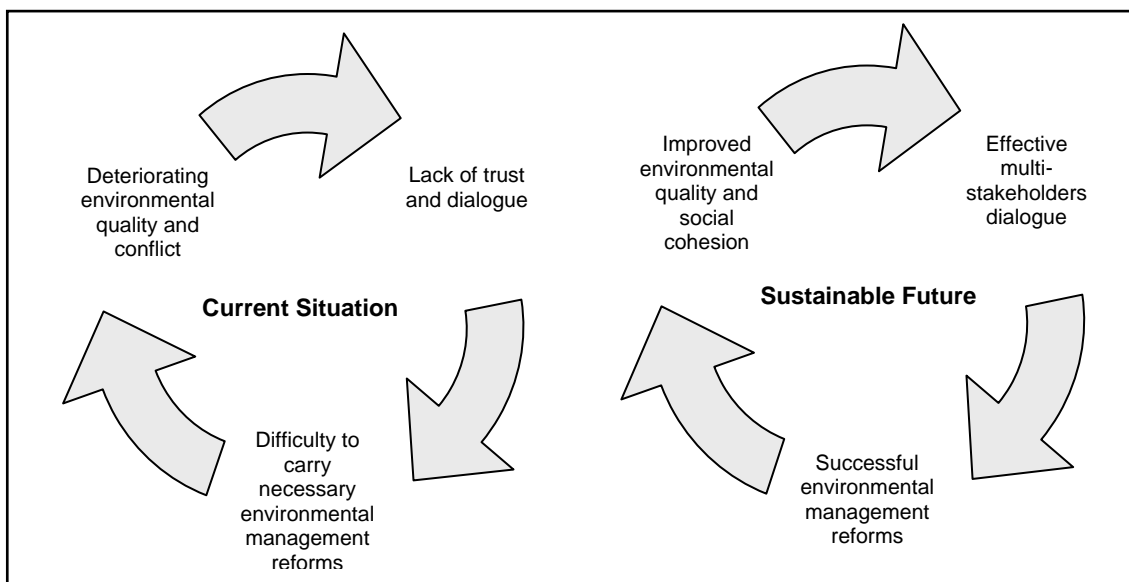


V. Towards a Sustainable Growth Framework Incentives

5.1. Given the high population density, vulnerable ecology, extreme climate and a significant share of the economy heavily dependent on the natural resource base, **environmental sustainability might well be the next greatest challenge along India's development path**, adding to the list of priority needs to reduce disparity, eliminate poverty and promote social cohesion. As the country finds itself into the second phase of robust growth, making and further projecting massive investments in infrastructure, urban development, mining and pollution intensive industry, the issues of environmental management are coming to the forefront of public attention.²⁵

5.2. While pressure for change and more effective action is building up and being recognized, albeit to varying degrees at all levels and by all players, there is a serious breakdown in public trust and constructive dialogue with respect to addressing a very complex and non-trivial set of issues. Increasing confrontation and suspense make the much needed environmental management reforms difficult to agree on and implement, further exacerbating environmental problems and creating a vicious circle. There is **an urgent need to start working towards developing a commonly shared vision on the way forward**; involving all principal stakeholders and reconciling different perspectives in a virtual circle (Figure 5.1).

Figure 5.1: From a Vicious Circle of Confrontation to a Virtual Circle of Sustainability



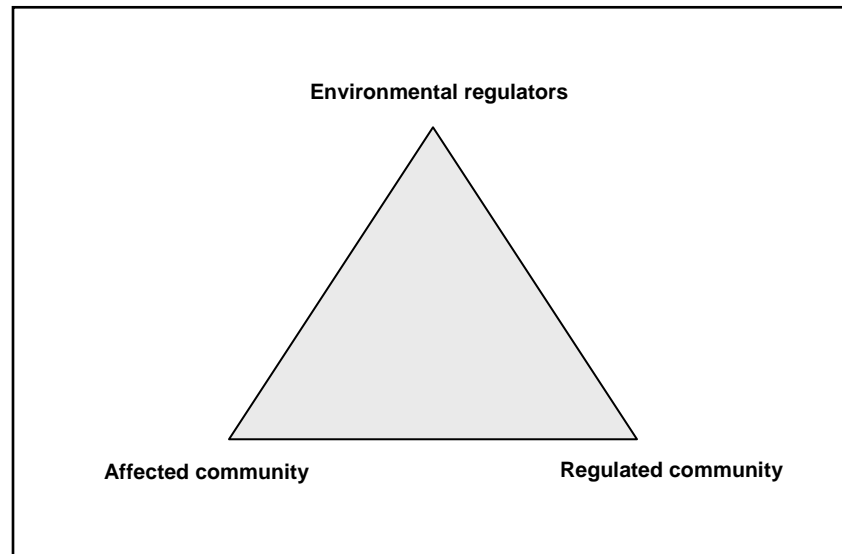
5.3. One of the first and key recommendations is to **carefully plan and execute a long term national program for supporting public participation in environmental management** aimed at educating and building capacity of all stakeholders involved. One specific action area is to develop detailed guidelines, as well as provide training, for public

