

Environment and Forests

22.1 The Eleventh Plan envisaged a clear commitment to pursue a development agenda, which is environmentally sustainable, based on a strategy that not only preserves and maintains natural resources but also provides equitable access to those who are denied this currently. It recognized the need to have environment protection at the core/centre stage of all policy formulation. In the absence of such an outlook, development as pursued, may actually lead to deterioration in the quality of life. This would be discernible in the generally worsening quality of air in cities, increasingly polluted waters of our lakes and rivers, in the loss of biodiversity, and shrinking of wildlife habitats. Translating the vision of environmental sustainability will require that environment concerns are given a high priority in development planning at all levels.

MONITORABLE TARGETS

22.2 The Eleventh Plan emphasized the following monitorable socio-economic targets in the environment and forests sector:

- To increase forest and tree cover by 5 percentage points
- To attain WHO standards of air quality in all major cities by 2011–12
- To treat all urban waste water by 2011–12 in order to clean river waters
- To increase energy efficiency by 20 per cent by 2016–17

22.3 The Tenth Plan had envisaged a quantitative target of Forest and Tree Cover (FTC) increase to 25 per cent by 2007 and 33 per cent by 2012. As per the State of Forest Report (SFR) 2009, India's FTC was 23.84 per cent of its geographic area in 2007. An increase of 3.13 MHa in FTC took place between 1997 and 2007, i.e., an increase of less than 1 per cent of the geographic area in the last 10 years.

22.4 Given this historical track record, and the ever increasing pressures on land due to the needs of economic development, getting large amounts of additional land under forest and tree cover over the next few years seems difficult and unrealistic. There is a need to change our mindset away from a 'quantity' focus towards a 'quality' focus. We should not merely focus on increasing the area under forest and tree cover, as we have traditionally done, but instead focus on increasing the quality of our forest and tree cover. This would mean greater emphasis on increasing the density of our existing forests, regenerating our degraded forest land, and eco-restoration of our scrub and grass land, mangroves, wetlands, and other ecological assets. This reorientation of focus has a dual advantage—first, it is more practical and realistic to achieve, and second and more importantly, it allows us to achieve the same (or perhaps even better) outcomes from an ecological perspective. From the perspective of carbon sequestration as well as from the perspective of generating greater biodiversity value for the country, this approach is likely to be more effective. This is likely

to be the approach under the National Mission for a Green India, a key mission under the National Action Plan on Climate Change (NAPCC) which is going to be operational this year. The Ministry of Environment and Forests (MoEF) has already declared its target of doubling the area to be taken up for eco-restoration and afforestation to 20 MHa over the next 10 years using this new approach through participatory and decentralized implementation. This must be supported for the remaining period of the Eleventh Plan, and based on a comprehensive assessment of the progress made, duly incorporated into the approach to the Twelfth Plan.

TO ATTAIN WHO STANDARDS OF AIR QUALITY IN ALL MAJOR CITIES BY 2011–12

22.5 The National Ambient Air Quality Standards (NAAQS) takes into account six parameters while assessing the quality of air. These are the presence: of sulphur dioxide (SO₂), nitrogen oxide (NOX), Suspended Particulate Matter (SPM), RSPM, lead, and carbon monoxide (CO). However, WHO has two sets of guidelines; one applicable for Europe which specifies over 32 parameters, and the other (Global Update 2005), which has six parameters that include Ozone and Volatile Organic Compounds (VOCs) in addition to SO₂, NOX, RSPM, and CO.

22.6 Monitoring of Persistent Organic Pollutants (POPs), VOCs, and Hazardous Air Pollutants (HAPs), may be initiated at selected locations (Class 1 cities) to develop a protocol and to assess the requirements of infrastructure. The NAAQS needs to be amended during the current financial year.

TO TREAT ALL URBAN WASTE WATER BY 2011–12 TO CLEAN RIVER WATERS

22.7 The Eleventh Plan set a target of treating all urban waste water by 2011–12 to clean river waters. Earlier the Tenth Plan had set a target of cleaning of major polluted rivers by 2007 and stretches by 2012. As per a Central Pollution Control Board (CPCB) survey, the estimated waste water generation in 2008 from Class I and II towns in the country was around 36,000 MLD, (1,67,400 MLD by 2025) against which treatment capacity of only 7,650 MLD exists at present.

Sewage treatment capacity of about 3,939 MLD (about 52 per cent) has been created under GAP-I and the National River Conservation Plan (NRCP). The available treatment capacity is highly inadequate. The National Ganga River Basin Authority (NGRBA) has now been set up and a fast track project approval mechanism is being put in place. In the first meeting of NGRBA, the Planning Commission was asked to consider a possible change in the funding pattern from existing 70:30 to 90:10.

22.8 Considering the resources allocated, ongoing work in the states and the normal implementation period for sewerage works, creation of sewage treatment capacity of 1,000 MLD should be targeted for the remaining two years of the Eleventh Plan under NRCP. A substantive sewage treatment capacity should also be created under JNNURM keeping in view sewage generation. There should be a substantial increase in fund allocation from 2010–11 to meet the requirement of creating sewage treatment facilities and for results to start accruing in the Twelfth Plan period.

TO INCREASE ENERGY EFFICIENCY BY 20 PER CENT BY 2016–17

22.9 In March 2007, the Government of India notified units in nine industrial sectors, aluminium, cement, chlor-alkali, pulp and paper, fertilizers, power generation plant, steel, and railways, as Designated Consumers (DCs). These industries have to appoint an energy manager, file energy consumption returns every year, and conduct mandatory energy audits. As a result, energy consumption in five sectors reduced by 7.5 per cent from their 2005 levels.

22.10 The Integrated Energy Policy, 2008, suggests that: (i) energy efficiency be attained in all sectors, (ii) all new power generating plants be mandated to adopt technologies that improve their gross efficiency from 36 per cent to at least 38–40 per cent, (iii) the gross efficiency in existing power generation plants be increased from the current average of 30.5 per cent to 34 per cent, and (iv) India's energy intensity per unit of GDP be reduced by up to 20 per cent from current levels in 10–20 years by policies encouraging energy efficiency and conservation.

22.11 Steps should be taken by MoEF in coordination with the Ministry of Power (MoP) to achieve the goals for enhanced energy efficiency through the measures and mechanisms envisaged/approved in the National Mission on Enhanced Energy Efficiency (NMEEE) as a part of the NAPCC.

22.12 In addition to the four monitorable targets set out in the Eleventh Plan, it is recommended that 'soil' the third component of environment and soil contamination and remediation of critically polluted areas be given attention.

PROGRAMMES, PROGRESS, PERFORMANCE, AND CONSTRAINTS

A. POLICIES AND NEW INITIATIVES

22.13 A number of policy and legislative initiatives were taken by MoEF, during the first two years of the Plan (see Box 22.1). In addition to these, the draft Coastal Management Zone (CMZ) notification was issued in May 2008 proposing an integrated coastal management approach and calling for objections/

suggestions. An integrated framework drafted for utilization of Compensatory Afforestation Fund Management and Planning Authority (CAMPA) and amalgamation of the Green India scheme with Gram Van Yojana are under consideration.

22.14 However, many areas, such as institutional mechanism, classification, labelling and packaging of hazardous chemicals, recycling and reuse, remediation, including bio-remediation and ecological restoration still require legislative support.

B. FINANCIAL STATUS AND PHYSICAL PROGRESS OF PROGRAMMES

22.15 There are 61 approved schemes grouped under 22 programme heads under implementation by MoEF. Schemes under 10 heads are CSSs, accounting for around 70 per cent of the approved outlays. Out of the 61 schemes currently being implemented by MoEF, 32 (under nine heads) are in the area of environment, 21 schemes (under nine heads) are in the forestry sector, and the remaining eight schemes (under four heads) are in the areas of wildlife and animal welfare.

Box 22.1

Policy Developments and New Initiatives during 2007–10

- i. Prime Minister's Council on Climate Change to coordinate the national action plan for assessment, adaptation, and mitigation of climate change constituted.
- ii. India's National Action Plan on Climate Change, unveiled on 30 June 2008.
- iii. National Biodiversity Action Plan released in November 2008.
- iv. Draft amendments to the EIA notification issued on 19 January 2009.
- v. Notification on Hazardous Waste (Management, Handling, and Trans-boundary Movement) Rules 2008 issued in September 2008. An amendment to this notification issued in July 2009.
- vi. River Conservation Strategy revamped, The National Ganga River Basin Authority (NGRBA) set up.
- vii. A National Green Tribunal (NGT) Bill drafted and introduced in the Lok Sabha on 31.07.2009.
- viii. An exercise to conceptualize and constitute a National Environment Protection Authority (NEPA) in the country undertaken.
- ix. The National State of Environment Report released in 2009.
- x. 1429 Water Quality monitoring stations and 355 ambient air quality monitoring systems established.
- xi. The scope of Integrated Development of Wildlife Habitats (IDWH) scheme and Project Tiger strengthened and enhanced.
- xii. Scientific methodology for estimating Tiger population evolved and mainstreamed. Tigers reintroduced in Sariska and Panna Tiger Reserves. Special Tiger Protection Force (STPF) created.
- xiii. Multidisciplinary Wildlife Crime Control Bureau to effectively control illegal trade in wildlife constituted.
- xiv. Dolphin is declared as national aquatic animal.
- xv. Notification/orders issued for implementation of the various provisions of the Biological Diversity Act, 2002.

