

## ENVIRONMENT

6.292 Over the last decade, significant progress has been made in developing the environmental policy and regulatory framework, development of environmental institutions and raising awareness. The degradation of environment, however, continues affecting livelihoods and health as well as increasing vulnerability of the poor to disasters and environment-related conflicts.

6.293 The present degradation of environmental situation in Pakistan is due to high population growth rate, low-level of public awareness and education, deficiencies in management of natural resources and unplanned urban and industrial expansions.

6.294 During the MTFD (2005-10), environment conservation, management and use would be based on equitable sharing of benefits of environmental management, increasing community management of natural resources, and integrating environmental issues into socio-economic development planning to achieve sustainable

**Table-1: Issues in the Environment Sector**

- Forest cover needs to be increased
- Desertification has affected 43 million hectares land
- Marine environment is severely polluted by discharge of industrial and domestic sewage.
- Majority of population is exposed to hazards of drinking unsafe and polluted water.
- About 50 % population does not have access to adequate sanitation, while only 60 % of urban solid waste is collected.
- Excessive use of pesticides has adversely affected biomass and agriculture land.
- Energy efficiency needs to be enhanced, with focus on conservation measures.

development. The MTFD has given priority to the Environment Sector with an outlay of Rs 28.3 billion. This includes a major initiative for provision of clean drinking water to almost the entire population under the Clean Drinking Water for All Project to be completed by December 2007, at an overall cost of Rs 8.0 billion.

### Review of 2005-06

6.295 During 2005-06, the Environment Sector received an unprecedented allocation of Rs. 3,075.0 million, a four-fold increase over the allocation of Rs. 743.0 million in the previous year. An expenditure of Rs. 2,200.0 million was incurred up to 30<sup>th</sup> April 2006 (71 percent of total allocation). The overall expenditure by the end of June 2006 is expected to have increased to Rs. 2,640.0 million (86 percent).

6.296 The MTFD 2005-10 recognized the lack of capacity as a major hurdle in the way of efficient realization of environmental objectives. Accordingly, capacity building of the environment related institutions and other functionaries involved in the policy making, planning and law enforcement was a major focus during 2005-06 in respective sub-sectoral areas including M/o Environment, Pakistan Environmental Protection Agency, ENERCON and P&D Division (Environment Section). The capacity building initiatives such as Establishment of Project Planning & Monitoring Cell; Bio-safety Centre; Establishment of Pak-Environment Protection Agency Marine Water Pollution

Monitoring Centre; Strengthening of Forest Products Research; Activity Based Capacity Development Project; Establishment of Multilateral Environmental Agreements (MEAs) Secretariat; National Conservation Strategy Resource Centre in the Ministry of Environment helped strengthen the environmental institutions with improved capacities. Besides, the Biodiversity Action Plan also remained under implementation focusing on capacity development for biodiversity (flora and fauna) conservation.

6.297 The Clean Drinking Water for All Programme for providing safe drinking water to the entire population of the country is a major initiative under the MTFD, with an allocation of Rs. 10.00 billion. During the year, the first phase of this programme, the Clean Drinking Water Initiative, aimed at installation of one water purification plant in each Tehsil of Pakistan, AJK, NAs and FATA (cost: Rs. 495.5 million) was approved and implemented with completion of 320 plants.

6.298 In the forestry, biodiversity and watershed management sub-sectors, the Project for "Environment Rehabilitation and Poverty Reduction through Participatory Watershed Management in Tarbela Reservoir Catchments Area" remained under implementation. The main objectives are to reduce sediment load, create employment opportunities, alleviate poverty and rehabilitate the degraded land resources. During the year, an expenditure of Rs. 86.9 million was incurred on raising of nurseries and plantation, construction of check dams, soil conservation, establishment of community organizations and terracing. Under the Rachna Doab Afforestation Project, an expenditure of Rs. 23.0 million was incurred to maintain block afforestation and linear plantation carried out during the last 2-3 years of the project.

6.299 The Ministry of Water & Power is implementing the "Mangla Watershed Management Project" at a total cost of about Rs. 169.0 million. An expenditure of Rs. 33.9 million was incurred on about 4500 acres of afforestation and survey/planning of 6052 sq. miles. Following approval during the year, implementation of the project for "Poverty Reduction through Participatory Watershed Development in AJK" costing Rs. 474.9 million was commenced. The Project envisages treating catchments areas of Mangla Reservoir as well as alleviating poverty in AJK. Rs. 6.0 million were spent to start watershed management activities.