²⁵ This has been a message from extensive discussions and consultations during the study will all three sectors, whose representatives unanimously conveyed that “the environment” for making investments and doing business today is very different from that 10–15 years ago, on account to much larger sensitivities over environmental and social issues.

participation for both State-level environmental authorities [Departments of Environment (DoE)/State Pollution Control Boards (SPCBs)] and sectoral agencies (adjusted to sector's specifics). Furthermore, most serious attention should be given to: (i) **building civil society's capacity to understand** the environmental issues and linkages to sector activities, to effectively engage in public participation forums; and (ii) promote **innovative and more interactive approaches** to public participation that increase public ownership of environmental actions. One such example, already piloted in India, is the citizen involvement in environmental monitoring and enforcement, which should be further supported.

5.4. This fundamental notion of **shared ownership of and responsibility for environmental action**, illustrated by Figure 5.2, is currently challenged by the general perception among many stakeholders — the public, project proponents, and development authorities — that the environmental ills are the sole responsibility of the environmental regulators (represented by the Ministry of Environment an Forests (MoEF), Central Pollution Control Board (CPCB), State DoE, and SPCBs) failing to effectively implement and enforce the laws. The study shows, however, that unless an increasing public demand for better performance by the environmental regulatory agencies is matched by adequate support to these agencies, conditioned on institutional reforms to increase efficiency, transparency and accountability, it would be naïve to expect substantial progress and unfair to solely blame the regulator for the lack of it.

Figure 5.2: Institutional Triangle of Environmental Management



5.5. There is a large unfinished agenda **to strengthen the regulatory, enforcement and incentive mechanisms available with environmental agencies**. The current application of environmental regulation does not match the scale, diversity and trends of India's economy. While actions are being taken to fill the gaps, greater effort is needed. A response to this challenge requires **new regulatory programs and approaches targeting different priority sources and combining stronger enforcement mechanisms with greater use of incentives**, using innovative methods tailored to a targeted group of sources and suitable to India. The sources, for which new, special programs are needed include: (i) small and medium enterprises estimated to account for 70 percent of the total industrial pollution load;

(ii) municipal sources of pollution; (iii) multiple industrial and municipal sources contributing to environmental degradation in a particular area or ecosystem; and (iv) linear projects with complex direct and indirect (induced) impacts, such as highways projects. There is also a need to **better account for the vast diversity of regulated sources in setting national regulatory standards**, supported by enhanced economic analysis of the impact on the industry, particularly small scale sector and old, but desperately needed, public utilities. Enforcement efforts are undermined by the lack of credible deterrents, and **the toolkit the regulators use to facilitate compliance needs to be considerably expanded and strengthened** to adequately deal with a very diverse regulated community.

5.6. In addition, **there is a double benefit to regulatory agencies from recognizing and encouraging good behavior and voluntary initiatives by the industry to improve environmental performance** through some regulatory incentives, such as extending the duration of CTO for industries that demonstrated good record of past performance, obtained ISO 14001 certification, or introduced environmental auditing or sustainability reporting. First, it gives an additional (even if small) incentive for other industries to follow and to innovate further. Secondly, it allows SPCBs to focus their scarce resources on serial offenders and other priorities. There is a significant, unrealized scope for providing such support, using good practice examples of selected SPCBs.

