

CHAPTER 2B

REVIEW OF OVERALL PERFORMANCE DURING, 1991 -92,

FOREST AND WILDLIFE

FORESTRY- EDUCATION AND TRAINING

I. Indira Gandhi National Forest Academy, Dehradun

- Indira Gandhi National Forest Academy (IGNFA) was created on 25-5-87 by upgrading the Indian Forest Colleges at Dehradun -and delinking it from the Forest Research Institute. The Academy is responsible for initial in- house training for Indian Forest Service probationers. The training is spread over a period of two years.
- 66 probationers and 2 foreign trainees from Bhutan joined the Academy during the year.
- 64 IFS Probationers of 1990-92 batch and 2 foreign, trainees completed their Training Course.
- Besides the regular training course for IFS probationer, the Academy also conducted 2 two-week computer Appreciation Courses for IFS officers and Research Scientists from the Forest Research -Institute, one advanced course in Geographical Information System for IFS Officers and one-week vertical Integration Course for IPS Officers were organised.
- Computerisation and modernisation of office facilities were initiated during the year. Facilities for Library, preparation of lecture notes, office form etc. were also streamlined.

II. State Forest Service and Rangerse Colleges

- There are three State Forest Service Colleges located at Dehradun (UP), Burnihat (Assam) and Coimbatore (Tamil Nadu). These Colleges run 2 years Course for SFS Officers. Besides this, there is a Rangers College at Kurseong. The College imparts training to Rangers Officers of State Forest Departments.
- 94 trainees, of 1990-92 batch completed their training course in SFS Colleges. Training 43 trainees of 1991-93 batch contimled. 93 candidates joined Rangers Training College for a 2 years Training Course. 74 Rangers trainees passed out from Rangers College, Kurseorig during the year.

III. Indian Institute of Forest Management, Bhopal

- 27 students of 1990-92 batch completed the post-Graduate Programme in Forest Management.
- 23 students of 1991-93 batch were admitted for Post-Graduate Programme in Forest Management.
- 8 Management Development Programmes were organised.
- 20 case studies 65 technical notes and 10 research papers were proposed.
- 2050 books and 370 journals were procured.

FORESTRY RESEARCH

Indian Council of Forestry Research (ICFRE)

The Council supported 22 forestry research projects at 13 universities. The achievement of six research institutes under the ICFRE were as under:

(i) *Forests Research Institute, Dehradun*

- Evaluation of *Acacia tortilis* and *Poplar deltoides* for successful use as timber in furniture making and kiln drying.
- Development of a process for production of synthetic ligno-sulphonates from spent liquor of paper mills.
- Investigations on *Sterculia vilosa*, *Artocarpus Chaplasha* and *Alnus nepalensis* for their oil content for commercial exploitation. Species of *Quercus leucotrichophora*, *Prosopis juliflora* and *Prosopis cineraria* have also been investigated for their polysaccharides content and isolation of starches from such seeds.
- Control of epidemic attack of defoliator of Chir pine, bagworm *Omia cremerii*, in Rajouri Forest Division of J&K.
- Development of techniques for accelerated ecological reclamation of limestones and rock phosphate mines.
- Detection of a foliage rust *Melampsora* causing pathogenic diseases of poplars exotic clones.
- Systematic training in inoculation nursery seedling with VAM and production of quality seeds, certification and storage.
- Development of techniques for macropropagation of 'Bambusa India' through vegetative means to eliminate the dependence on bamboo seed or production of seedlings
- Commencement of Postgraduate diploma course in Pulp and Paper Technology in the Deemed University.

(ii) *Institute of Wood Science & Technology, Bangalore*

- The Institute developed a substitute 'Jagat' the binding material for joss sticks (agarbatti) manufacture, which is presently imported annually to the tune of 1500 tonnes. The technique, developed in the institute for *Albizia chinensis* timber preservation has helped more than 10,000 fishermen to prolong the life of their catamarans from 5 to 22 years: The research highlights.
- Development of non-wood product;
- Cost effective seasoning techniques including solar seasoning.

