

CHAPTER I

INTRODUCTION

The International Organisation of Supreme Audit Institutions (INTOSAI) has given the following framework for of environmental auditing:

- Environment auditing is not significantly different from normal auditing as practiced by Supreme Audit Institutions (SAIs).
- Environment auditing can encompass all types of audit, i.e., financial, compliance and performance audits. With respect to performance audits, the three E's of Economy, Effectiveness, and Efficiency can be included. The adoption of the fourth E, that is 'Environment', depends on the SAI's mandate and its government's environmental policy, which is desirable but not critical, in carrying out environment audit.
- The concept of sustainable development can be a part of the definition of environment audit, only if it is a part of the government policy and/or program to be audited.

According to INTOSAI, scope of Performance Audit is as follows:

1. **Audit of Government's monitoring of compliance with environmental laws:** The main aim of such audit is to offer an opinion on the performance of the audit entity with regard to compliance against already established environmental laws.
2. **Audit of the performance of Government's environmental programs:** The main aim of such audit is to offer an opinion on the performance of specific environmental programs/ projects/strategies already formulated and being implemented by the Government.
3. **Audit of the environmental impact of other Government programs:** The main aim of such audit is to offer an opinion on the environmental impact of other programs/projects formulated and implemented by other Ministries/ departments/agencies other than the Ministry/Department of Environment. For example, audit of the impact of mining, building roads/dams, military etc., on the environment would fall under this category.
4. **Audit of Environmental Management Systems:** The main aim of such audit is to offer an opinion on the implementation of Environmental Management Systems (EMS) of the audit entity and/or ISO 14001 Standards¹. The absence of an EMS can also be a source of audit comments.
5. **Evaluation of environmental policies and programs:** The main aim of such audit is to offer an opinion on the adequacy or lack of a policy framework governing

¹ International Standards Organisation has set specific guidelines for implementing EMS in organizations.

environmental issues. International best practices can be a source for such comparison. However, adaptability to local conditions should be considered before making such comparisons.

In India, Environmental audit is conducted within the broad framework of Compliance Audit and Performance Audit at the central level by the Office of Principal Director of Audit (Scientific Departments) and by the state Accountant Generals (Audit) at the state level. Over the years, more and more states have taken up environmental audits, apart from the environment audits done at the central level by the Office of the Principal Director of audit (Scientific Departments). These compliance as well as performance audits have been printed in the respective state/central audit reports and presented to Legislature/Parliament. All these reports deal with the environment themes of water issues, air pollution, waste, biodiversity and environment management systems. All the environment audits done at the state level and at the central level since 2001 have been collated in this volume. While Chapter II gives the summary of the reports, the text of the reports has been placed succeeding chapters.

CHAPTER II

SUMMARY OF MAJOR AUDIT FINDINGS

Audit observations, appearing in central reports and state reports, have been summarised according to the main themes in environment audit like those relating to water issues, air pollution, waste issues, biodiversity and Environment management systems issues.

WATER ISSUES

Water is crucial resource for all existence on this earth as well as an essential part of the global ecological system. Water quality and quantity problems are a major concern in all the countries. Nevertheless, specific situation of water issues can differ from region to region and from country to country. The most popular area of investigation in India has been water pollution and availability of drinking water.

- In **Andhra Pradesh**, improper planning of the implementation of a Comprehensive Protected Water Supply scheme by the Executive Engineer, RWS, Nellore, resulted in failure to provide protected water to the targeted habitations, besides unfruitful expenditure of Rs 8 crore. (Transaction Audit, 2007)
- In **Andhra Pradesh**, Performance Audit of Implementation of Godavari Water Utilisation Authority (2007) revealed that schemes were undertaken without proper care in finalizing the ayacut, source and availability of assured power supply. There was delay in acquisition of land and implementation of R&R packages, which hampered the progress of works severely. The projects prioritized for completion before March 2007 were not completed and consequently, the objectives of utilizing allocated water of river Godavari and creating irrigation potential were not achieved.
- In **Arunachal Pradesh**, Performance audit of Drinking Water Supply Programme (2007) revealed that there was shortfall in coverage of 'Not Covered' and 'Partially Covered' habitations despite having sufficient funds. The number of slipped back and quality affected habitations increased between 2002 and 2007. Irregularities were noticed such as inadequate expenditure on water quality, monitoring and surveillance, un-productive and wasteful expenditure, irregular expenditure and non-execution of work as per approved specification.
- In **Chhattisgarh**, Performance Audit of Accelerated Rural Water Supply Programme (2007) showed that though the Government of India provided Rs 239.63 crore during 2002-07, the State Government could not utilize Rs 58.78 crore. During the new survey (2003), 17,968 new habitations emerged out of which 14,471 habitations were uncovered and 3,507 habitations remained for coverage as of February 2007. Allocation by the State for operation and maintenance, source sustainability and quality remained low.