5.7. **Matching capacity of regulatory agencies with the growing demands is a major challenge.** The study recommends that the MoEF/CPCB consider requesting and guiding all SPCBs in developing a **medium term capacity upgrading action plan** to meet the current and projected workload, including the requirements of the Right to Information Act (RTIA) and the expected level of court cases. These plans should explore possible efficiency gains through rationalizing processes (e.g. linking consent duration to environmental risks and performance of a facility), upgrading technology, decentralizing responsibilities to regional offices, outsourcing of certain functions, etc. It would conclude with a staffing plan, including specific measures to upgrade skills and a well-justified and variable need for additional positions to meet the core needs. The plan could then be used for negotiations with State governments over additional staff positions.

5.8. The system of oversight needs to be strengthened between the center and States with respect to **greater accountability for the level of performance.** The MoEF and CPCB can also consider *introducing a performance-based program of support to SPCBs*, which would reward for exceeding the agreed performance targets, in addition to the “needs-based” technical assistance to SPCBs with particularly low capacity (e.g. new and/or poorer States). Improving efficiency and accountability of the *forest departments* in providing forestry clearance and performing compensatory afforestation was further cited as a key issue for all developers, particularly in the hydropower, transmission and highways sectors.

5.9. The study also confirmed the lessons from environmental management experience worldwide highlighting **a fundamental need for sectoral agencies to facilitate better environmental compliance and performance** of individual projects, more sustainable development of the sector as a whole and greater cross-sectoral coordination, particularly at the planning stage. Case studies and sector reviews show that environmental monitoring and enforcement cannot improve the situation on the ground if environmental factors were not considered at the time of location decisions, spatial planning, project design, and technology choices. Sectoral agencies and local governments are typically better positioned to influence these choices than the environmental regulator. The report identifies specific

recommendations for government authorities in each sector, summarized in Annex 1.

5.10. The study also found some important **common themes**, which were highlighted by all stakeholders of environmental management and could serve as good entry points towards working together and building a constructive partnership. These action areas include: (i) better access to training, knowledge and capacity enhancement; (ii) maximizing opportunities provided by the RTIA to leverage improved dialogue and environmental performance, and (iii) improving cross-sectoral coordination, particularly involving environmental authorities in the early planning and design stages of large infrastructure and industrial development projects.

5.11. A review of issues involved in fostering cross-sectoral coordination and designing area-wise programs to arrest aggregated pollution from industrial clusters and multiple sources in the area, suggest that **devolving more powers to and building capacity of local governments** set in motion by the 73rd and 74th Constitutional amendments, would be necessary. Empowered and capable local government bodies would have a natural incentive (which sector agencies lack) to promote cross-sectoral integration and oversee environmental management programs aimed at measurable improvement of environmental quality in the areas of their jurisdiction, with the participation of all concerned sectors, as well as citizens.

5.12. **An environmental agenda that the country is facing is of immense proportion.** The needed institutional changes and improvements on the ground will require commitment to a long-term program of actions. Many of the measures would involve further examination, design, and, not least, consultation with the public, other government agencies, and the regulated community. It will also require that environmental agencies, sectoral institutions, and the general public patiently *work together* to make progress, as evident from a set of study recommendations presented in a summary table in Annex 1. Encouragingly, several steps and initiatives setting the right direction have been taken recently by various players, including environmental regulators and sectoral agencies at the central and State level, as noted throughout the report.

5.13. It would be important to move quickly towards reaching a broad agreement with all major stakeholders on priority actions, based on the identified list (Annex 1), and **develop a medium- to long-term program of implementing the agreed actions**, supported by necessary resources, monitorable targets and clear accountability mechanisms. The Charter on Corporate Responsibility for Environmental Protection drawn up jointly by the industry and MoEF/CPCB sets a good example of a collaborative process to expand upon.

5.14. The most important highway that India is yet to build is a road into an environmentally sustainable future. The time for public consultation is now, and the country cannot afford but to make it a best practice project. With India's outstanding human capital, knowledge edge, technological genius and sense of social responsibility, there is every opportunity for this to happen.