(iii) *Institute of Forest Genetics and Tree Breeding, Coimbatore*

- Collection and assemblage of phenotypically superior clones of *Rambusa arundinacea*, *Azadirachta indica* and *Tamarindus indica*.
- Vegetative propagation methods for *Acacia nilotica*, *Albizia Icbeck*, *Eucalyptus* sp., *Casuarina* sp and *Bambusa arundinacea*.
- Productivity estimates of Teak, *Acacia* and *Casuarina* plantations, Assessment of cultivation practices and marketing of *Casuarina* produce.

(iv) *Institute of Deciduous Forest, Jabalpur (renamed as - Tropical Forest Research Institute, Jabalpur)*

- Control of Fungal epidemic on *Bambusa nutans* in coastal areas of Orissa.
- Research on non-wood forest products and exsitu conservation of 300 medicinal plants.
- Rehabilitation of Bauxite mine area near Amarkantak.

- Development of agro-forestry models for economic upliftment of tribals; and Research in diseases and insect pests of social Forestry species raised by the farmers.

(v) *Institute of Arid Zone Forestry Research, Jodhpur*

- Agro-forestry studies in arid zone of Rajasthan.
- Sand dune fixation studies in Thar Desert.
- Irrigation management study in forestry plantations in command area of Indira Gandhi Canal project.
- Agro forestry studies in irrigated plantations of Jaisalmer district.
- Control of Rehida, skeletonizer; and
- Control of Neem shot borer.

(vi) *Institute of Rain and Moist Deciduous Forest Research, Jorhat*

The Institute initiated research on forest tree mycorrhizae associations in the rain forests of Assam, Nagaland and Arunachal Pradesh, collection of bamboo and cane germplasm and their micro-macro propagation.

Indian Plywood Industries Research and Training [Institute (IPIRTI)]

The institute was established in 1963 jointly by the Plywood Industries and Government of India. It was under the control of CSIR till March 1978 and subsequently under Ministry of Industry till April, 1990. With effect from 1-5-1990, it came under the administrative control of Ministry of Environment and Forests.

2. During 1991-92, the following activities were undertaken by the institute:-

- Completion of 9 Research Projects
- 7 Research Reports were released.
- 8 short-term courses in the areas of saw doctoring, saw milling- plywood manufacturing, maintenance of plywood machines, log grading? etc. were conducted and 42 candidates trained;
- Tests for conformity to relevant Indian standard were carried-out on 694 samples.
- 24 candidates completed the Certificate Course in Mechanical Wood Industries Technology of 11 months duration.
- 12 technical information service bulletins were issued.

SURVEY AND UTILISATION OF FOREST RESOURCES

Forest Survey of India

Forest Survey of India (FSI) carries out comprehensive forest resources survey at regular intervals and prints information in a suitable form for planning at national, state and local levels including evaluation through reinventory to facilitate scientific forestry planning.

The achievements of FSI during 1991-92 were as under:

Sl. No.	Item of work	Unit	1991 – 92	
			Target	Achievements
1.	Forest Inventory	Forest area in sq.km.	19,050	20,267

2. Data Processing	Forest area in sq.km.	24,000	30,309
3. Thematic Mapping	Sheets of 1:50,000 scale	258	259
4. Vegetation Mapping	Sheets of 1:250,000 scale	182	166
5. Training	Persons trained	90	38

FOREST CONSERVATION

The number of Forest Conservation and Environmental Management cases monitored by the Regional Office are as under:

Name of the Regional Office	No. of forest conservation cases monitored	No. of environmental management cases monitored
Bangalore	175	88
Bhopal	175	84
Bhubaneswar	132	102
Lucknow	180	84
Shillong	93	50
Chandigarh	110	41
Total	865	449

Forest Protection

Under the scheme "Development of Infrastructure for Protection of Forests from Biotic Interference", assistance for Rs. 270.07 lakhs was provided to 10 States.

