive structure in the country.

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