FINANCIAL STATUS

22.16 MoEF has an approved outlay of Rs 10,000 crore for the Eleventh Plan. Annual Plans for 2007–08 and 2008–09 had an approved outlay (both BE and RE) of Rs 1,351 crore and Rs 1,500 crore, against which the actual expenditure incurred was Rs 1,349 crore and Rs 1,483 crore respectively. During 2009–10, the ministry has been allocated Rs 1,880 crore, which is expected to be fully utilized. Expenditure (till September 2009) indicates utilization of Rs 870 crore, that is, 46.30 per cent of BE. Sector-wise details of outlays/expenditure in the first three years of the Eleventh Plan are given in Table 22.1 and the distribution among the sectors, including percentage allocation to each sector is shown in Figures 22.1 and 22.2.

22.17 The Eleventh Plan outlay for the ten CSSs (three in the environment and seven in the forestry and wildlife sectors) account for Rs 7,734 crore. The outlay for 2007–09 for the ten CSSs was Rs 1,992 crore and the expenditure was Rs 2,025 crore, which accounts for 71.49 per cent of the total expenditure during this period.

22.18 Major schemes exhibiting shortfalls in utilization of resources during the Eleventh Plan include the scheme for strengthening of forestry and wildlife division, the biodiversity conservation and rural livelihood improvement project, National Afforestation and Eco-Development Board (NAEB), NRCP, environmental information, education and awareness, international cooperation, environmental monitoring

and governance, and pollution abatement. General administrative and procedural delays are attributed to shortfalls in these schemes. The details of expenditure indicated in Table 22.1 actually relate to releases and not to actual utilization. As can be seen from Figure 22.2 there has been a drastic reduction in the funds allocated by MoEF for the environment sector from 20.18 per cent (Tenth Plan) to 12.46 per cent in the Eleventh Plan.

22.19 With respect to the implementation of the training scheme the delay has been on account of return of unspent balance by Directorate of Advertising and Visual Publicity (DAVP) at the fag end of the year with no time left to cover other proposals and shortfalls. The shortfall in utilization of funds in the case of the National Coastal Management Programme (NCMP) was due to delay in the finalization of the MoU between the Survey of India and MoEF.

UTILIZATION OF OUTLAYS

22.20 The outlay for 2009–10 is Rs 1,880 crore. This does not include the one time grants of Rs 100 crore announced for the Indian Council for Forestry Research and Education (ICFRE), Rs 15 crore each for the Botanical Survey of India (BSI) and the Zoological Survey of India (ZSI), and Rs 500 crore for the restoration and regeneration of degraded forest cover. Assuming full utilization of the outlay in 2009–10, the actual utilization of resources and utilization ratio during the first three years of the Eleventh Plan is likely to be Rs 4,713 crore and 99.6 per cent, respectively. Total allocations in these three

TABLE 22.1
Sector-wise Outlays/Expenditure, 2007–09 and 2009–10

S. No.	Sector	11th Plan Outlay	2007–09 Outlay		2007–09 Exp.		2009–10 Outlay
			2007–08	2008–09	2007–08	2008–09	
1	Environment	1,246.01	259.16	261.38	224.22	240.91	291.42
2	NRCD*	2,540.00	340.00	340.00	320.94	326.23	577.33
3	Forestry & wildlife	2,943.99	371.61	475.00	361.73	520.66	599.63
4	NAEB**	3,150.00	359.23	398.62	422.05	370.95	386.62
5	Animal welfare	120.00	21.00	25.00	20.79	24.89	25.00
	Total	10,000.00	1,351.00	1,500.00	1,349.73	1,483.64	1,880.00

Note: *NRCD includes the Directorate, NRCP, and NLCP administered by the River Conservation Directorate.

**NAEB sector includes schemes of NAEB, ETF, NAP, and Panchayat Van Yojana.

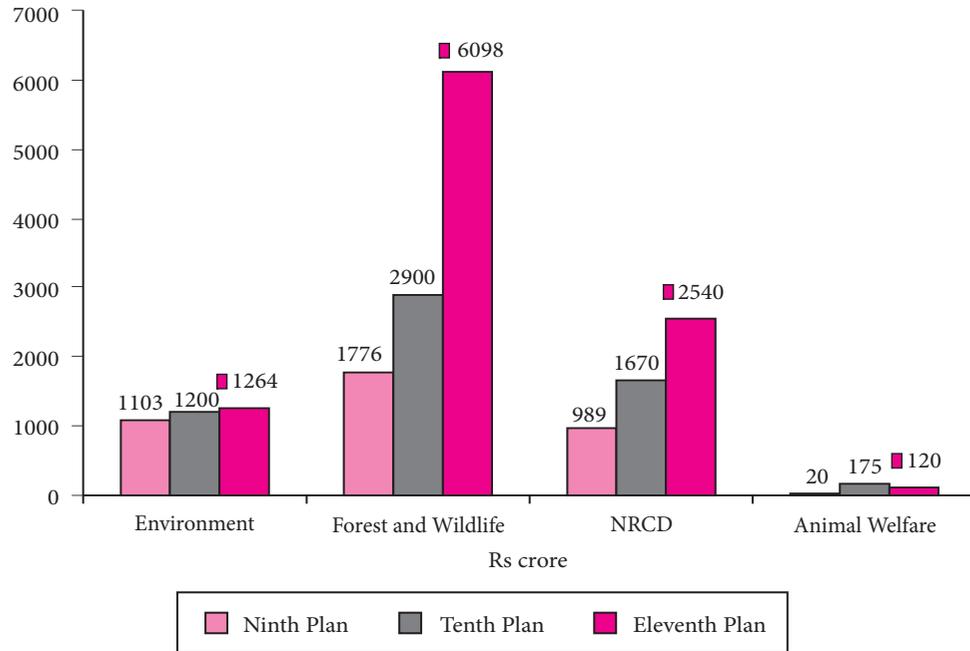


FIGURE 22.1: Sector-wise Outlays

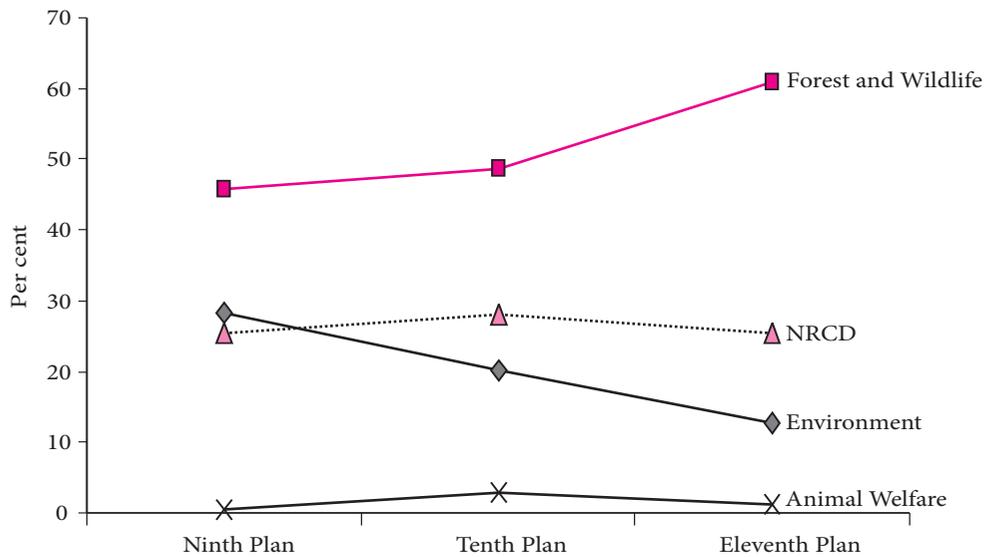


FIGURE 22.2: Sector-wise Allocation (per cent) in the MoEF

years account for around 47 per cent of approved outlay of the ministry, leaving the remaining 53 per cent (Rs 5,291 crore) of allocation for the last two years of the Plan. The allocation of funds for the 22 programmes under which 61 individual schemes have been grouped is given in Table 22.2.