6.300 Several projects are under implementation to protect and conserve the natural resources and increase the biodiversity. These include district projects for improvement of urban environment of Hazro, Chakwal, Rawalpindi, improvement of indigenous and medicinal plants, improvement of National Parks (Cherat, Ayubia, Khunjerab), Protected Areas Management and watershed rehabilitation & management projects in NWFP and AJK.

6.301 During the year, under the clean air initiative, the Ministry of Environment completed the project for "Fuel Efficiency in Road Transport Sector" under UNDP grant assistance. The project helped improve fuel consumption efficiency and curtailing noxious emission from transport sector through digitalized tuning of gasoline and diesel vehicles. Under this project, 30 digital tune-up stations have so far been established while 96 mechanics and 204 private workshop owners have been trained in different parts of

the country. In addition, a revolving loan fund of US\$ 3 million was established for financing the purchase of tune-up equipment. Substantial progress was made on the project for Establishment of Environmental Monitoring System which would be completed next year.

6.302 Under the meteorology/climatology sub-sectors, the National Center for Drought/Early Warning System and Up-gradation/Strengthening of Seismic Network projects are under execution by the Pakistan Meteorological Department (PMD) at an estimated cost of Rs. 358.4 million to build its capacity to be able to forecast about the drought, floods and earthquakes challenges with reasonable accuracy. During the period under review, an expenditure of Rs. 101.0 million was incurred on construction of building and purchase of equipment. Besides, the Climate Change Studies Center (GCISC), under the Ministry of Environment, spent Rs. 20.0 million to carry out climate change studies.

### **Programme for 2006-07**

6.303 During 2006-07, the outlay for the Environment Sector has been doubled with an allocation of Rs 5,756.0 million, including Rs 4,000.0 million for Clean Drinking Water for All Project. The allocation of Environment projects in the Provincial Governments' ADPs is likely to be around Rs 1,250.0 million. The sectoral activities during 2006-07 will contribute towards achievement of the MTFD/MDG 2005-10 targets (Table-6.28).

<b>S.No</b>	<b>Environmental Indicators</b>	<b>Year 2004-05</b>	<b>2009-10 MTFD Targets</b>	<b>2015 MDG Targets</b>
1	Forest cover (%)	4.9%	5.2%	6.0%
2	Area protected for conservation of wildlife (%)	11.3%	11.6%	12.0%
3	Energy production from renewable forms of energy (wind, solar,	17 MW	880 MW	--
4	No. of petrol& diesel vehicles using CNG fuel	380,000	800,000	920,000
5	Access to sanitation (national) (%)	42	50	90
6	Access to clean water (national) (%)	65	76	93
7	Clean Drinking Water for All (%)	10	100	100
8	Number of continuous air pollution monitoring stations	0	4	--
9	%age of Sulphur (by wt.) in high speed diesel	1	0.5	0.5 to 0.25
10	Improvement of Katchi Abadis/Slums	60%	75%	95%

### **Clean Drinking Water for All Programme**

6.304 The "Clean Drinking Water for All Programme" is a major component of the Environment Sector Programme for 2006-07. Under the "Clean Drinking Water Initiative", a total of 544 water purification plants will be completed by December 2006. The plants cover five different packages depending upon the source of water and population. Under the second project called "Clean Drinking Water for All", an allocation of Rs. 4,000.0 million has been made in 2006-07 aiming to install one WPP in each Union Council of Pakistan, AJK, NAs, and FATA by December 2007. Considerable spadework (such as approval of umbrella PC-I, mechanism to implement, provincial shares and responsibilities) has already been done. It is planned that one water purification filtration plant would be installed in each of 6,035 Union Councils throughout Pakistan including the areas of AJK, NAs & FATA, by December 2007. The project is being implemented on fast-track-basis, by the Ministry of Environment in collaboration with the Provincial Governments. Upon completion of the project, the incidence of water borne vector diseases, most common among the general masses, especially in the areas where the people are forced to take contaminated water, would be reduced.

**Table-3: Water purification plant packages**

Package A: At places where source of water is tube well operated by WASA, City/Tehsil Government or any Development Agency and there is no facility of any storage from where the water could be pulled out. There will be provision of overhead tank in the case.