- In **Delhi**, Performance Audit of Water Management System (2007) showed that the Delhi Jal Board (DJB) has been struggling to cope with the increasing demand for water supply. Most of its projects for augmentation of water production capacity and rationalization of water distribution in different parts of Delhi have fallen behind schedule, compounding the problem of water shortage in the National Capital. The leak detection management system is inefficient and results in loss of substantial water from the transmission and distribution network. More than 50 per cent of the water supplied does not fetch any revenue for the Government and the satisfaction level of Resident Welfare Associations about the quantity and quality of water supplied is very low. DJB has not formulated any comprehensive policy or plan for regulating exploitation of ground water in Delhi. The projects for recycling of waste water have also not been commissioned as planned.
- In **Manipur**, Performance Audit of implementation of the water supply schemes (2007) showed that implementation of the water supply schemes was tardy and the objective of providing potable drinking water to the citizens could not be achieved. Planning and project formulation process was deficient. Most of the projects were behind schedule and collection of water tax was poor, resulting in non-realisation of substantial portion of the Government revenue. Water was contaminated due to inadequate and inefficient treatment and underground leakage in the pipelines. Due to the absence of an effective monitoring and evaluation mechanism, unauthorized connections, leakages/wastage of water remained unchecked. As a result, the Public Health Engineering Department failed to provide safe and sufficient drinking water to the consumers.
- In **Pondicherry**, Performance Audit of Urban Water Supply Schemes (2007) revealed that 61 per cent of the total population of the Union Territory lives in urban areas and the department implemented a number of water supply schemes mainly to create additional resources/infrastructure to augment the existing water supply. Audit scrutiny of these schemes, however, revealed extraction of ground water in excess of requirement and supply of water in excess of norms prescribed by Government of India. This resulted in creation of unnecessary infrastructure and wastage of water.
- In **Punjab**, Performance Audit of Irrigation Department (2007) disclosed cases of defective planning and programme management besides over-exploitation of underground water. There were cases of delay in release of funds, administrative approvals accorded without ensuring pre-requisites and construction of new channels without ensuring availability of water.
- In **Rajasthan**, Performance Audit of Accelerated Rural Water Supply Programme (2007) disclosed that more than 65,000 habitations in the State did not have adequate drinking water mainly due to mismanagement of scheme funds and slow execution of works taken up under the programme. Monitoring of the programme implementation was inadequate and quality of water supplied was poor. There was no plan for water source sustainability.
- In **Sikkim**, Performance Audit of Urban Water Supply (2006) Audit revealed non-framing of 'State Water Policy' in line with the 'National Water Policy' and absence of long-term perspective planning. Baseline survey for assessing actual requirement of potable water and preservation of water sources had never been conducted.

Contamination of water was prevalent due to inadequate and ineffective water treatment and alignment of pipelines through drains. Leakages and wastage of water was rampant.