FINANCIAL RESOURCES AVAILABLE

22.21 The outlay for 2009–10 of Rs 1,880 crore includes Rs 250 crore for the NGRBA for its activities. The Planning Commission will also consider providing the NGRBA Rs 500 crore every year for the next two years of the Eleventh Plan. For the Accelerated Programme

TABLE 22.2
Scheme-wise Availability of Outlays—Eleventh Plan

(Rs crore)				
Programmes	11th Plan Outlay	2007–09 Exp.	2009–10 Outlay	2010–12 Bal.
1 Env. Monitoring and Governance	216.00	84.64	40.80	90.56
2 Pollution Abatement	235.00	41.15	32.07	161.78
3 R&D for Conservation & Dev	250.00	104.83	59.21	85.96
4 Cons. of Nat. Resources & Eco-systems	600.00	165.43	75.00	359.57
5 Env. Information, Education & Awareness	295.00	146.18	94.82	54.00
6 Taj Protection	0.01	0.00	0.01	0.01
7 International Cooperation Activities	80.00	29.09	19.01	31.90
8 National Coastal Management Prog.	10.00	1.63	15.50	-7.51
9 National River Conservation Plan (NRCP)	2,100.00	538.97	532.33	1,028.70
10 Grants in aid to Forestry & Wildlife Institutions	450.00	202.00	117.28	130.72
11 Capacity Building in Forestry Sector	110.00	21.31	19.51	69.18
12 Gregarious Flowering of Muli Bamboo	37.00	35.71	0.00	1.29
13 Intensification of Forest Management	600.00	143.35	76.00	380.65
14 Strengthening Forestry Division	100.00	32.59	19.63	47.78
15 Strengthening Wildlife Division	150.00	43.75	22.58	83.67
16 Integ. Dev. of Wildlife Habitats (IDWH)	800.00	143.14	80.00	576.86
17 Project Tiger	615.00	222.75	243.13	149.12
18 Project Elephant	81.99	37.79	21.50	22.70
19 National Afforestation & Eco-Dev. Board	250.00	54.46	31.00	164.54
20 National Afforestation Programme (NAP)	2,000.00	738.54	345.62	915.84
21 Panchayat/Gram Van Yojana	900.00	0.00	10.00	890.00
22 Animal welfare	120.00	45.68	25.00	49.32
Total	10,000.00	2,833.37	1,880.00	5,286.64

of Restoration and Regeneration of Degraded Forests, additional central assistance of Rs 500 crore has been provided during 2009–10 with an assurance that Rs 1,000 crore per annum will also be considered for the last two years of the Eleventh Plan to provide further momentum to this programme. All efforts to utilize these additional allocations need to be made in the current year.

22.22 The total central sector outlay for the Eleventh Plan is Rs 10,96,860 crore (constant price) of which Rs 8,841 crore/Rs 10,000 crore (constant and current price respectively) is allocated for the environment, forest and wildlife sectors. The current allocation for the environment and forest sector is 0.70 per cent (0.91 per cent) of the total central sector outlay and in the states it varies between 0.021 per cent and 1.78 per cent of the state outlay for environment and 1.25 per cent for forestry and wildlife. An allocation of at least 5 per cent of the annual, state, and central sector outlay for the environment and forestry sectors

separately needs to be ensured, preferably by the Twelfth Five Year Plan.

EXTERNALLY AIDED PROJECTS (EAPs)

22.23 About 5.6 per cent of the approved MoEF Eleventh Plan outlay of Rs 10,000 crore, that is, Rs 562 crore is for Externally Aided Projects (EAPs). The performance of EAPs in 2008–09 and 2009–10 has shown improvements over 2007–08 as shown in Table 22.3. The shortfall in utilization of external aid in 2007–08 was mainly due to lack of progress made by states (especially Delhi) in preparation of necessary DPRs under Yamuna Action Plan (YAP) Phase II. The progress under the World Bank project on biodiversity conservation and rural livelihood improvement project has been impacted by change in scope of the scheme by the donor agency. The NCMP and capacity building for the industrial pollution management project are expected to pick up in 2009–10. A project on capacity building for forest management and training of personnel, with an EAP component of

TABLE 22.3
Externally Aided Schemes, 2007–08 to 2009–10

Scheme	XI Plan Outlay	2007–08		2008–09		2009–10
		Outlay	Exp.	Outlay	Exp.	Outlay
1 NRCP	475.00	92.00	37.14	105.00	105.00	105.00
2 GoI-UNDP CCF Proj.	25.00	5.00	5.00	5.00	5.44	7.47
3 BCRLIP	15.00	3.00	0.95	3.00	0.53	3.0
4 HSMD	33.50	1.50	0.58	1.50	1.65	10.00
5 Nat. Coastal Mg. Prog	10.00	—	0.38	1.17	1.74	15.25
6 Bio Diversity Cons.	1.00	1.00	0.47	0.50	—	0.50
7 EPCO	2.50	2.00	2.00	0.50	0.37	0.01
8 IIFM	—	0.22	—	—	—	—
Total	562.00	104.72	46.52	116.67	114.73	141.23

Note: NRCP—National River Conservation Plan; BCRLIP—Bio-diversity Conservation & Rural Livelihood Improvement Project; HSMD—Hazardous Substance Management Division—relates to capacity building for industrial pollution management project.

Rs 225 crore has been approved for implementation in the second half of the Eleventh Plan.

PHYSICAL PROGRESS

ENVIRONMENT AND ECOLOGY

Environmental Monitoring and Governance

22.24 Three schemes have been grouped under this head namely: CPCB (1974); Establishment of Environment Protection Authorities and Commission and Tribunal; and Activities under Environmental Impact Assessment (EIA). The major objectives of the schemes are: (i) to monitor compliance and implementation and to strengthen the institutional and technical capabilities for environmental governance, and (ii) to mainstream environment in developmental activities by grant of impact assessment clearances.

22.25 The CPCB coordinates the implementation of the Water (Prevention and Control of Pollution) Act, 1974, Air (Prevention and Control of Pollution) Act, 1981, and Environment (Protection) Act, 1986. CPCB has an outlay of Rs 177 crore for the Eleventh Plan and Rs 34 crore for 2009–10. Under the Eleventh Plan 2,500 national water quality monitoring stations, 700 ambient air quality monitoring stations, and 60 continuous air quality monitoring stations are to be established. Of these, only 559 water quality stations, 150 ambient air quality, and nine continuous air quality monitoring stations have been established.

Recommendations

22.26 Bio-monitoring of rivers and lakes as a tool for water quality monitoring should be adopted. There is also a need for enhanced outlays for CPCB of Rs 14 crore for the current year and Rs 34 crore for the next two years. Air and water monitoring infrastructure should be established and networked with India Meteorological Department (IMD) facilities. Further, there is a need to ensure availability of skilled manpower for laboratories.

22.27 Action plans may be prepared and implemented based on a critical analysis of the source apportionment studies under conclusion in six cities.

22.28 Regional Environmental Impact Assessments (REIAs)/carrying capacity studies may be undertaken in areas where major developmental activities are causing pollution. The monitoring system for environmental clearances also needs to be strengthened.

22.29 A proposal to set up a national environment protection authority is being discussed and developed, with the aim of strengthening environmental governance and monitoring in India. In addition, a proposal for strengthening the organizational capacity of CPCB and State Pollution Control Board (SPCBs) is being developed. These two proposals, along with the operationalization of the National Green Tribunal, which was approved by Parliament recently, can help strengthen the environmental

governance architecture in the next few years, and must be pursued in a proper manner.

Pollution Abatement

22.30 Five schemes have been grouped under pollution abatement—Industrial Pollution Abatement through preventive strategies; Assistance for Abatement of Pollution Environment P&L; Clean Technology (1994); Common Effluent Treatment Plants (CETPs); and Hazardous Substances Management (HSM) (1988). The objectives of these schemes are: (i) prevention of pollution through preventive activities, such as waste minimization/cleaner technology in Small Scale Industries, (ii) support to SPCBs, (iii) financial assistance to CETPs, and (iv) demonstration investment in hazardous waste management. Most of the SPCBs depend on reimbursement of cess collected.

Recommendations

22.31 The Industrial Pollution Abatement through preventive strategies scheme and the Clean Technology scheme could be merged. Eighty per cent of the water cess collected by SPCBs could be retained by them and 20 per cent remitted to MoEF. Currently, 100 per cent of the cess on water collected is remitted to the Government of India account and 80 per cent is reimbursed to the states on submission of project proposals. The Water (Prevention and Control of Pollution) Cess Act needs amendment in this regard.

22.32 Studies and findings on water quality, including water quality modelling in the case of both surface and groundwater should be shared among the concerned organizations of the Ministry of Water Resources (MoWR) and MoEF, such as CPCB, Central Water Commission (CWC), Central Groundwater Board and National Institute of Hydrology. Laboratory, workshop, database, library, entrepreneurial guidance, waste exchange bank facilities for recovery of energy, and recycling of waste water should form an integral component of CETPs. The HSM scheme may be redrafted after consultations with experts. The scheme lacks emphasis and focus mainly due to multiplicity of components hazardous chemicals, hazardous waste management and chemical crisis management.

