

institutional structural level, programme conceptualization and implementation level that is fraught with limitations which are responsible for this magnitude of environmental costs. Some of the limitations of environmental management practises in the country can be summarized as following:

- Limited attention to environment in the existing policy framework both at the central and state level.
- Limited attention to non-industrial environmental risks in the regulatory regime more so in implementing the existing regulatory norms and standards.
- Regional variations and carrying capacity are not factored in regulatory framework which is more or less uniform for an ecologically diverse country like India.
- Lack of decentralization: Most of the regulations are central government driven and there is limited initiative on part of the state government and implementation is mostly the responsibility of the state pollution control boards working under state government but here also the powers are confined to head offices. As a result, environmental governance in India is highly centralized.
- No stakeholder involvement in evolution of law except for representatives of industry and NGOs are being consulted in a limited manner by coopting them into the expert committees before issuing the new environmental notifications and changing the existing ones.
- Limited spatial as well as sectoral environmental planning experience within the country.
- Limited capacity building initiative that undertakes training need requirements and builds capacities of stakeholders including policy makers and regulators as per the training plan.
- Limited transparency and accountability in environmental governance as most of the people at large are neither informed adequately nor consulted during the decision-making process.

In the last ten years, state and central governments are trying to have an overview of the environmental profile of various regions by bringing out State of Environment (SoE) Reports. This SoE report preparation got formalized in the form of a nationwide initiative by Ministry of Environment and Forests (MoEF), Government of India in 2002 wherein each state is preparing a SoE, which can form the basis for preparation of SEA in the selected state as it provides the required information base for SEA. For the SoE initiative of the MoEF, SEA could be a logical extension whereby policy makers could get the required outputs for initiating environmentally positive change. Also the Draft National Environment Policy 2004 took into concern environmental factors in all development activities proposed to mainstream environmental concerns. The NEP, which was finalized in 2006 recognizes that maintaining a healthy environment is not the state's responsibility alone but also that of every citizen. It states that spirit of partnership should be realized throughout the spectrum of environmental management in the country.

### **Assessment of Salient Features of National Environment Policy, 2006**

Policy recognizes that maintaining a healthy environment is not the state's responsibility alone, but also that of every citizen. It states that spirit of partnership should be realized throughout the spectrum of environmental management. While the state must galvanize its efforts, there should also be recognition by each individual—natural or institutional, of its responsibility towards maintaining and enhancing the quality of the environment. The policy also seeks to stimulate partnerships of different stakeholders, i.e., public agencies, local communities, academic and scientific institutions, the investment community, and international development partners, in harnessing their respective resources and strengths for environmental management. Integration of environmental concerns in all relevant development processes is among the objectives of this policy. It states that inclusion of environmental considerations in sectoral policy making has also been recognized

as among the principles underpinning the policy. In order to operationalize these, a mechanism for ensuring necessary due diligence at all levels of government, is proposed to be institutionalized.

**Table 1**  
*Assessment of Objectives of National Environmental Policy, 2006*

<i>Objectives</i>	<i>Quality of Current Reporting and Assessment</i>
Conservation of Critical Environmental Resources	B
Intra-generational Equity: Livelihood Security for the Poor	B
Inter-generational Equity	C
Integration of Environmental Concerns in Economic and Social Development	C
Efficiency in Environmental Resource Use	C
Application of Principles of Good Governance to Environmental Management	B
Enhancement of Resources for Environmental Conservation	C

*Source:* Column 1 as stated in Ministry of Environment and Forests, Government of India National Environmental Policy, 2006 and column 2 author's qualitative assessment based on Parris T. W, and Kates R.W., 2003.

### **Action Initiatives Envisaged in NEP**

- Institutionalize a holistic and integrated approach to the management of environmental and natural resources, explicitly identifying and integrating environmental concerns in relevant sectoral and cross-sectoral policies, through review and consultation, in line with the National Environment Policy.
- Take steps to adopt and institutionalize techniques for environmental assessment of sector policies and programmes to address any potential adverse impacts, and enhance potential favourable impacts.
- Review the body of existing legislation in order to develop synergies among relevant statutes and regulations, eliminate

obsolescence, and amalgamate provisions with similar objectives, in line with the National Environment Policy. Further, encourage and facilitate review of legislation at the level of state and local governments with a view to ensuring their consistency with this policy.