- In **Jammu and Kashmir**, Performance Audit of Conservation and Management of Dal Lake (2006) showed that despite incurring huge expenditure on various activities connected with the development of the Lake, no appreciable improvement could be discerned in the overall health of the Lake in its conservation, as well as rehabilitation of the people. Problems like excessive weed growth, direct discharge of sewage/nutrients in to the lake body, deposition of silt and encroachments, which are the main contributory factors for its degradation, have remained unresolved.
- In **Himachal Pradesh**, Performance Audit of Sewerage Schemes (2006) showed that the Government had not prepared any master plan to provide sewerage facilities to cover all the towns in a phased manner. Sewerage treatment plants provided in the schemes were not being utilised fully mainly because of non-release of sewerage connections due to lack of awareness among the beneficiaries about its utility.
- In **Chhattisgarh**, Performance Audit of Implementation of Watershed Development Programmes (2006) showed that implementation of programmes during 2001-06 was hampered as the planning of watershed projects and selection of villages under the programmes was defective. Components were not executed in prescribed sequence and some were neglected. The progress of activities in test-checked districts during the first four/five years was 62 per cent.
- In Kerala, Performance Audit of Water Management by Panchayat Raj institutions in Alappuzha District, (2006) revealed that the utilisation of funds for water supply schemes was much below requirement. The local self governments do not have any focused programme for protection and conservation of traditional drinking water sources and ponds.
- In **Andhra Pradesh**, Performance Audit of Tsunami Relief and Reconstructions, (2006) revealed that even after 18 months of the disaster, rehabilitation of the affected fishermen and reconstruction of infrastructure facilities had not been completed (June 2006). Replacement and repairs to damaged boats had yet to be done in Krishna, East Godavari, Nellore and Prakasam Districts. Rural water sources had not been fully repaired or damaged roads restored.
- In **West Bengal**, Performance Audit of Arsenic Alleviation Programme (2005) showed that the schemes for arsenic alleviation were not executed in a mission mode as warranted by the situation and there was inadequate monitoring. Despite 11 years' effort and expenditure of Rs 721.24 crore on arsenic alleviation measures, only 43 per cent of the at risk population was supplied with arsenic safe drinking water as of March 2005 against the capacity created to cover 56 per cent.
- In **Himachal Pradesh**, Performance Audit of Flood Control Works (2005) showed that despite serious threat of flood damages in the State, flood protection works provided were insignificant. Non-preparation of a long term master plan resulted in execution of protection works in an un-integrated and piecemeal manner, which failed to provide adequate protection to the areas prone to flood damages.

- In **Goa**, Performance Audit of Water Supply and Sanitation Programmes (2005) revealed that against the present demand (March 2005) of 568 MLD (Million Litres per Day) of water for the existing population, the Department could supply only 394 MLD leaving a gap of 174 MLD which adversely affected the public needs of sufficient water supply.
- In Andhra Pradesh (2005), out of 87 works relating to water supply schemes taken up during 1997-2001, 68 works were left incomplete, rendering the expenditure of Rs 79.25 lakh unfruitful. This deprived 0.87 lakh beneficiaries of water supply facilities.
- In Bihar, Performance audit of Flood Control Measures Water Resources Department (2005) showed that Department did not pay adequate attention on expanding the flood protection infrastructure viz. construction of new embankments, construction of all weather roads on embankments and raising /strengthening of existing embankments. During the last five years, there has been no increase in flood protected areas and loss due to floods has increased.
- In Andhra Pradesh, improper selection of water source for a comprehensive water supply scheme in Bibinagar had deprived the targeted habitations of fluoride free drinking water. This also rendered the entire outlay of Rs 24.80 crore on the scheme unfruitful.
- In **Tamil Nadu**, review of provision of safe drinking water in a district (2004) showed that (a) 68 per cent of rural habitations, 75 per cent of towns and all municipalities in the district did not provide required quantity of safe water and (b) no augmentation work was taken up to meet the increasing demand due to rapid growth of population and diminishing yield of water in the existing sources.
- In **Tamil Nadu** (2004), defective execution of works for augmentation of the sewerage system and its poor maintenance defeated the objective of prevention of pollution of Ooty Lake despite expenditure of Rs 12.45 crore.
- Performance Audit of Management of projects relating to utilisation and conservation of soil and water undertaken by institutes of Indian Council of Agricultural Research (2004) revealed that objectives of the projects undertaken were not achieved, there was improper maintenance of national register of soil series and there was non-documentation of traditional wisdom.
- In **West Bengal**, there was unfruitful expenditure on a sanitary sewerage scheme and the objective of averting pollution of sea water and environment remained unfulfilled.
- In **Orissa**, review of provision of safe drinking water in one district of (2004) showed that urban areas received less water than required. Nearly 15 *per cent* rural habitations did not have water supply system. Only 25 *per cent* population of the habitations covered under water supply system had piped water supply, the remaining 75 *per cent* depended on tube wells/sanitary wells where the safety aspect of the water was not ensured.
- In Jharkhand, review of availability of safe drinking water in Jharkhand (2004) revealed that quality of water was not assured and quantity of water supply was inadequate.
- In Kerala (2004), failure of Kerala Water Authority to monitor the execution of work relating Rural Water Supply Scheme resulted in non completion of a scheme sanctioned 20 years ago and expenditure of Rs.1.25 crore remained unproductive.