Each component of the HSM scheme deserves to be a separate scheme. Adequate laboratory facilities also need to be established along with Treatment Storage and Disposal Facility (TSDF).

RESEARCH AND DEVELOPMENT (R&D) FOR CONSERVATION AND DEVELOPMENT

22.33 Eight schemes have been grouped under this scheme. These are BSI [1890 and reorganized in 1954]; ZSI [established in 1916]; GBPHIED [1988]; Assistance to Botanical Gardens [1992]; Taxonomy Capacity Building (AICOPTAX) [1997]; Biodiversity Conservation; National Natural Resource Management Scheme (NNRMS); and Research and Development [1985]. The objectives of the schemes are: (i) to survey, maintain inventories, and ex-situ conservation of biological diversity, (ii) bio-prospecting of plant and animal wealth, and (iii) disseminating research findings.

RECOMMENDATIONS

22.34 A time lapse study of biodiversity and assessment and documentation of genetic variability at population and species levels needs to be taken up on priority. ZSI and BSI should create a database of clients/research scholars/research institutions serviced. Thrust areas may be identified and fellowships may be offered for human resource generation. Resource allocation for the activities also needs to be enhanced. Projects supported under R&D should be based on current needs.

CONSERVATION OF NATURAL RESOURCES AND ECO-SYSTEMS

22.35 Two schemes that have been grouped under this head are the Conservation of Corals, Mangroves, Wetlands; and Biosphere Reserves (1986). The objectives of the scheme include: (i) preparation of Management Action Plans (MAPs), (ii) intensive in-situ conservation of biodiversity through management interventions, (iii) fund research to facilitate multi-faceted research in biosphere reserves and potential sites. So far, very few authorities have been constituted and no financial support is available for wetlands from the state governments. The annual mangrove plantation target of 5,000 ha has not been achieved.

RECOMMENDATIONS

22.36 There is a need for a relook at the operation of the scheme and the regulatory framework drafted for wetlands. In the highly fragile coastal areas, mangroves and selected halophytes may be raised to minimize coastal erosion.

ENVIRONMENT INFORMATION, EDUCATION, AND AWARENESS

22.37 Six schemes have been grouped under this head. These are Environment Education and Awareness (Eleventh Plan); National Museum of Natural History (NMNH) (1978); Centres of Excellence (CoEs) [1983]; Environment Information System (ENVIS); information technology; and State of Environment Project (Eleventh Plan). The major thrust of the schemes is enhancing people's understanding of the relationship between human beings and the environment and to develop capabilities/skills to improve and protect the environment. This is done through: (i) supporting institutions for the conservation of biodiversity, (ii) research and training in priority areas of environmental science and management, and (iii) providing information on environment and related subject areas to researchers, academicians, policy planners, environmentalists, scientists, engineers, and the general public through a decentralized network of ENVIS centres on diverse subject areas to strengthen awareness. There has been delay in the execution of the project on information technology.

RECOMMENDATIONS

22.38 The scheme on CoEs needs to be revised in terms of financial support, new areas requiring emphasis and performance of existing CoEs. The concept of chairs in specific areas also needs to be dovetailed with the scheme on CoEs. Similarly, a rigorous review of CoEs and ENVIS centres is necessary. All ENVIS centres may be provided access to the UGC' INFONET.

INTERNATIONAL COOPERATION ACTIVITIES

22.39 Five schemes have been grouped under this head. These are International Cooperation (IC) activities; GoI-UNDP-CCF (2008); Climate Change (1994); Grants-in-aid to states for EAP/other EAPs including EPCO; and Civil Construction Unit (CCU). Activities

under the scheme involve: (i) foreign and domestic travel expenses, (ii) grants-in-aid, (iii) contribution to UN and other International bodies, and (iv) undertaking capacity building activities in the country regarding climate change. The scheme deals with facilitation of India's participation in various international negotiations. Under the Clean Development Mechanism (CDM) of the Kyoto Protocol, projects are considered for grant of host country approval by the National CDM Authority. The expenditure under the scheme has mostly been on travel since India has been participating in international negotiations. The CCU component has now been transferred to non-plan.

RECOMMENDATIONS

22.40 Public Sector Units (PSUs) should be motivated to contribute to CDM projects.

NATIONAL COASTAL MANAGEMENT PROGRAMME (NCMP)

22.41 A new central scheme in the Eleventh Plan, NCMP aims at supporting the coastal regulation activities of the ministry through the application of science and technology in order to protect the coastal environment and the livelihood of coastal communities. To achieve these aims the following activities are being initiated: (i) mapping and identification of ecologically important coastal areas, (ii) delineation of the hazard line, (iii) capacity development in the management of coastal areas, and (iv) pilot investment in coastal states for sustainable development. These activities are financially supported by the World Bank.

NATIONAL RIVER CONSERVATION PLAN (NRCP)

22.42 Three schemes have been grouped under NRCP. These are NRCD (1985 and renamed in 1995); NRCP (1995); and National Lake Conservation Plan (NLCP) [2001]. The objectives of the scheme are: (i) sanctioning and monitoring of works under NRCP and NLCP for improving the water quality of rivers and lakes respectively, and (ii) reducing pollution load in major rivers through pollution abatement works. The need for revamping the Ganga river cleaning programme has been widely recognized. Hitherto the implementation has been piecemeal

and has focused more on municipal sewage. The problem is further compounded by inadequate flows. A comprehensive response covering water quality and flow, sustainable access, prevention, and control of pollution is necessary. The NGRBA has been set up and a notification issued for NGRBA. The powers for prosecution, entry, and inspection are to be delegated to both NGRBA and state authorities. So far, 150 major polluted stretches on 37 rivers have been identified but NRCP covers only 40 of the polluted stretches.

RECOMMENDATIONS

22.43 The NRCP scheme needs to be revised. Financial and administrative capacities of local bodies should be enhanced to operate and maintain the facilities already built. The NLCP scheme may be merged with wetlands scheme. Since evaluation of NRCP/NLCP by independent consultants has been initiated, quantifiable deliverables must be identified and monitored for NRCP and NLCP.

FORESTS, WILDLIFE, AND ANIMAL WELFARE

GRANTS-IN-AID TO FORESTS AND WILDLIFE INSTITUTIONS-CS

22.44 Four schemes have been grouped under this head. These are the ICFRE [1989]; the Indian Plywood Industries Research and Training Institute (IPIRTI); the Indian Institute of Forest Management (IIFM); and the Wildlife Institute of India (WII). The objectives of the institutions are: (i) to promote research, education, and extension in forestry and wildlife sectors, (ii) undertake R&D of technologies for plywood and other panel products, including plantation of timber, bamboo, and fibres, (iii) training to include training of managers of protected areas and undertaking research to build capacity for effective management of natural resources in the country, including training of managers of protected areas, (iv) advise the government on conservation and management of forestry and wildlife resources, and (v) support research in the field/area of forestry and wildlife.

Recommendations

22.45 A plan for the utilization of an additional grant of Rs 100 crore for ICFRE announced in 2009–10 needs to be finalized and implemented.

22.46 The SFR, at least a preliminary version, needs to be published within a year of collection of data. To start with, the maps could be on a scale of 1:10,000.

CAPACITY BUILDING IN FORESTRY SECTOR

22.47 Six schemes have been grouped under this head. These are Training to Indian Forest Service (IFS) Officers; Directorate of Forest Education (DFE); Indira Gandhi National Forest Academy (IGNFA) (1987); Training of Personnel of Other Services; Foreign Training of Forestry Personnel; and Training of Other Stakeholders. The primary objective is to conduct short-term courses of one/two week(s) duration for the IFS officers in the country and for updating their knowledge skills with a training component abroad. The scheme has been revised to add an EAP component.

Recommendations

22.48 The existing training infrastructure for training could be augmented and forest and environmental officers trained. Training curriculum of forest officials should incorporate conservation and sustainable utilization of forest resources.

GREGARIOUS FLOWERING OF MULI (MELACANNA BACCIFERA)—BAMBOOS)-CSS [2002]

22.49 The first phase of this scheme was completed in 2008–09 and was added as a component in the Intensification of Forest Management Scheme (IFMS) in 2009–10.

INTENSIFICATION OF FOREST MANAGEMENT (FORMER IFPS) SCHEME-CSS (ELEVENTH PLAN)

22.50 The objectives of this scheme are: (i) Forest Fire Control Management, (ii) Strengthening of Infrastructure, (iii) Survey and Demarcation, (iv) Preparation of Working Plans which includes fire lines creation and maintenance, construction of forest boundary pillars and approach roads, etc. The scope of the scheme has recently been expanded by adding four new components: (i) Protection and Conservation of Sacred Groves, (ii) Conservation and Restoration of Unique Vegetation and Eco-systems, (iii) Control and Eradication of Forest Invasive Species, and (iv) Preparedness for Meeting Challenges of Bamboo Flowering and Improving Management of Bamboo

Forests. The expenditure during 2008–09 was Rs 75.57 crore against an outlay of Rs 130 crore. The scheme has no component of afforestation and the performance is lacking, even though the scheme supports infrastructure development for forest management.