Annex 1. Summary of Study Recommendations

Key Issues	Actions	Responsible Institutions	Timeline
Promote public participation	Develop a national program on public participation, including: <ul style="list-style-type: none"> • Programs for raising community knowledge and capacity • Guidelines and training to SPCBs on public consultation • Programs to involve citizens in monitoring and enforcement 	MoEF/CPCB, in consultation with SPCBs and civil society	Short to medium term (1–3 years)
	Develop sectoral guidelines and training on public consultation	Sector agencies	Short term(1 year)
	Disseminate examples of when public participation improved project performance	Sector agencies	Short term (1–2 years)
	Share local knowledge with environmental and sectoral agencies	Civil society	
Improve access to knowledge and training	Publicize the Information and Facilitation Center and create its offices in other locations	MoEF, State DoE	Short to Medium term (1–3 years)
	Develop and regularly update public online database on environmental indicators	MoEF/CPBC	Short term, then continuous
	Upgrade and expand targeted training programs by industrial associations and/or sectoral research and training institutions	Sector agencies and institutions	Short to medium term (1–3 years)
	Maximize effectiveness of the Right to Information Act by developing clear procedural guidelines regarding requests for information	MoEF, sectoral ministries	Short term (1 year)
	Disseminate relevant information to affected communities	Civil society	Continuous
Develop new programs targeting SME	Develop a focused and <i>well-packaged</i> regulatory program for SME clusters that integrate targeted enforcement with compliance assistance, including a funding mechanism to provide matching grants to SMEs participating in the program	CPCB and SPCBs	Medium term (2–3 years)
	Provide training and capacity building to SMEs on business opportunities from better EM	Industrial associations with CPCB/SPCBs	Short to medium term (1–3 years)

	Develop greening supply chain and industry mentoring initiatives	Industrial associations	„
	Initiate community monitoring of SMEs	Civil society	„
Set feasible standards for a diverse regulated community	Strengthen the instrument of an economic impact assessment of new regulations by developing a clear methodology drawing on best international practice and adjusted to India's economic context	MoEF/CPCB	Medium term (2–3 years)
	Review best international practice procedures for standard setting and develop guidelines for India; strengthen/expand the application of the zoning concept in setting national standards	MoEF/CPCB	Short to medium term (1–3 years)
	Provide necessary economic information, collaborate on the analysis and facilitate consultation with industry	Sectoral ministries/agencies	„
	Provide information on community impacts of the proposed standards	Society organizations, academia	„
Strengthen monitoring and enforcement	Evaluate, expand and strengthen the bank guarantee system	MoEF/CPCB	Short to medium term (1–3 years)
	Explore other innovative regulatory approaches to overcome the lack of credible sanctions	MoEF/CPCB	
	Periodically update sectoral guidelines for monitoring, and adding new sectors of growing impact such as highways	CPCB and SPCBs	Medium term (2–3 years)
	Adopt and implement a plan to improve effectiveness of monitoring, including greater use of CEM technology and self monitoring data	„	Short –long term (1–5 years)
Promote good environmental performance by sectors	Develop a set of regulatory incentives to support voluntary initiatives, using existing good practices	CPCB/SPCB	Short to medium term (1–3 years)
	Coordinate the development of a strategic framework for using global environmental financing instruments	MoEF with sector agencies	
	Promote self-monitoring and self reporting	Sector agencies and business associations	Short to medium term (1–3 years)
	Develop sector rewards for good compliance/performance	„	

	Provide information and TA on compliance	”	
Improve cross-sectoral approaches and coordination	<p>Develop “new generation” area-based pollution management programs dealing with multiple sources that focus on ambient quality outcomes</p> <p>Empower local government to oversee regional environmental programs and foster cross-sectoral coordination</p> <p>Develop roles and responsibilities of various stakeholders</p> <p>Involve the community in monitoring of other sources of pollution in the area</p> <p>Strengthen existing formal mechanisms to involve environmental authorities in project/program planning and design</p> <p>Facilitate uptake of best practices with the integration of environmental zoning atlases by SPCBs with industrial and urban development plans and locational decisions</p>	<p>CPCB/ SPCB, local government, sectors and community</p> <p>State DoE/SPCB in consultation with sectors and civil society</p> <p>Local government SPCBs</p> <p>State DoE, SPCB, industrial and urban development agencies</p>	<p>Medium term (2–3 years)</p> <p>Medium term (2–4 years)</p> <p>Short to medium term (1–3 years)</p> <p>Medium term (2–3 years)</p>
Build capacity of the regulator	<p>Identify and undertake measures to rationalize key processes, outsource non-core technical functions, and devolve more responsibility to regional offices</p> <p>Maximize potential of modern monitoring technology (such as CEM)</p> <p>Develop and implement medium-term capacity strengthening action plans, as well as training and staffing plans to meet growing mandates</p> <p>Review and recommend measures to improve the forestry clearance process</p>	<p>SPCBs</p> <p>CPCB and SPCBs</p> <p>SPCBs with CPCB support</p> <p>MoEF/State forests agencies</p>	<p>Short to medium term (1–3 years)</p> <p>Medium term (2–3 years)</p> <p>Medium term (2–3 years)</p>
Strengthen accountability for regulator performance	<p>Strengthen an oversight program for SPCBs, including:</p> <ul style="list-style-type: none"> • detailed oversight guidelines • regular assessment of the SPCBs performance based on a clear set of indicators 	CPCB in consultation with SPCBs	Medium term (2–3 years)