- In Madhya Pradesh, review of provision of safe drinking water scheme (2004) demonstrated that neither urban nor rural population of the district could be provided safe drinking water as per norms. Towns with supply of less than 70 liter per capita water daily were not given priority under the Accelerated Urban Water Supply Programme. There was no testing and non closure of water sources having unsafe water.
- In Delhi, Performance audit of measures to control pollution in the river Yamuna (2004) showed that despite over ten years of efforts and expenditure of Rs.872 crore since 1991 on establishment of sewage treatment infrastructure for treatment of domestic and industrial sewage before its release into the river Yamuna, the quality of water at the point where the river leaves Delhi has deteriorated drastically with large amounts of untreated sewage still falling into the river.
- In Haryana, Performance Audit of sewerage and sanitation schemes including Yamuna Action Plan (2004) showed that none of the ongoing and new sewerage/ sanitation schemes had been completed. Time schedule for completion of works was not fixed and funds were not released by Government, which resulted in non-completion of sewerage schemes. This led to spread of unhygienic conditions due to discharge of untreated sewage in the open. There was non-achievement of goals of reducing water pollution in rivers/canals and providing hygienic sanitary conditions.
- In Andhra Pradesh, Performance Audit of Implementation of Neeru – Meeru (2004) revealed that the primary objective to recharge ground water was not achieved; the ground water levels actually fell during 2003-04 in eight districts.
- Performance Audit of Implementation of Environmental Acts relating to Water Pollution in India (2001) (All India Report) showed that a major failure of State Pollution Control Boards was in regulating and controlling the discharge of industrial effluents and domestic sewage into water bodies. Local bodies in the States discharged untreated domestic waste into the water bodies due to inadequate sewerage system and sewage treatment plants. Consequently, the water quality of the rivers continued to deteriorate in terms of Bio-Chemical Oxygen Demand and total coliform. The drinking water supplied to big towns in various States did not conform to the fixed parameters.
- In West Bengal, Performance Audit of sewage treatment schemes in Calcutta Metropolitan area (under Ganga Action Plan), (2001) revealed that implementation of the Ganga Action Plan to control the pollution of river Ganga suffered from faulty planning and delay in execution. Towns were selected on the basis of unrealistic assessment of sewage and as a result pollution load draining into the Ganga was not adequately covered in the scheme. Progress of work was hampered due to absence of monitoring, delay in finalization of tenders and in arranging land.

AIR POLLUTION

Air pollution can be defined as the presence of ‘foreign’ substances in the atmosphere in high enough concentrations and for long enough duration to cause undesirable effects. Substances that are generally recognized to be air pollutants resulting from human activity include particulates, sulphur dioxide, nitrogen dioxide, carbon monoxide, hydro carbons, ozone, lead

etc. Air pollution has deleterious effects on human health; mainly causing respiratory distress as well as diseases like bronchitis and cancer. It is also a cause of the greenhouse effect and ozone depletion, both of which have serious consequences for climate change and the environment.

- In **Mizoram**, audit of pollution control by the Transport Department (2006) revealed that failure on the part of Government to arrange apparatus for emission test not only resulted in plying of 49,826 vehicles without 'pollution under control certificate' during the years 2004-05 and 2005-06, but also led to loss of revenue of Rs. 2.99 crore. Besides, there was also an attendant risk of environment pollution.
- In **Bihar**, Performance audit of pollution control in Thermal Power Stations of Bihar State Electricity Board (2005) revealed that the infrastructure for controlling pollution was inadequate. Facilities to test suspended particulate matter and flue gases emission were inadequate and hence emission checks were not of the desired frequency. Thus, there was ineffective pollution control by the power stations.
- **All India Report** on Air Pollution/Vehicular/Industries in 23 States (2002) revealed that poor implementation and monitoring of the Control of Air Pollution Act in 23 states of India led to increase in air pollution levels.
- In **Punjab**, Performance Audit of Environmental Acts and Rules relating to Air Pollution (2002) revealed that Punjab Pollution Control Board did not frame any comprehensive programme for prevention, control and abatement of air pollution. Pollution caused by industries, thermal power plants and vehicles remained grossly unchecked in the absence of effective monitoring by the Board. The Board neither exercised coercive powers against the defaulting units nor established any procedure for monitoring the implementation of the provisions of the Act.

WASTE

According to the Basel Convention, wastes are substances or objects that are disposed or are intended to be disposed or are required to be disposed by the provisions of national laws. Waste includes all items that people no longer have any use for, which they either intend to get rid of or have already discarded. Additionally, wastes are such items which people are required to discard, for example by law because of their hazardous properties. Many items can be considered as waste e.g., household rubbish, sewage sludge, wastes from manufacturing activities, packaging items, discarded cars, old televisions, garden waste, old paint containers etc.