Recommendations

22.51 MoEF should compile state-wise resources available through EAP for the Integrated Forest Management Scheme (IFMS).

STRENGTHENING FORESTRY DIVISIONS

22.52 Five schemes have been grouped under this head. These are the Forest Survey of India (1981); Strengthening of Regional Offices; National Forestry Information System; National Coordinated Programme for Assessment of Non-Timber Forest Product Resources (2009); and Certification Programme for Wood and Non-Wood Forest Resources. The thrust is to assess: (i) forest cover, (ii) undertake forest inventory, (iii) conduct research on applied forest survey techniques, (iv) capacity building of forestry personnel, (v) establishing zonal offices, and (vi) monitoring forest plantations.

Recommendations

22.53 Work on the SFR 2011 should be undertaken in a manner that allows for a timely release. The National Coordinated Programme for Assessment of Non-Timber Forest Product Resources and Certification Programme for Wood and Non-Wood Forest Resources need to become operational.

STRENGTHENING OF THE WILDLIFE DIVISION

22.54 Two schemes have been grouped under this head. These are Control of Wildlife Crime (1986); and Central Zoo Authority (including National Zoo Policy [NZP]). The objectives are to: (i) strengthen the central wildlife organization and the existing regional offices for wildlife preservation and opening new regional offices for better enforcement of Wildlife (Protection) Act, 1972, and CITES; (ii) to confer Rajiv Gandhi and Amrita Devi Bishoni Awards and Dr Salim Ali and Dr Kailash Sankhla National Fellowships; (iii) to improve the quality of zoo animals; (iv) coordinate research in captivity breeding; and (v) education programmes for the purpose of zoos (improve zoos in

the country and maintain rescue centres). The scheme on Control of Wildlife Crime has been revised and a bureau has been set up to deal with crimes related to wildlife.

Recommendations

22.55 The allocation to the Central Zoo Authority scheme and the Wildlife Crime Control Bureau needs to be enhanced.

INTEGRATED DEVELOPMENT OF WILDLIFE HABITATS (IDWH)

22.56 The IDWH scheme assists states and UTs in: (i) developing national parks and sanctuaries; (ii) facilitating and encouraging expansion of the protected areas network; (iii) creation of infrastructural protection and management of protected areas; (iv) provides financial assistance for eco-dev, training, capacity building, and research studies; and (v) relocation of villages and settlement of rights for better enforcement of Wildlife (Protection) Act, 1972. Support is also provided for the recovery programme of critically endangered species.

Recommendations

22.57 Tourism infrastructure and wildlife tourism need to be planned based on carrying capacity.

PROJECT TIGER

22.58 Two schemes have been grouped under Project Tiger. These are the National Tiger Conservation Authority (1973) and the Biodiversity Conservation and Rural Livelihood Improvement Project. The thrust of the schemes are: (i) to ensure maintenance of a viable population of tigers in India for scientific, economic, aesthetic, cultural, and ecological values and to preserve for all times, areas of biological importance as a national heritage for the benefit, education, and enjoyment of the people; (ii) financial support to tiger states for wild tiger conservation in designated tiger reserves; (iii) funding support to states for relocation of villages/settlements in the core/critical tiger habitats of tiger reserves, based on reserve-specific proposals; (iv) biodiversity conservation and rural livelihood improvement through testing; and (v) establishing decentralized participatory approaches across a range of globally and nationally important landscapes under

different management regimes. The expenditure so far has been Rs 1.57 crore.

Recommendations

22.59 The Special Tiger Protection Force (STPF) already established in critical tiger reserves should be augmented. Further, the identified core areas of tiger reserves should be made inviolate by village relocation besides providing restorative buffer zones and corridors. The Tiger Project needs to be critically evaluated as currently the major component of the scheme is relocation of villagers/settlements.

PROJECT ELEPHANT

22.60 Started in 1991, the objective of this CSS is assisting the states with free-ranging populations of wild elephants to ensure the long-term survival of identified viable populations of elephants in their natural habitats. This is done through funding 26 notified and six proposed elephant reserves in 16 states. This caters to only wild elephants. The outlay for the scheme in the first three years of the Eleventh Plan was Rs 58.50 crore.

Recommendations

22.61 Elephant corridors should be established wherever feasible.

NATIONAL AFFORESTATION AND ECO-DEVELOPMENT BOARD (NAEB)

22.62 The two schemes grouped under this head are: NAEB and Eco-Task Force (ETF). The board supports the implementation of schemes relating to: (i) afforestation and eco-development, including monitoring and evaluation; (ii) communication and awareness generation; (iii) supports projects approved under the grants-in-aid scheme for greening India; (iv) increases forest/tree cover in inaccessible areas like deserts and mountain slopes through regular/retired territorial army personnel; and (v) continuation of six of the existing ETF battalions in of Jammu and Kashmir, Uttarakhand, Rajasthan, and Assam.

Recommendations

22.63 The national mission for a green India needs to be finalized and launched. The ETF scheme could be reviewed by MoEF.

NATIONAL AFFORESTATION PROGRAMME (NAP)

22.64 The objectives of the programme are to: (i) increase forest and tree cover; and (ii) support Forest Development Agencies (FDAs) for natural and artificial regeneration and perennial herbs and shrubs in existing FDAs. Target for the Eleventh Plan is to cover 1,00,000 (ha) and operationalize 3,000 new Joint Forest Management Councils (JFMCs) in existing FDAs. The expenditure so far has been Rs 127 crore only. The scheme is being revised to constitute and fund State Forest Development Agencies (SFDAs). A one-time fixed grant of Rs 2 lakh to JFMCs or Rs 20 lakh to FDA is to be given. As on 31 March 2009, 795 FDAs had been operationalized at a total project cost of Rs 2675.26 crore to treat a total area of 1.58 MHa. Rehabilitation of shifting cultivation (jhum) was given specific focus under the programme and 34 jhum projects were sanctioned, 33 in the North-Eastern states and one in Orissa.

Recommendations

22.65 Grasslands and other ecologically important eco-systems need to be conserved. Causes for the degradation of forests need to be ascertained before afforesting a particular area. Overlap of support by other schemes like IDWH may be avoided.

AFFORESTATION THROUGH PRIS (PANCHAYAT/GRAM VAN YOJANA)

22.66 The thrust of the scheme is: (i) afforestation on various categories of vacant public land involving PRIs; and (ii) approval of new project areas for natural regeneration, artificial regeneration, and planting of perennial herbs and shrubs. The scheme has been launched during 2009–2010. Valuable time has been lost in firming up the project.

Recommendations

22.67 The state forest departments should identify land for afforestation, including wasteland that would be available for increasing tree and forest cover.

ANIMAL WELFARE

22.68 The objective of this scheme includes: (i) promotion of welfare of animals through funding of shelter homes, ambulance vans, and animal birth control and (ii) training programmes.

Recommendations

22.69 Looking at the increase in stray dogs and monkeys in urban areas, the strategy of birth control needs a relook.

INSTITUTIONAL MECHANISM

22.70 The current institutional mechanism requires restructuring and augmentation in terms of both infrastructure and human resources. In order to strengthen the institutional mechanism critical for implementing policies, legislations, and for the conservation of resources in the areas of environment, forests, and wildlife. MoEF has created a National Environment Protection Authority. In this regard the following is suggested.

Recommendations

22.71 Amend the Constitution to include environment in the Concurrent List.

22.72 There is an urgent need to augment scientific/technical manpower and make available resources for statutory monitoring institutions like CPCB at the Centre and the SPCBs in the states.

22.73 Survey and R&D institutions like BSI and ZSI need to be adequately strengthened in terms of manpower and resources allocation.

INTERNATIONAL AGREEMENTS AND CONVENTIONS

22.74 India has signed and ratified a number of key multilateral agreements on environment issues in recognition of the trans-boundary nature of several environmental problems, impact on chemical industry, and trade and is committed to complying with the obligations under the conventions. Efforts to network and enable environmental cooperation by leading in regional programmes and negotiations are only possible with enhancement of our capacity to comply with our commitments and adequate flow of resources. Most of the Multilateral Environmental Agreements (MEAs) and multilateral agreements require that a national regime be put in place to ensure compliance of the obligations under the conventions. The requirement of annual reporting on the progress of implementation at the national level and

payment of contributions have also been laid down. A number of measures are required to be put in place to enable compliance of our commitments. Action required for a few international agreements are given in Box 22.2.