During 1984, a Modern Forest Fire Control Project was launched with the assistance of UNDP. The project aimed to device, test and demonstrate the principles and techniques of prevention, deduction and suppression of forest fire. Under the project. 2 demonstration areas - Haldwani (UP) and Chandrapur (Maharashtra) were selected. The fire could be reduced remarkably from 5789.6 ha. in 1984 to 630.2 ha. in 1990 in Haldwani and from 24132 ha. in 1984 to 1618 ha. in 1990 in Chandrapur. Seeing the success of the project, a Centrally Sponsored Scheme - "Introduction of Modern Forest Fire Control Methods in India" is proposed to be initiated. During the year, the space work for finalisation of scheme was undertaken.

Forest Policy

The following guidelines were issued to the State Governments to provide benefits to the tribal people at the Forest Tribal Interface.

- (1) Regularisation of encroachment on forest land.
- (2) Review of disputed claims over forest land arising out of Forest settlement.
- (3) Dispute regarding pattas leases grants involving forest land settlement thereof.
- (4) Elimination of intermediary and payment of fair images to the labourers on forest works.

- (5) Conservation of forest villages into revenue villages and settlement of other old habitats.
 (6) Payment of compensation for loss of life and property due to predation-depredation by wild animals.

Spade work for launching of National Forestry Action Programme and finalisation of a Centrally Sponsored Scheme - "Association of Scheduled Tribes and Rural Poor in Regeneration of Degraded Forests" was initiated.

WASTELAND DEVELOPMENT PROGRAMME

20 Point Programme

The NWDB was the Nodal Agency at the Central level for point No.16 (Afforestation Tree planting) of the 20-point Programme and it used to set and monitor the overall national targets for afforestation tree planting in consultation with "The State Governments, who are the main implementing agencies. In the end of Seventh Five Year Plan, the performance of the States used to be monitored in terms of seedlings only. The performance during the Seventh Five Year Plan was as follows

Target	Achievement (in million ha.)	Allocation	Utilisation (Rs. in crores)
8.65	8.88	2410.33	2426.62

However, as the target~ in terms of seedlings only did not give a realistic picture of the activities, from the year 1990-91, the targets and achievement under the 20 Point Programme are reported under two mutually exclusive items, viz., seedling distribution in respect to planting on private lands and area in respect of planting on both forest and non-forest public lands.

The targets and achievements under Point No. 16 of the 20 Point Programme during 1991-92 are as follows:-

	Seedlings distribution (in crores)	Area (in million ha.)
Targets	150	1.05
Achievements	137.85	1.003

Scheme-wise Progress

The erstwhile National Wastelands Development Board will the Ministry of Environment & Forests was responsible for implementing 7 Central Sector Centrally Sponsored Schemes. The progress of these schemes during the year 1991-92 is as follows:-

Scheme/Activity	Physical Targets for 1991-92	Physical Achievements for 1991-92
1. Integrated Wastelands Development Projects	60,000 ha	46000 ha

Scheme		
2. Fuelwood/Fodder Projects Scheme	77888 ha	78903 ha
3. Decentralised People's Nurseries Scheme	21.71 crore seedlings	21.75 crore seedling
4. Raising of Minor Forest Produce Including Medicinal Plants Scheme	16330 ha	13932 ha
5. Seed Development Scheme	20 States to be assisted	19 States assisted
6. Aerial Seeding Scheme	28900 ha	28375 ha
7. Grants-in-Aid Scheme (for Voluntary Agencies)	98 projects	94 projects