Waste represents a threat to the environment and human health if not handled or disposed properly. Surface water contamination takes place when waste reaches water bodies. Ground water contamination takes place when residues from waste leach into the ground water. Residues from waste can change the water chemistry which can affect all levels of an ecosystem. A specific environmental hazard caused by waste is leachate, which is the liquid that forms as water trickles through contaminated areas, leaching out chemicals. Movement of leachate from landfills, effluent treating plants and waste disposal sites may result in hazardous

substances entering surface water, ground water or soil. Soil contamination as a result of waste can harm plants when they take up contaminants from their roots. Ingesting, inhaling or touching soil contaminated by waste, as well as eating plants or animals that have accumulated soil contaminants can adversely impact the health of humans and animals. Emissions from incinerators or other waste burning devices and from landfills can also cause air contamination. Incinerators routinely emit dioxins, furans and polychlorinated by-phenyls (PCB), which are deadly toxins, causing cancer and endocrine system damage. Hence, laws and rules have been framed for the safe disposal of waste so that waste does not adversely impact health as well as the environment.

- **All India** Performance Audit on Management of Waste in India (2008) in 24 states across India showed that there was incomplete data of the different kinds of waste, inadequate risk assessment, lack of policy and strategies for waste management. There were no rules for the management of many kinds of waste and where rules existed, the focus was only on disposal and not on prevention. Also, there was a lack of ownership on waste issues and no nodal bodies for implementation and monitoring. Poor compliance to rules was also compounded by weak monitoring.
- In **Kerala**, Performance audit of bio-medical waste management revealed that as of March 2007, only 17 per cent of the identified institutions were brought under the purview of the bio-medical waste management rules. Only 14 per cent of Government health care centers had obtained authorization as of March 2007 and regular funds were not allotted to them for proper management of bio-medical waste. It was found that even the funds allotted for creating infrastructure facilities for waste disposal were not utilised. Audit test check revealed that waste treatment and disposal facilities were either non-existent or inadequate in most of the hospitals. Only one Common Bio-medical Waste Treatment Facility existed against the four required and it was handling waste in excess of its stated capacity leading to improper disposal of waste. Proper monitoring and evaluation mechanism did not exist at Government/Prescribed Authority/Operator level. As most of the 11,000 MTs of bio-medical waste estimated to be generated in the state annually is being disposed without proper segregation and treatment, there could be disastrous consequences to the health of the people due to possible contamination of the environment by toxic and infectious waste.
- In **Punjab** (2007), failure of the hospitals to utilize autoclave and shredders led to unfruitful expenditure of Rs.1.68 crore. In addition, Rs.48.55 lakh were also spent on lifting of bio-medical waste through private firms all of which resulted in unfruitful expenditure on biomedical waste management.
- In **Jharkhand** (2006), it was seen that though Biomedical Waste (Management and Handling) Rules, 1995 envisaged that no hospital should be allowed to function unless either incinerator was installed or other suitable measures for proper disposal of bio-medical waste were devised, it was, however, observed that incinerators were not installed in the audited hospitals.
- In **Delhi**, Performance audit of four major Public Hospitals regarding management of bio medical waste (2006) showed that management and handling of bio-medical waste in the hospitals was deficient. There was lack of proper segregation and handling of bio-

medical waste in contravention of the Bio-Medical Waste Rules 1998, thereby increasing risk of infection.