Package B: At places where source of water is a storage facility (over head tank) operated by the WASA, City/Tehsil Government or any Development Agency.

Package C: At places where source of water is neither a tube well nor any facility for storage is available in shape of overhead tanks. In this case a deep well will have to be bored to obtain water.

Package D: At places where the source water contain high concentrations of Nitrates/Nitrites/Calcium or Magnesium, a Nitrate Chamber-Water Softener chamber will have to be provided in assembly line.

Package E: At places where sources of water are high in Arsenic/heavy metals/organic pollutants or any other contaminants for which an additional treatment technology is required.

**Capacity Building**

6.305 Capacity building of the environment related institutions and other functionaries involved in the policy making, planning and law enforcement would be continued in respective sub-sectoral areas. This includes M/o Environment, Pakistan Environmental Protection Agency, ENERCON and P&D Division (Environment Section). Capacity building projects started last year will build upon their earlier achievements. The specific measures include strengthening of National Center for Drought Monitoring and Early Warning System under the PMD. An allocation of Rs. 111.4 million has been made for Establishment of Seismic Network in Pakistan under the Pakistan Meteorological Department. Also, the Ministry of Environment would implement the Establishment of Environmental Monitoring System in Pakistan.

6.306 An allocation of Rs. 25.0 million has been made for establishment of Global Change Impact Study Center in the Ministry of Environment at Islamabad to build its capacity to carryout studies and analysis for climate change impacts for Pakistan and mitigation measures. In addition, the Ministry of Environment would implement the Activity Based Capacity Development Project.

## **Forestry, Biodiversity, Watershed and Water Bodies**

6.307 Substantial allocations have been made for the plantation, maintenance of afforestation, check dams, cut off drains and terracing under Tarbela Watershed Management project; the maintenance of afforestation (block plantation) under the Rachna Doab Afforestation Project; and soil survey/planning, afforestation, land improvement work, extension services, engineering and soil conservation structures under Mangla Watershed Management project.

6.308 Allocations have also been made for the Establishment of Forest Nurseries and Block Afforestation in Islamabad Capital Territory; for acceleration of work on Management of Khunjerab National Park in Gilgit; establishment of Cherat Wildlife Park at Nowshera, by Government of NWFP; implementing World Summit Sustainable Development Plan in Pakistan by Ministry of Environment; Poverty Reduction through Participatory Watershed Development in AJK to raise forest nurseries, plantation, soil conservation, community organization; and for scientific management of Ayubia National Park in district Abbottabad.

6.309 The Environment Sector PSDP for 2006-07 also includes district level projects for improvement of urban environment of Hazro, Chakwal, Rawalpindi, improvement of indigenous and medicinal plants, improvement of national parks, protected areas and watershed rehabilitation and management projects to protect and conserve the natural resources and increase the biodiversity.

6.310 The Government has also launched a nationwide drive to clean the polluted water bodies. In this connection, the preparation of River Cleaning Projects will be carried out as a matter of priority, focusing on the Rivers Ravi, Swat and Lyari in the first instance.

## **Air Pollution, Climate Change and Meteorology**

6.311 The Brown Environment portfolio during 2006-07 includes the Establishment of Environmental Monitoring System project to install air pollution monitoring laboratories in the major cities by Pakistan Environmental Protection Agency of Ministry of Environment; carrying out a study of fog/aerosol transport pattern and its impact on agriculture and health, and identification of mitigation measures by Space & Upper Atmosphere Research Commission (**SUPARCO**).

6.312 Global Change Impact Study Center, Ministry of Environment would carryout studies and analysis for climate change impacts for Pakistan and identify mitigation measures. Similarly, the National Center for Drought Monitoring and Early Warning System and Establishment of Seismic Network in Pakistan under the PMD would be strengthened. Activities would relate to better preparedness to meet the challenges of natural calamities like earthquake, tsunami, drought, and floods.

6.313 The National Center for Drought/Early Warning System and Up-gradation/Strengthening of Seismic Network projects, being executed by the Pakistan Meteorological Department (PMD), to build/enhance its capacity to meet the challenges of forecasting and devising mitigation measures for drought, floods and earthquakes with

reasonable accuracy. During 2006-07, an allocation of Rs. 140.75 million is made to achieve the objectives of the projects. Besides, the Global Climate Change Impact Studies Center (GCISC), under the Ministry of Environment, is allocated Rs. 25.0 million to carry out climate change studies.