WILDLIFE

The scheme - 'strengthening of Wildlife Divisions and Consultancies for Special Tasks' started from the year 1986 with activities like strengthening of wildlife divisions and setting up of Regional Offices with adequate man-power and Development of Infrastructure for Better Enforcement of Wildlife (Protection) Act, CITES etc. During the year, 3 Sub-Regional Offices at Guwahati, Pathankot and Cochin were made functional. A delegation of Government of India participated in the Conference of CITES held at Koyata in Japan in March, 1992. Wildlife (Protection) Amendment Bill, 1991 received the assent of the President. As per the provisions of this Act, the Central Zoo Authority came into existence in February, 1992 with a view to oversee the management of zoos in the country, enforce certain minimum standards for up-keep of animals and to ensure that animals are enquired by the zoos strictly according to the provisions of Wildlife (Protection) Amendment Act, 1991. During the year, two new Centrally Sponsored Schemes - "Project Elephant" and Eco-Development in and around the National Parks and Sanctuaries" were launched.

The achievement in various Centrally Sponsored Schemes of Wildlife Presentation was as under

Scheme	Achievements
1. Assistance for development of National Parks and Sanctuaries	203 (NPs and Sanctuaries)
2. Assistance for Control of Poaching and megal Trade in Wildlife.	10 (States)
3. Project Tiger	18 (Tiger Reserves)
4. Conservation of Rhinos in Assam.	1 (State-Scheme is applicable for only one State).
5. Project Elephant	11 (States)
6. Eco-development in and around National Parks and Sanctuaries.	18 (Protected areas)

ANIMAL WELFAFE BOARD

Sl. Name of Scheme	No. of Organisations benefited
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No.	
1. Settling up of Rescue Homes and Animal's shelters.	54
2. Setting up of Neutering for stray dogs.	20
3. Aid to Mobile Clinics	20
4. Veterinary Dispensaries	40

NATIONAL ZOOLOGICAL PAKKS

Targets	Achievements
1. Conversion of old information Centre into Animal Management Section.	Completed
2. Modification of old Cheeta enclosure	Completed
3. Construction of Reptile house.	Completed
4. Monkey Galary	Completed
5. Fencing of main gate entry	Completed
6. One additional room in Admn. Block.	Completed
7. Modification/renovation of Hospital and Store.	Completed
8. Construction of electric Sub-Station	Completed
9. Ceer/Antelope Enclosure in 3.5 Acre land.	Work initiated.
10. Renovation of hornbill, crown crane and flaming, enclosures.	Work initiated.
11. Additional house for African Rhino	Work initiated.
12. Repairing of banks	Work initiated.

Wildlife Institute of India

Scheme	No. of persons trained
(a) M.Sc. Course in Biology	7
(b) PO Diploma in Wildlife Management	21
(c) Certificate Course in Wildlife Management	23
(d) Field Workshop/Short Courses	7

ECOLOGY & ENVIRONMENT SURVEY

Botanical Survey of India

Survey and Taxonomic studies were undertaken in Arulaman & Nicobar Islands, Manipur, Assam, Nagaland, Western Himalayas and South Western Ghats. About 2500 plant specimens were collected and a critical study and description of about 1285 species was completed.

Manuscripts of National, State and District flora had been finalised and were published during the year. Red Data Book Vol. IV of Rare and Endangered species has been printed.

Listing 650 live collections completed. Manuscripts of mangroves of Goa, Godavari and Krishna deltas, Pitchavaram and Vembanad Lake were finalised. Ethnobotanical studies on plants used by the tribals in Tamil Nadu, Karnataka and Uttar Pradesh were completed.

Multiplication through tissue culture technique of some selected endangered orchid species had been undertaken. Collection and compilation of data in respect of five less known economic plants of India were completed.

Zoological Survey of India

80 surveys covering 65 districts were conducted.

Taxonomic studies collections from Meghalaya and Tripura were instituted. Besides the status survey of large mammals, the Tiger Reserves of Sariska and Ranthambhore were also taken up.

Computerisation of Data on type collections was completed.

The National Zoological Collections were enriched by the addition of 56,243 specimens pertaining to 2889 species.