- In **Tamil Nadu**, audit of solid waste management by municipalities and corporations (2006) revealed that 98 per cent of the municipalities had not set up the required waste disposal and treatment facilities even two years after the due date. As a result, solid waste generated was being transported to dumping sites without any treatment.
- In **Orissa**, Performance audit of bio-medical waste management (2006) showed that only 14 out of the 156 project hospitals were given the authorisation by the State Pollution Control Board to operate the biomedical waste management facility. The hospital bio-medical waste management system was yet to come up.
- In Assam, delay in construction of sewage treatment plant (2005) led to the hazard of environmental pollution.
- In **Assam**, delay in implementation of central scheme for waste management (2005) lead to the central scheme of waste management in the major hospitals not taking off.
- In **Arunachal Pradesh** (2005), audit revealed that the hospital waste management system at Naharlagun, Arunachal Pradesh remained mostly unutilized even after 11 months of its handing and the objective to protect public health and environment in Naharlagun remained unfulfilled.
- In **West Bengal**, audit showed that due to unfruitful expenditure on a sanitary sewerage scheme (2004), the objective of averting pollution of sea water and environment remained unfulfilled.
- In **Maharashtra** (2004), audit revealed that not all hospitals had authorized facilities for safe management of bio-medical waste and the process of providing autoclave shredder, deep burial pits and staff training on waste management were inadequate even after five years of the project period.
- In **Jammu and Kashmir**, Performance audit of bio-medical waste management system (2004) revealed that in four hospitals, bio-medical waste was dumped in open pits, hospital lawns or in open land; thereby exposing people to health risks.
- In **Rajasthan**, performance audit of management of municipal solid and bio-medical waste (2004) revealed that there was improper collection and non-segregation of municipal solid waste, collection/storage of municipal solid waste in open spaces, improper and inadequate transportation of municipal solid waste and non-establishment of authorized landfill sites resulting in unauthorized dumping of municipal solid waste causing environment pollution.
- **All India Report** (2002) studied implementation of the provisions of the various Waste Management Rules covering the period 1996-97 to 2000-2001 in 22 states and found poor implementation of these rules.
- In **Delhi**, Performance audit of removal of garbage and sanitation work (2001) revealed that the lifting of garbage in New Delhi Municipal Council area was not done efficiently and economically.
- In **West Bengal**, Sewage Treatment Schemes in Calcutta Metropolitan area (under Ganga Action Plan) in 2001 showed that the implementation of the Ganga Action Plan to control the pollution of river Ganga suffered from faulty planning and delay in execution. Towns were selected on the basis of unrealistic assessment of sewage and as

a result pollution load draining into the Ganga was not adequately covered in the scheme. Progress of work was hampered due to absence of monitoring, delay in finalization of tenders and in and in arranging land.

BIODIVERSITY

The term 'biological diversity' is used to refer to all aspects of variability in the living world, including diversity within and between individuals, populations, species, communities and ecosystems. Often the term biodiversity is commonly used to refer to all species and habitats in some given area for the variety of life and includes plants, animals and micro-organisms, their genes and the systems they inhabit. Biological resources are the pillars on which civilizations are built. The loss of biological diversity threatens food supplies, opportunities for recreation/tourism and sources of wood/medicines/energy. It also interferes with essential ecological functions. Loss of biodiversity would ultimately result in extinction of life on earth.

- In **Gujarat**, failure to credit the amounts realised towards Net Present Value of forest land in fixed deposits (2007) resulted in irregular retention of CAMPA funds of Rs 39.79 crore in the Consolidated Fund of the Gujarat for periods ranging 30 months to 36 months and loss of interest of Rs 3.03 crore.
- In **Madhya Pradesh** (2007), Performance audit of Implementation of Forest Conservation Act, 1980 revealed that the Forest (Conservation) Act, 1980 was enacted with the objective of maintaining a sustainable balance between the developmental needs of the country and the conservation of natural environment. This objective largely remains un-achieved in the State of Madhya Pradesh due to poor implementation of compensatory conservation measures. Non-carrying out of conservation measures in large number of cases; non-utilization of funds received from user agencies; and failure of significant number of compensatory plantations reflect that the State Government was unable to mitigate the adverse effects of degradation of the environment English resulting from diversion of green forests for non-forest purposes and no penal action was initiated by the Government.
- In **Orissa**, Performance audit of Afforestation Programme (2007) revealed that the afforestation programme aimed at conservation and extension of forests coupled with employment showed dismal performance.
- **All India report** on Conservation & Protection of Tiger in Tiger Reserves in India (2006) revealed that 15 out of the 28 Tiger Reserves created had area less than half the prescribed area which was not conducive for conservation, protection and sustenance of a viable tiger population. Relocation of the people living within the Tiger Reserves as well as removal and prevention of encroachment was essential to ease the biotic pressure on the tiger population. The personnel actually employed were also found to be overage, under-trained and under-equipped in many cases. The intelligence and communication network at the Reserves level was also weak. Many tiger reserves neither prepared the tourist management plans nor assessed the tourist carrying capacity of the reserves.