Recommendations

22.75 States should prepare state-level action plans consistent with strategy enunciated in the National Action Plan for Climate Change by 2010.

PERFORMANCE AND CONSTRAINTS OF STATES

State Plan Schemes

22.76 In the absence of a separate department for environment, the states often spend their meagre outlays on environment mainly on awareness creation. Tables 22.4 and 22.5 provide a comparative picture of state outlays and expenditure for environment and ecology forestry respectively in the Eleventh Plan.

22.77 While Rs 2,700 crore and Rs 5,034 crore are the respective outlays for the environment and forestry sector under MoEF's CSS the corresponding total outlays of all the states and UTs for these sectors are Rs 1,022 crore and Rs 15,583.02 crore respectively.

INSTITUTIONS

Department of Environment

22.78 As can be seen from Table 22.6 only nine states and one UT have independent departments of environment. There is very little emphasis given by the states to environment protection. A separate department of environment would enable the states to implement and protect their environment and create awareness.

Department of Forests

22.79 Most of the states and UTs have a separate department for forest conservation headed by PCCF. The budgetary provision for forestry by the states, is on an average 1.28 per cent and the revenue is 4 per cent of the annual budget. In order to protect and conserve the forestry resource and achieve the target set under the Eleventh Plan, a minimum of the revenue generated should be ploughed into the sector.

Box 22.2**Actions Required for Compliance of Some International Agreements**

1. **The Basel Convention**
 - a. An action plan for efficient, cost effective recycling and disposal strategy for electrical and electronic waste be drawn up.
 - b. Recommendations in the Expert Committee Report on ship-breaking be implemented.
 - c. Basel ban and Basel protocol be studied for ratification.
 - d. Amendments to exclude recyclables from the Hazardous Waste (Management and Handling) Rules, 1989, amended 2000, 2003.
2. **The Rotterdam Convention (Prior Informed Consent—PIC)**
 - a. Legislation or amendments to existing legislations to implement the provisions/obligation of the convention be notified.
 - b. A study to document status of 41 chemicals now covered be conducted.
 - c. A national action plan for implementation be drawn up.
3. **The Stockholm Convention (Persistent Organic Pollutants—POPs)**
 - a. Preparation of a national implementation plan be completed by 2008.
 - b. Investment projects be drawn up in parallel.
 - c. Status of new POPs, POPs covered under OSPAR and LRTAP in the country be prepared.
4. **Strategic Approach to International Chimericals Management (SAICM)**
 - a. A work plan prioritizing the activities in the Global Plan of Action (GPA) for the country be drawn up.(b) An inter-ministerial coordination committee be established to ensure timely action and implementation.
5. **Biosafety**
 - a. Ensure the conservation of biodiversity and human health when dealing with Living Modified Organisms (LMOs) in trans-boundary movement in a manner consistent with the Bio Safety Protocol.
 - b. Review the regulatory processes for LMOs so that all relevant scientific knowledge and international regimes are taken into account, and ecological, health, and economic concerns are adequately addressed.

State Pollution Control Boards (SPCBs)

22.80 State Pollution Control Boards and Pollution Control Committees (PCCs) are primarily responsible for implementing the Water (Prevention and Control of Pollution) Act, 1974, and the Air (Prevention and Control of Pollution) Act, 1981. Additional responsibilities have been entrusted to SPCBs and PCCs for implementing the Environment (Protection) Act, 1986, and the 17 rules framed there under. Although SPCBs' forward budgetary proposals to state governments, only eight states, including five of the North Eastern states and one UT get budgetary support from the state governments.

22.81 Based on a review of the institutional infrastructure and human resource availability of SPCBs the following recommendations are reiterated for the consideration of state governments:

- Provide financial grants as per the water and air acts (nominal grants).

- Grant permission and sanction staff as proposed by the SPCBs. State governments may lift the ban on recruitment particularly for scientific/technical staff to be approved by SPCBs.
- Provide land/space for setting up of office and laboratory either free of cost or at nominal rates.
- Review the performance of SPCBs at least once a year under the appropriate administrative level and directing the board to take up activities on specific problems.
- Provide suitable conditions for SPCBs to work within the states. There should be interaction between the SPCBs and the other departments of the state. The board should be included and involved in decision making processes in government departments.
- Expeditiously notify provisions as per the requirements under the water and air acts.
- Incorporate views/advice of SPCBs in state policies on various subjects like environment, industrialization, urban, and transport.

TABLE 22.4
Allocation by the States for the Ecology and Environment Sector

(Rs crore)

S. No.	State/Scheme	11th Plan 2007–12 Projected Outlay	AP 2007–08 Actual Exp.	AP 2008–09		AP 2009–10 Outlay
				Outlay	Anticipated exp.	
1	Andhra Pradesh	—	—	—	—	—
2	Arunachal Pradesh	1.00	0.12	0.2	0.2	0.4
3	Assam	4.65	0.08	0.5	0.5	1.00
4	Bihar	—	—	—	—	0.28
5	Chhattisgarh	9.63	0.73	—	—	1.00
6	Goa	9.75	2.27	3.06	3.06	3.36
7	Gujarat	—	3.09	5.00	5.00	10.00
8	Haryana	6.07	1.66	1.50	1.50	1.55
9	Himachal Pradesh	0.47	0.13	—	—	—
10	J&K	5.94	—	1.06	1.06	1.66
11	Jharkhand	—	—	10.00	—	10.00
12	Karnataka	59.00	6.50	10.96	10.96	10.96
13	Kerala	22.39	0.32	10.00	10.00	10.15
14	Madhya Pradesh	30.62	14.70	14.09	11.07	11.98
15	Maharashtra	—	—	—	—	—
16	Manipur	41.76	3.56	4.85	5.35	6.50
17	Meghalaya	7.00	0.72	0.95	0.95	1.25
18	Mizoram	0.40	0.04	0.04	0.04	0.05
19	Nagaland	3.00	0.07	—	—	—
20	Orissa	303.38	6.50	11.43	11.43	10.43
21	Punjab	18.81	4.81	15.30	15.30	10.45
22	Rajasthan	4.50	0.47	0.21	0.26	0.20
23	Sikkim	15.20	0.56	0.55	0.55	1.70
24	Tamil Nadu	120.79	2.95	10.32	9.01	1.72
25	Tripura	5.99	1.26	0.84	0.84	1.09
26	Uttar Pradesh	212.84	47.72	1.91	44.55	11.47
27	Uttaranchal	—	—	—	—	—
28	West Bengal	70.00	8.60	13.00	13.00	20.00
29	A&N Islands	—	—	—	—	—
30	Chandigarh	8.40	3.02	2.40	2.40	2.42
31	D&N Haveli	0.15	—	—	—	—
32	Daman & Diu	1.80	0.02	0.5	0.5	0.28
33	Delhi	44.25	16.57	15.90	10.02	15.00
34	Lakshadweep	9.39	0.55	0.79	0.72	1.67
35	Puducherry	4.31	0.55	0.55	0.55	0.75
	Total	1,021.49	127.57	135.91	158.82	147.32

Recommendations

22.82 Integrate the administrative set up and functioning of the SPCBs and provide budgetary support and reflect the working of the SPCBs in the Annual Plan. The Planning Commission is in the process of formulating performance-linked devolution mechanism for the states/UTs as indicated in Box 22.3.

SECTORAL LINKAGES AND CONSTRAINTS

22.83 Many of MoEF's programmes have to be implemented by sectoral ministries. They are also required

Box 22.3 Environmental Performance Index (PC-EPI)

The Planning Commission is in the process of formulating an Environmental Performance Index (PC-EPI) and devolve funds to the states based on EPI ranking. The approach is to continue to focus on pollution abatement, promotion of adherence to environmental standards, natural resource conservation, and the 3 Rs (Reuse, Recycle, Recover).