- Ensure accountability of the concerned levels of government (centre, state, local) in undertaking the necessary legislative changes in a defined time frame, with due regard to the objectives and principles of National Environment Policy, in particular, ensuring the livelihoods and well-being of the poor by ensuring improved access to the necessary environmental resources.

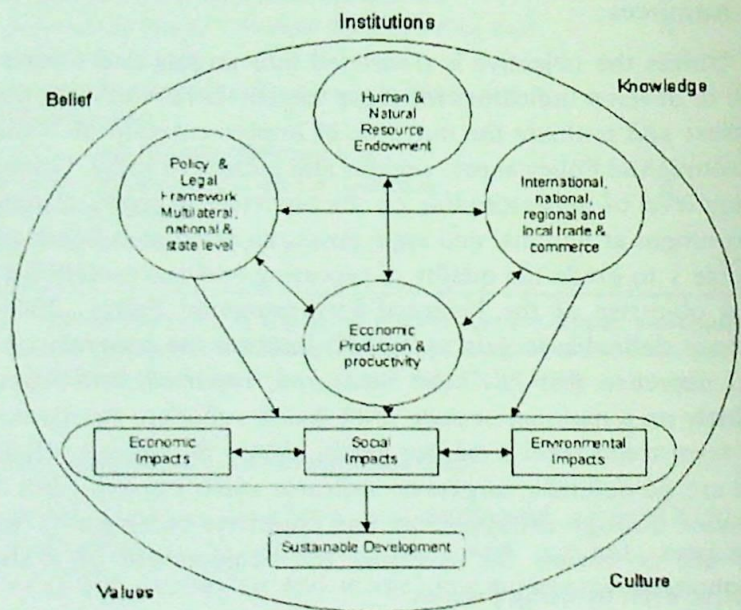
Unless the objective is translated into targets and efforts are made to develop indicators for these targets there would no means to assess and evaluate the outcome of implementation of National Environmental Policy across regions and sectors in India. Given the current level of understanding on the reporting in terms of state of environment at national and state levels, an attempt is being made in Table 1 to grade the quality of reporting and assessment for the stated objective of the National Environmental Policy, 2006. If there are definable targets to broadly indicate the progress on the select objective that has been measured, reported, and assessed routinely on a national or state level that is sufficient to establish a long-term trend receive a letter grade of 'A'. 'B' indicates that there are no definable targets or indicator exists currently but only estimated through extrapolation, and objectives receive a 'C' when there are no means for assessing the achievement of a stated objective even by using proxies.

### Road Mapping the Way Forward

*Increasing the Knowledge Base:* The current state of knowledge on the influences and impacts of policies and legal framework at international, national and state level on economic operations and environmental and social profile is limited. Similarly, there is a need to enhance understanding of international and national trade along

with economic activities on multiple dimensions of sustainable development. While most of these aspects can be analyzed and evaluated with tangible indicators provided efforts are made towards building the knowledge base. There are other intangibles such as culture, values and beliefs etc., which influence sustainability of initiatives. Hence, there is need to develop methods and techniques for diagnosing these dimensions so as to prescribe appropriate solutions. Figure 2 depicts the multidimensional impacts and influences on sustainable development.

**Figure 2**  
*Multi-Dimensional Impacts and Influences on Sustainable Development*



Source: Author's construction

As discussed earlier, there is a large scope of improving environmental management practices across the country. Hence, efforts need to be focused towards increasing institutional and environmental effectiveness in India along with mainstreaming of environment in development sectors at national and state level. This would ensure appropriate top down approach for achieving sustainable development.