ENVIRONMENTAL EDUCATION TRAINING

Environmental Education/awareness

30 Environmental Club in School and Colleges were set up. 24 Environmental Films were telecasted. 40 workshops and 30 exhibitions and 35 Padyatras on Environmental awareness were organised.

The National Environmental Campaign 1991 was organised with the theme "People participation in Global Environmental Concerns".

National awards have been instituted from 1991 by the Ministry to recognise the achievements of industries in the area of prevention and control of environmental pollution.

Environmental Information System

ENVIS Network responded to more than 4100 national/international queries. 3 issues of a Quarterly Magazine entitled 'Paryavaran Abstracts on Environmental Science' were issued. 2 new ENVIS centres in the field of Desert Ecology and Estuary Mangroves, Corals and Lagoon were set up during the year.

National Museum of Natural History

The Regional Centre at Mysore including plans for two galleries were completed. The NMNH organized a temporary exhibition on 'Endangered Animals of India' and a new exhibition on "You and the environment" for the Mobile Museum which serviced schools and rural areas. New Exhibits were installed in the Museum Galleries on conservation and cell and new interactive software relating to the environmental education were developed. The NMNH also continued its regular education activities including training in

environmental education for students at graduate level. Several education resource material were brought out. Under the auspices of the Indo-US Subcommission on Education and Culture, the NMNH in collaboration with the Cranbrook Institute of Science, Michigan organised a workshop on "Processes of Exhibit and Programme Development in Natural History Museums" which was held in USA.

Centre of Excellence

The initial concept to develop an 'eco-mark' for environment friendly products manufactured and marketed in the country were prepared by CEE, Ahmedabad. The Centre undertook the development of an interpretation programme at the Sultanpur National Park in Haryana.

Publications on the work done at Kanha National Park, a series of books and monographs on Environment and Development and fortnightly issue of 'CEE- NES' News letter was undertaken.

A project 'Towards Local Specific Environmental Education' under IDRC assistance had been undertaken.

Training programmes for NGOs and rural works, students and teachers from Andhra Pradesh and Tamil Nadu were organised.

Summer camps, painting, essay and oratorical competitions on various environmental themes were conducted for children for different age groups.

A number of research projects in the area of land use management, air quality, road dust consolidation, air pollution in fire area and its effect on health economic implication on Mining, coke-oven effluent treatment and noise vibration problems in mining had been undertaken by the Centre at Dhanbad.

The Ecological Research and Training Centre, Bangalore continued its research activities with special attention to Nursery experiments for propagation of selected tree shrubs, vegetation changes in Nilgiris during the period 1943-85, dynamics of tree population in Mudumalai Sanctuary, distribution of frog species in Western Ghat.

CONSERVATION

The Action Plans in respect of Nilgiris (Karnataka, Tamil Nadu & Kerala), Nanda Devi (U.P.) Sunderbans (West Bengal), Gulf of Mannar (Tamil Nadu) had been finalised and funds released. Funds had also been released for their research projects.

Action was pursued with the State Governments Union Territories concerned for their concurrence for setting up of new Biosphere Reserves at Little Kann of Kutch, Uttarakhand, Thar desert, Kaziranga and North Andaman.

Management action plans in regard to four wetlands viz. Wullar, Renuka, Kanjli and Harike had been sanctioned.

A project for preparation of booklet on Wetlands, Mangrove and Coral Reefs has been sanctioned to WWF-India to help generate awareness about wetland to the common people.

A film on Wetlands - 'a Waterlogged Wealth' is being prepared.

A project has been sanctioned for mapping of wetlands involving remote sensing technology under NNRMS programme.

Management action plans in regard to five mangrove areas viz., Sunderbans, Goa, Achra Ratnagiri, Mahanadi and Bhitarkanika have been sanctioned.

A film on 'Man and Mangroves' is being prepared.

During the year two meetings of the National Mangroves Committee and one meeting of National Wetlands Committee were held.