TABLE 22.5
Funds Released by the States during the Eleventh Plan for the Forest and Wildlife Sector

(Rs crore)

S. No.	State/Scheme	11th Plan Projected Outlay	AP 2007–08 Actual Exp.	AP 2008–09		AP 2009–10 Outlay
				Outlay	Anticipated exp.	
1	Andhra Pradesh	*250.00	48.99	45.83	—	—
2	Arunachal Pradesh	229.19	32.46	28.55	28.55	33.25
3	Assam	93.10	13.65	34.40	34.40	55.63
4	Bihar	179.37	33.55	38.15	38.15	45.22
5	Chhattisgarh	2,827.71	154.23	313.90	237.19	291.05
6	Goa	45.83	10.49	7.56	15.15	13.43
7	Gujarat	185.00	16.50	32.00	32.00	32.00
8	Haryana	759.10	98.65	113.37	113.37	97.20
9	Himachal Pradesh	694.06	103.02	111.25	111.25	116.88
10	J&K	117.80	17.75	20.00	—	—
11	Jharkhand	612.78	94.44	105.00	103.00	11.49
12	Karnataka	691.04	136.60	198.33	198.33	192.43
13	Kerala	318.00	36.20	48.00	48.00	49.72
14	Madhya Pradesh	1,205.00	273.60	277.73	255.21	241.05
15	Maharashtra	*250.00	42.04	64.77	—	—
16	Manipur	53.28	12.18	13.20	13.20	14.50
17	Meghalaya	160.00	23.78	28.00	28.00	50.25
18	Mizoram	66.73	12.97	11.35	11.35	12.49
19	Nagaland	67.62	17.80	22.31	22.31	14.92
20	Orissa	527.55	86.71	154.81	154.81	162.00
21	Punjab	143.38	29.60	53.58	53.58	40.70
22	Rajasthan	197.00	54.12	48.00	65.57	84.30
23	Sikkim	82.00	14.70	16.00	16.00	18.24
24	Tamil Nadu	1,285.00	153.63	171.92	163.93	108.78
25	Tripura	75.45	20.97	39.45	39.45	81.21
26	Uttar Pradesh	2,268.26	227.61	300.74	290.74	305.74
27	Uttaranchal	2,081.21	130.09	161.85	122.58	125.00
28	West Bengal	220.00	28.88	53.90	53.90	106.49
29	A&N Islands	82.41	16.52	16.94	20.96	24.74
30	Chandigarh	114.49	7.30	11.45	11.45	56.01
31	D&N Haveli	110.36	—	—	—	—
32	Daman and Diu	8.68	0.59	0.6	0.6	1.75
33	Delhi	60.00	11.85	10.00	10.60	9.00
34	Lakshadweep	1.15	0	0.4	0.5	0.7
35	Puducherry	20.47	2.42	1.42	1.42	2.50
	Total	15,583.02	1,963.89	2,554.76	2,295.55	2,398.67

Note: *Estimated Outlays.

to ensure that environmental concerns are effectively addressed. The 47 ministries and two departments of the Government of India need to take into account and adequately incorporate environmental concerns, including MoEF's policies and legislations in their functioning.

22.84 The four monitorable targets of the Eleventh Plan require that the Ministry of Agriculture (MoA),

Ministry of Water Resources (MoWR), Ministry of Urban Development (MoUD), Ministry of Power (MoP), and the Ministry of Rural Development (MoRD) collaborate, supplement, and enable achieving the targets by MoEF.

22.85 Many sectoral ministries have programmes and schemes that compliment the efforts of the MoEF. Some such major programmes are: (i) Integrated Wasteland

TABLE 22.6
States/UTs with Independent Departments for Environment

S. No.	State/UT	Name of Department	Existence
1	Delhi	Environment Department	Yes
2	Haryana	Department of Environment	Yes
3	Kerala	Department of Environment	Yes
4	Maharashtra	Department of Environment	Yes
5	Manipur	Department of Ecology and Environment	Yes
6	Rajasthan	Department of Environment	Yes
7	Tamil Nadu	Department of Environment	Yes
8	Uttar Pradesh	Department of Environment	Yes
9	West Bengal	Department of Environment	Yes
10	Chandigarh	Department of Environment	Yes

Development, Hariyali (MoRD), (ii) Soil Conservation (MoA), (iii) Watershed Development Project for Shifting Cultivation Area—WDPSCA (MoA/MoRD), (iv) Restoration of Ponds (MoWR), and (v) Municipal Solid Waste Management (MoUD).

22.86 A CSS of MoWR on a 75:25 sharing basis between the Centre and states for Repair, Renovation, and Restoration (RRR) of water bodies was launched in 2005 at an estimated cost of Rs 300 crore. A World Bank project for Tamil Nadu for Rs 2,182 crore to restore 5,763 water bodies having a CCA of 4 lakh ha, for Andhra Pradesh for Rs 835 crore for restoration of 3,000 water bodies with a CCA of 2.5 lakh ha, and Karnataka for Rs 259 crore to restore 1,225 water bodies with a CCA of 0.52 lakh ha are to be launched. This scheme compliments the Wetland and the NLCP of the MoEF.

Recommendations

22.87 Ministries and departments, which are required to harmonize their policies and legislations with those of MoEF be mandated to specify progress with respect to harmonization of policies and legislations in the environment sector, including expenditure incurred in their annual reports. Other ministries should be asked to draw up plans of action for implementing the requirements of the environment and forestry sectors, including specifying the said activities in the rules of business.

22.88 Considering the outlay of Rs 300 crore for RRR by MoWR in association with MoA, it is strongly

recommended that MoEF should prioritize its activities in consultation with these ministries and merge its schemes on wetlands and lakes.

22.89 In order to increase the forest and tree cover, a credible wasteland map, including ownership details should be prepared (updated) during the remaining two years of the Eleventh Plan. This will facilitate the setting up of a realistic forest and tree cover target during the Twelfth Plan.

22.90 Scheme-wise progress of expenditure in the first three years and availability of balance for the remaining two years of the Eleventh Plan are given in Table 22.7. The table also provides the current level of annual outlays to infer the adequacy of allocated funds for the remaining two years of the Plan. It is clear from Table 22.7 that the balances remaining from approved outlays are inadequate for some of the schemes like research and development for conservation and development, environmental information, education and awareness, NCMP, grants-in-aid to forestry and wildlife institutions, capacity building in the forestry sector, and Project Tiger and Project Elephant. Suitable provision would also need to be made for initiatives like NGRBA. Given the progress of expenditure under the different components of the thematic schemes, mid-course corrections within thematic schemes among their various components may also be warranted.

22.91 MoEF has cleared its target of doubling the area to be taken up for eco-restoration and forestation

TABLE 22.7
Additional Requirement for the Eleventh Plan

(Rs crore)

S. No.	Name of the Scheme	Additional Requirement			Total
		2009–10	2010–11	2011–12	
1	Grants-in-Aid to Forestry & Wildlife Insti.	25.00	80.00	95.00	200.00
2	HSMD	—	50.00	50.00	100.00
3	Nat. Coastal Management Programme	—	50.00	50.00	100.00
4	Capacity Building in Forestry Sector	12.00	40.00	48.00	100.00
5	NMNH	—	50.00	51.00	101.00
6	IC activities	30.53	6.00	0.00	36.53
7	Botanical Survey of India	1.73	16.00	17.27	35.00
8	Research & Development	7.69	12.00	13.00	32.69
9	G.B. Pant Institute of Himalayan Environment and Development (GBPIHED)	0.90	12.00	13.68	26.58
10	Zoological Survey of India	4.44	7.00	8.56	20.00
11	CPCB	14.50	17.00	18.00	49.50
12	CETP	1.00	9.00	10.00	20.00
13	NGRBA	—	500.00	500.00	1,000.00
14	Botanical Garden of Indian Republic (BGIR)	—	15.00	15.00	30.00
15	New building for MoEF	—	40.00	35.00	75.00
16	Project Tiger	250.00	500.00	750.00	1,500.00
17	E- Governance	4.00	30.00	32.00	66.00
	Grand Total	351.79	1,434.00	1,706.51	3,492.30

in India to 20 MHa over the next 10 years using this new approach through participatory, decentralized implementation. This must be supported for the remaining period of the Eleventh Plan, and based on a comprehensive assessment of the progress made, duly incorporated into the approach to the Twelfth Plan.

22.92 Monitoring of POPs, VOCs, and HAPs, may be initiated at selected locations (Class 1 cities) to develop a protocol and to assess the requirements of infrastructure. NAAQS needs to be amended during the current financial year.

22.93 A sewage treatment capacity of 7,650 MLD exists. Considering the resources allocated, ongoing work in the states and the normal implementation period for the sewerage work, creation of sewage treatment capacity of 1000 MLD be targeted for the remaining two years of the Eleventh Plan under NRCP. A substantive sewage treatment capacity should also be targeted for creation under JNNURM keeping in view sewage generation. Given the large gap between sewage generation and the treatment capacity available, a

substantial increase in allocation is required from 2010–11 for enhanced treatment capacity results to start accruing in the Twelfth Plan period.

22.94 Steps should be taken by MoEF in coordination with the MoP to achieve the goals for enhanced energy efficiency through the measures and mechanisms envisaged/approved in the NMEEE as a part of the NAPCC.

22.95 In addition to the four monitorable targets set out in the Eleventh Plan, it is recommended that 'soil', the third component of the environment receives attention, especially soil contamination and remediation of critically polluted areas.

22.96 A number of areas in the sectors still requires legislative support—institutional mechanism, classification, labelling and packaging of hazardous chemicals, recycling and reuse, remediation including bio-remediation, and ecological restoration.