### **Improving Institutional and Environmental Effectiveness**

From environmental monitoring and enforcement point of view, if deterrence is the goal to be achieved by environmental enforcement then there should be a clear and firm message of effective enforcement. Delivering such a message is not possible as long as the regulatory agencies dissipate their limited human and financial resources by monitoring and inspecting all regulated units irrespective of their level of compliance. Hence, there is a need for optimizing the available resources by the regulatory agency through an exercise of regulatory prioritization for imposing concentrated regulatory burden. One way of prioritization is to differentiate between compliant firms and non-compliant firms and focus monitoring and enforcement efforts more on the non-compliant firms. Complaint-driven inspections or those targeting suspected violators, for example, are likely to detect higher non-compliance levels than routinely scheduled inspections. Another way is to focus on those facilities that have the highest environmental payoffs per rupee of enforcement effort. Some of the options that environmental regulators can use for reducing monitoring expenses and increasing deterrence include:

- Self-reporting induced by the government/regulator
- Differential monitoring schedule
- Having a penalty policy in place that enables differential penalties based on prior compliance history.

In order to increase their effectiveness and infuse greater accountability, there is a need for developing and using performance indicators for monitoring and enforcement so as to enable evaluation of SPCBs periodically. The rationale for development and usage of environmental compliance and enforcement indicators are:

- Facilitates better monitoring of functioning of SPBs and their functional units
- Enhances greater accountability
- Assists in assessing.

Non-regulatory enforcement tools, such as the impact of information disclosure on firm's behaviour is an important emerging tool of enforcement. The information regarding the monetary sanction imposed on the firm may be of interest to the shareholders or lenders of that firm because it reduces the expected value of the firm and it will affect the share price and bond rating of the firm. There is a need for factoring a positive role of community pressure and other forms of informal sanctions in environmental enforcement programmes of SPCBs.

### **Decentralized Approach to Environmental Monitoring and Enforcement**

There are no instances of decentralization of environmental enforcement in its true spirit but within organizations there are instances of SPCBs decentralizing decision-making to lower levels. Experience from elsewhere shows that decentralization of enforcement to local authorities has enhanced compliance levels but here again the extent is limited as enforcement responsibility is shared between state level agency and local authorities (Cohen, 1998). As the environmental regulations are increasing in their number, the demands of resources for meeting the requirements of law on part of SPCBs have grown substantially in the recent past. Cohen suggests two kinds of innovations for reducing the resource demands on SPCBs and enhancing deterrence among regulators. These innovations include: (1) self-reporting induced by the government, and (2) differential penalties based on prior compliance history. There have been suggestions to the effect that the SPCBs should have access to the EMS self-audits and which can be used in enforcement procedures so as to enhance levels of compliance. But others are of the opinion that giving access to self-audits for regulators might become counterproductive if made mandatory. Firms in reality would do less audit than they otherwise would conduct. Studies have shown that self-reporting would reduce the costs to regulators on three counts that is when (1) the cost of monitoring/auditing is high, (2) the maximum feasible fine is low, or (3) the desired effort level is high (Malik,

1993). All the above three conditions are applicable to Indian environmental enforcement scenario hence there is a scope of enhancing voluntary self-reporting. To begin with it needs to be extended to those firms, which have fairly robust environmental performance system as observed through its compliance history.

### **Mainstreaming Environment in Development Sectors**

In the last decade, countries across the world started developing national, regional and local strategies for sustainable development and in order to operationalize these strategies they started evaluating and deploying a tool called Strategic Environmental Assessment (SEA). SEA has emerged as a tool for not only integrating social equity and environmental consideration with the developmental processes but also to monitor and evaluate performance of various entities in a transparent and publicly accountable manner. SEA as a tool has been used to a large extent for integrating environmental considerations into the developmental policymaking, planning and programme framing and implementation as it has evolved primarily from widely used EIA tool that attempts to integrate environment in project planning and implementation. But increasingly it is also being used or proposed for usage to integrate social and equity considerations as well so as to align them appropriately with goals of economic growth.

As per the requirements of SEA before focusing on the environment dimension one needs to understand the sectoral baseline and also understand the current policies, programmes and plans in the selected sectors. Activities to be performed in understanding SEA for any given sector includes:

- predicting the significant environmental effects of the plans/programmes;
- identifying mitigation;
- identifying alternatives and their effects;
- consulting the public and authorities with environmental responsibilities;