	<ul style="list-style-type: none"> introducing a system of performance-based incentives <p>Improve efficiency, transparency and accountability in the forestry clearance process, including</p> <ul style="list-style-type: none"> handbook on definitions and classification of forests land updating database of forest land aligning purchase of land for compensatory afforestation (CA) with project schedule review/update NPV calculation methodology and avoid double counting with CA 	MoEF in consultation with sector agencies	Medium term (2–3 years)
Specific recommendations for industry sector	<p>Integrate environmental objectives in the State Industrial Policy</p> <p>Link industrial promotion incentives to environmental performance (e.g. via environmental performance bonds)</p> <p>Encourage and advise on voluntary initiatives, mentoring programs for SSIs</p> <p>Provide information and training on clean technology, management practices and related business opportunities</p> <p>Utilize public green rating programs</p> <p>Expand citizen monitoring of industries</p>	<p>State DoI</p> <p>IDA and industrial associations</p> <p>IDA and industrial associations</p> <p>Industrial associations</p> <p>Civil society</p> <p>SPCBs and local government</p>	<p>Short to medium term (1–3 years)</p> <p>Short term (1 year)</p> <p>Medium term (2–3 years)</p> <p>Long term (Continuous)</p>
Specific recommendations for power sector authorities	<p>Develop a consistent framework for integrating externalities and use it as input into a consistent and realistic set of standards and regulations related to power sector</p> <p>Integrate stricter environmental performance and energy efficiency requirements in coal R&M program, in accordance with latest trends in mitigating the impacts of coal power</p> <p>Develop incentives to coal plant operators for better ash management and disposal</p> <p>Focus support to energy efficiency on high impact initiatives, including</p>	<p>MoP /CEA with MoEF/ CPCB</p> <p>MoP, SEBs, NTPC, Power Finance Corporation (PFC)</p> <p>MoP, SEBs with CPCB/SPCB</p> <p>MoP, Bureau of Energy</p>	<p>Short term (1–2 years)</p> <p>Medium to long term (3–5 years)</p> <p>Short term (1 year)</p> <p>Short to medium term</p>

	<p>support for new energy efficiency lending business</p> <p>Initiate capacity building of State electricity regulators to create a stable regulatory environment for renewable energy at State level</p> <p>Explore innovative financing instruments and accelerate R&D to support future development of the sector via global climate change agenda</p> <p>Include environmental performance indicators in MoP database and annual reports</p>	<p>Efficiency</p> <p>MNES, State Electricity Regulatory Commission</p> <p>MoP, Power Finance Corporation with MoEF, CBCP</p> <p>MoP with MoEF</p>	<p>(1–3 years)</p> <p>Short to medium term (1–3 years)</p> <p>Short to medium term (1–3 years)</p> <p>Short term (1 year)</p>
Specific recommendations for highways sector	<p>Develop sectoral guidelines to overcome specific identified knowledge gaps (see report for the list)</p> <p>Integrate environment management measures in Indian Roads Congress codes and MoRTH specifications and establish a system of periodic revision</p> <p>Develop a manual for translating EMPs in contract clauses, and for them to be incorporated in contract documents</p> <p>Citizen monitoring and oversight of construction impacts</p>	<p>MoRTH and NHAI</p> <p>”</p> <p>”</p> <p>Civil society</p>	<p>Short term (1 year)</p> <p>Short to medium term (1–3 years)</p> <p>Medium term (2–3 years)</p> <p>Continuous</p>