22.97 The total central sector outlay for the Eleventh Plan is Rs 10,96,860 crore (Constant Price) of which

Rs 8,841 crore/Rs 10,000 crore (constant/current price) is allocated for the environment, forests, and wildlife sectors. The current allocation for the environment and forest sectors is 0.70 per cent (0.91 per cent) of the total central sector outlay and in the states it varies between 0.021 per cent and 1.78 per cent of the state outlay for environment and 1.25 per cent for forestry and wildlife. An allocation of at least 5 per cent of the annual, state, and central sector outlay for the environment and forestry sectors separately needs to be ensured, preferably by the Twelfth Plan.

22.98 Bio-monitoring of rivers and lakes as a tool for water quality monitoring be adopted.

22.99 Enhanced outlays for CPCB of Rs 14.50 crore for the current year and Rs 34.50 crore for the next two years is recommended. The infrastructure for air and water monitoring established should be networked with the IMD facilities created. Availability of skilled manpower for laboratories needs to be ensured.

22.100 Action plans should be prepared and implemented based on a critical analysis of the source apportionment studies under conclusion in six cities.

22.101 Carrying capacity studies REIAs may be undertaken in specific areas experiencing major developmental activities causing pollution. The monitoring system for environmental clearances should be strengthened.

22.102 The proposals to set up a national environment protection authority and to strengthen the organizational capacity of CPCB and SPCBs must be pursued in a proper manner.

22.103 The schemes for Industrial Pollution Abatement through Preventive Strategies and Clean Technology could be merged.

22.104 Eighty per cent of the water cess collected by SPCBs could be retained by them and 20 per cent remitted to MoEF.

22.105 The Water (Prevention and Control of Pollution) Cess Act, needs amendment in this regard.

22.106 Studies with respect to water quality, including water quality modelling both with respect to surface and groundwater should be shared among the concerned organizations of MoWR and MOEF, such as CPCB, CWC, Central Groundwater Board, the and National Institute of Hydrology. Laboratory, workshop, database, library, entrepreneurial guidance, and waste exchange bank facilities for recovery of energy and recycling of waste water should form an integral component of CETPs. The HSM Scheme should be redrafted after consultations with experts. The scheme has multiple components like hazardous chemicals, hazardous waste management, and chemical crisis management, emphasis therefore is lacking. Each component of the HSM scheme deserves to be a separate scheme. Adequate laboratory facilities should be established along with a TSDF.

22.107 A time lapse study of biodiversity and assessment and documentation of genetic variability at the population and species levels needs to be taken up on priority. ZSI and BSI to create a database of clients/research scholars/research institutions serviced. Thrust areas to be identified and fellowships offered. Resource allocation for the activities needs to be enhanced. Projects supported under R&D should be based on current needs.

22.108 There is a need to re-look at the operation of the scheme and the regulatory framework drafted for wetlands. In the highly fragile coastal areas, mangroves, and selected halophytes to minimize coastal erosion be raised.

22.109 The scheme on CoEs needs to be revised in terms of financial support, new areas requiring emphasis, and the performance of existing CoEs. The concept of chairs in specific areas also needs to be dovetailed with the scheme on CoEs. A rigorous review of CoEs and ENVIS centres is necessary. All ENVIS centres be provided access to the UGC's INFONET.

22.110 PSUs should be motivated to contribute to CDM projects.

22.111 The NRCP scheme needs to be revised. Financial and administrative capacities of local bodies in terms

of operation and maintenance of facilities created should be enhanced. The scheme on NLCP should be merged with wetlands. It is noted that evaluation of NRCP/NLCP by independent consultants has been initiated. Quantifiable deliverables must be identified and monitored for NRCP and NLCP.

22.112 A plan for the utilization of the additional grant of Rs 100 crore for ICFRE needs to be finalized and launched.

22.113 The SFR should be published within a year of collection of data. To start with, the maps could be on a scale of 1:10000.

22.114 The existing infrastructure for training could be augmented and forest and environmental officers trained. Incorporating conservation and sustainable utilization of forest resources in the training curriculum of forest officials.

22.115 MoEF should compile state-wise resources available through EAP for the IFMS. The SFR, 2007 is required to be released immediately.

22.116 The schemes National Coordinated Programme for Assessment of Non-Timber Forest Product Resources and Certification Programme for Wood and Non-Wood Forest Resources need to be operationalized.

22.117 The allocation for the Central Zoo Authority scheme and the Wildlife Crime Control Bureau needs to be enhanced.

22.118 Tourism infrastructure and wildlife tourism should be planned based on carrying capacity.

22.119 There is reduction in the tiger population. A STPF has already been established in critical tiger reserves; this should be augmented. Further, the identified core areas of tiger reserves should be made inviolate by village relocation besides providing restoratives in buffer and corridor. The Tiger Project needs to be critically evaluated as currently the major component of the scheme is relocation of villagers/settlements.

22.120 Elephant corridors are to be established wherever feasible.

22.121 The greening India mission needs to be strengthened and the ETF scheme could be reviewed by MoEF.

22.122 Grass land and other ecologically important eco-systems need to be conserved. The causes for degradation should be ascertained before afforestation. Overlap of support by other schemes like IDWH should be avoided.

22.123 The state forest departments should identify land for afforestation, including wastelands available in the state to enable achieving the national target of 33 per cent for afforestation.

22.124 Looking at the increase in the number of stray dogs, monkeys, etc., in urban areas the strategy of birth control needs a re-look.

22.125 Amending the Constitution of India to include environment in the Concurrent List. Enable the creation of a separate department of environment in the states.

22.126 There is an urgent need to augment scientific/technical manpower and make available resources for statutory monitoring institutions like CPCB at the Centre and SPCBs in the states.

22.127 Survey and R&D institutions like BSI and ZSI need to be adequately strengthened in terms of manpower and resource allocation. Apart from these, the existing institutional mechanism in the environment sector needs to be strengthened.

22.128 States prepare state-level action plans consistent with the strategy enunciated in the National Action Plan for Climate Change by 2010.

22.129 Integrate in the administrative set up and functioning of the SPCBs and provide budgetary support and reflect the working of the SPCBs in the annual plan.

22.130 Ministries and departments, which are required to harmonize their policies and legislation with those of MoEF, be mandated to specify in their annual reports the progress with respect to harmonization of policies and in the environment sector, including expenditure incurred. Other ministries should be asked to draw up plans of action for implementing the requirements of the environment and forestry sectors, including specifying the activities in the rules of business.

22.131 The four monitorable targets of the Eleventh Plan require that the MoA, MoWR, MoUD, and MoRD collaborate, supplement, and enable achieving the targets by MoEF.

22.132 Considering the outlay of Rs 300 crore for RRR by the MoWR in association with MoA, it is strongly recommended that MoEF should prioritize its activities in consultation with these ministries and merge its scheme on wetlands and lakes.

22.133 In order to achieve the target of 33 per cent forest cover and recognizing that approximately 26 MHa outside the forest area shall have to be identified for afforestation, a credible wasteland map based on satellite data at the district-level, including ownership

details should be prepared (updated) during the current financial year.

22.134 A suitable methodology for constructing an EPI, to assess environmental performance, needs to be evolved for allocation of resources to incentivize environmental performance.

22.135 Economic benefits of environmental management, including ecological services and goods should be quantified.

22.136 The National Afforestation Programme (NAP) and the NRCP be considered as flagship programmes of the country.

22.137 Indian Council of Environmental Research (ICER) is considered essential and a study be initiated to identify institutions under CSIR and Ministry of Science and Technology—Department of Science and Technology, Department of Biotechnology, Department of Earth Sciences, Department of Ocean Development, and MoEF, which could form a part of the ICER.

Suggestions/Concerns

Suggestions and concerns expressed during the MTA are indicated in Box 22.4.

Box 22.4 Suggestions/Concerns

1. There should be synergy between conventional taxonomy and molecular taxonomy. For this purpose, there is a need to strengthen BSI and ZSI.
2. Increasing habitations near Gangotri and Yamunotri is adding to the pollution of the sacred rivers.
3. Several eco-systems are affected due to biological invasion, but no R&D efforts appear to be in place to tackle the menace.
4. With regard to the target of increasing energy efficiency by 20 per cent by 2016–17, there is a dire need to have a sectoral approach involving all stakeholders.
5. For capacity building purposes, it is necessary to educate school/college teachers as well as the general public. Training of teachers in environmental awareness is not given sufficient emphasis at present even though textbooks are available. To train the large number of about 5 million school teachers in India requires gigantic efforts. In addition, a large number of college teachers also need to be trained. MoEF should facilitate the training of teachers and development of resource material on environmental issues in consultation with the states/UTs to ensure that the teachers are empowered to effectively teach environmental education in the classroom.
6. Forest Survey of India (FSI) was created in 1981 to focus attention on sustainable development of forest resources, but during recent years, the institute has been reduced to an agency to just compile and publish the State of Forest Reports. There is a dire need to strengthen FSI in order to make it function as per its original mandate given in 1981.
7. Study regarding sand mining and its sustainability in both rivers and large canals may be undertaken.