- In **Meghalaya**, audit observed (2006) that unplanned and unscientific coal mining activities in the state, which started about a century ago, had achieved dangerous dimensions and were creating ecological disturbances and negative environmental impact.
- In **Meghalaya** (2006), audit observed that under the Assam Forest Regulation, 1891 and Rules framed there under (as adopted by Government of Meghalaya), felling and removal of trees from the reserved forest area, without valid pass, constitutes a forest offence punishable with fine. Forest produce felled/removed illegally is also liable to be seized by the Forest Department. Loss of revenue of Rs 35.93 lakh took place due to illicit removal of 754.760 cum of timber from State reserved forest.
- In **Himachal Pradesh**, Performance audit of national parks including wildlife preservation (2006) showed that the objectives of protecting, developing and scientifically managing wildlife in the protected areas was not fully achieved due to the inability of the department to tackle the problems of biotic and human interference in the protected areas. Regular census of all the animals and birds in the wildlife area had not been conducted.
- In **Chhattisgarh**, Performance audit of conservation of Wildlife in National Parks and Sanctuaries (2006) showed that the objective of conserving wild life and its habitat was accorded very low priority. There was limited communication network and anti-poaching operations were largely neglected. Forest guards were untrained and old and the wildlife population had also shown a steep decline.
- In **Arunachal Pradesh**, Performance audit of **Wildlife** preservation under Centrally sponsored scheme (2006) revealed that the objective of preservation of wildlife in accordance with the Wild Life Protection Act, 1972 and National Wild Life Action Plan (NWLAP) 2002-16 was not achieved in Arunachal Pradesh in full due to the absence of financial control, delay in formulation of Management Plans, State Government's inability to tackle the encroachment problems and lack of planning and prioritization of preservation/conservation measures.
- In **Karnataka**, audit observed that improper planting operations and failure to protect the agave seedlings by Karnataka Forest Development Corporation Limited (2005) resulted in the failure of the plantation raised at a cost of Rs.1.14 crore. The project was a total failure due to heavy wild boar attack on tender shoots soon after planting and adverse climatic conditions and other biotic interferences.
- In **Arunachal Pradesh** (2005), audit observed that the Border Road Task Force unauthorizedly extracted and removed forest produces without permission from the Forest Department and without payment of royalty of Rs.74.62 lakh.
- In **Maharashtra** (2004), audit observed that violation of Forests Conservation Act, 1980 by officials resulted in lingering of a project for over 13 years and rendering the expenditure of Rs.1.88 crore unfruitful.
- In **Andhra Pradesh**, Performance audit of functioning of the Forest Department (2004) revealed that there were abnormal delays in the implementation of Compensatory Afforestation schemes and the department failed to arrest encroachments in the wildlife sanctuary at Kolleru Lake.

- In **Delhi**, Performance audit of afforestation of vacant land in rural areas (2004) revealed that the Government of Delhi decided in April 1991 that afforestation of vacant land in rural areas earmarked for community facilities, such as schools, community halls, parks, health centers, etc., should be taken up. Plans for this purpose were to be prepared by Municipal Corporation of Delhi (MCD) after a survey. Failure of MCD to plan and organize the survey stalled any progress in afforestation and rendered the expenditure of Rs.11.02 lakh on survey unfruitful.
- Performance audit of **Zoological Survey of India** (2002) revealed that ZSI failed to fulfill its primary objectives in the areas of exploration and survey of 'faunal' resources, taxonomic studies, status survey of endangered species. An aquarium planned for operation by 1990 for educational and recreational purposes was yet to be established even after a lapse more than 10 years. There were instances of costly equipment either lying idle or being under utilized.
- In **Madhya Pradesh**, Performance audit of Madhya Pradesh Forest Development through World Bank aided Madhya Pradesh Forestry Project (2002) showed that significant progress towards Joint Forest Management could not be achieved, as local people were not effectively involved. The Forest Survey of India (FSI) reported a significant reduction of 13534 sq. km in dense forest cover in Madhya Pradesh between 1995-1999.
- In **Rajasthan**, Performance audit of functioning of zoos and wildlife sanctuaries (2002) revealed that India Eco-Development Project was lagging behind on account of improper planning. Zoos and sanctuaries were not managed as per provisions of Act and rules framed thereunder. There was also inadequate protection staff, lack of arms and means of communication. No evaluation/ research of offences to improve conviction were conducted.
- In **Tripura**, audit of the working of Tripura Forest Development and Plantation Corporation Limited (2002) revealed that the Company failed to achieve its rubber plantation target of 15,000 hectares for about 20 years ending 1996-97 reportedly for non-availability of forest land for use as the GOI did not accord approval for the use.
- In **Delhi**, Performance audit of Management of Forests in Delhi (2001) revealed that plantation by the forest department was unsystematic and the department did not fix any annual targets for it. Cases of tree cutting and forest offences increased while penal action against the offenders was inadequate. Compensatory afforestation was deficient. The department also failed to remove the existing encroachments and to prevent new encroachments.
- In **West Bengal**, Performance audit of working of the forest department (2001) revealed that Joint Forest Management system failed to check illicit felling, failure of plantations and improper utilisation of existing manpower.

AUDIT OF ENVIRONMENT MANAGEMENT SYSTEMS

Environment Management Systems (EMS) is the part of organization's management system which is used to develop and implement its environmental policy and manage

its environmental aspects. It also refers to the management of an organisation's environmental programs in a comprehensive, systematic, planned and documented manner. It includes the organisational structure, planning and resources for developing, implementing and maintaining policy for environmental protection. Audit's role extends to assessing compliance to EMS planned and implemented by the organisation.

- In **Mumbai**, Performance audit of Environmental Management by Mumbai Port Trust (2007) revealed that the Port did not have a systematic documented environmental management plan and did not conduct environmental management audits. The Port's pollution control cell was not adequately equipped. The port also failed to control pollution of harbour waters.
- Performance Audit of Project Implementation, Manpower Analysis, Fund Management and Environmental Planning in **Mahanadi Coalfields in India** (2006) revealed that the Company was required to take a number of measures to protect and improve the environment, which included afforestation and land reclamation. It was seen that as against the excavated area reclaimed 63 per cent while biological reclamation 43 per cent only. This indicated that mine management did not proceed as desired by the environment laws and rules.
- Performance audit of EMS of **Rajasthan** State Ganganagar Sugar Mills Limited (2005) revealed that though the GOI had notified Rule 14 issued under Environment Protection Act under which the statutory Environment Audit of sugar and distillery units has been made mandatory from 1 April 1992. The Company, however, has not got Environment Audit of the sugar factory and distillery unit conducted since April 1992.
- Performance audit of Compliance with Environmental Regulations by State public sector undertakings in **Tamil Nadu** (2005) revealed that the disposal of natural wastes/effluent into the atmosphere/water from the cement plant, sugar industries and TPS was identified as a major source of pollution.
- Performance audit of Environmental Management System in State Public Sector undertakings in **Uttar Pradesh** (2005) revealed that EMS did not exist in any public sector undertakings (PSUs). PSUs failed to comply with many of the statutory provisions on air, water and solid waste management and handling of hazardous waste.
- Performance audit of Environment Management Systems including the energy conservation at state owned enterprises in **West Bengal** (2005) revealed that there was a significant gap between the requirement and the achievement, leading to pollution in excess of the norms, thereby adversely affecting the health of all life forms. Installation of pollution abatement measures like were inordinately deferred or delayed. Adoption of cleaner and safer technology was not envisaged even when the compliance requirements were made progressively more stringent.
- Performance audit of Environment Management System in thermal power stations of the **Gujarat** Electricity Board (2005) revealed that there was emission of excessive air pollutants, discharge of excess water pollutants, delay in construction of silos for dry ash handling and delay in augmentation of ash handling system in the thermal power stations of the Gujarat Electricity Board, leading to pollution.

- Environment audit of government companies in **Himachal Pradesh** (2005) revealed that EMS did not exist in any government company. Monitoring guidelines of Government of India in regard to compensatory afforestation and dumping muck and debris were not followed.
- Performance audit of pollution control in Thermal Power Stations of **Bihar** State Electricity Board (2005) revealed that the infrastructure for controlling pollution was inadequate. Facilities to test suspended particulate matter and flue gases emission were inadequate and hence emission checks were not of the desired frequency.
- Performance audit of environmental Safeguards in thermal power stations of **Andhra Pradesh** Power Generation Corporation Limited (2005) revealed that the Company failed to comply with the rules and regulations which govern the policy/procedures for environmental protection. Pollution control measures and programmes for conservation and utilisation of energy, water and other natural resources were not followed effectively.
- Implementation of pollution control measures in the **Mysore Paper Mills Limited and the Mysore Sugar Company** in Karnataka showed that pollution control measures had failed to achieve their purpose.
- Audit of performance of **Gujarat** State Land Development Corporation Limited (2004) showed that the company deviated from the terms of sanction of grants in aid received from the state and thus, there was curtailment of soil conservation activity.