During the year one meeting each of the Management Councils of Biosphere Reserves (Nokrek, Nandadevi, Great Nicobar and Gulf) of Mannar) was held:.

RESEARCH AND DEVELOPMENT

During the year 1991-92, 151 new research project proposals were considered of which only 19 projects were sanctioned.

During the year 1991-92, 4 meetings (2 each) of Environment Research Committee and the Mall and Biosphere Committee were held. The progress of 67 on-going research projects was monitored through organisation of three review and monitoring meetings, Final technical reports of the twenty research projects sanctioned earlier were received.

Twelve projects of Himalayan region, ten projects of Western Ghat region and eight projects of Eastern Ghat region were completed during the year. A decision had been taken to transfer all R&D projects of the Himalayan Region to the GB Pant Institute of Himalayan Environment & Development. The Ministry also continued the Integrated Action Oriented Programme on River Kaveri.

Two meetings of Expert Working Group on Eastern and Western Ghats were held. One new project was sanctioned and 63 projects are currently operational. The progress of 54 on-going projects was monitored through review workshops. Twenty three technical reports of completed projects were received.

Eco Task Force in the three States of Uttar Pradesh, Rajasthan and Jammu & Kashmir planted over 13 lakhs saplings and covered an area of about 1345 ha.

PREVENTION AND CONTROL OF POLLUTION

Control of Pollution

Nineteen (19) problem areas were identified in consultation with State Pollution Boards and detailed survey was completed in eighteen (18) of these areas, Survey has been completed for Bolladani and Pattancheru of Hyderabad region.

Vehicular pollution survey in twelve (12) metropolitan cities of the country had been carried out.

During the year, two automatic water quality monitoring stations had been installed in Wazirabad and Okhla on river Yamuna at Delhi under the frame work of Indo-Dutch Bilateral Programme.

Water quality at 173 stations over the entire coastal line had been monitored under extensive Coastal Monitoring Programme.

During the year, 30 new stations had been identified for establishment in phases.

Pollution control status of 17 categories of industries in 23 States/ Union Territories including all major industrial estates had been collected and compared. Defaulting units had been identified and action being taken against them.

Vehicular pollution survey in 12 metropolitan cities of the country carried out,

Standards for effluents and air emission for major categories of water and air polluting industries had been evolved.

Environment Policy and Law

Amendment to these rules has been notified 20th September, 1991. Notification for delegation of power under section 9, 10, 11 & 12 have been issued. An ordinance was issued on 31st January 1992 which has been replaced by the Amendment Act. Rules under this Amendment Act have been notified on 6th February, 1992. A list of hazardous chemicals for which the Act shall be applicable, has also been notified on 24th March 1992.

A legislation for codification of the principles of civil liability and setting up of a National Environmental Tribunal to provide compensation for damages arising out of any accident or incident involving hazardous substances affected persons had been prepared.

The Water (Prevention & Control of Pollution) Cess (Amendment) Bill, 1991 was passed by both the Houses of the Parliament and the President's assent was received on 16th December, 1991. The Rules under the amended Act have been framed.

As on 30th June, 1992, the number of cases filed by the Pollution Control Boards under the Water Act and Air Act was 5535. Out of these, 1834 cases have been decided, 3502 are pending and 199 were dismissed.

The Ministry notified a scheme on labelling of Environment Friendly Products (EFP). The first phase of the product categorisation under the scheme had already been undertaken. A publicity campaign on Eco Mark has been launched on 2nd December, 1992.

An amendment to certain provisions of Environment (Protection) Act, 1986 is under finalisation.

Hazardous Substances Management

The Red Book entitled "Central Crisis Group Alert System" on the functioning of Central Crisis Group set up by this Ministry to deal with Emergency or Crisis situations in 1992 out of chemical accidents was revised to update names, addresses and Telephone numbers of authorities and experts to be contacted in case of emergency. Duties were also specified.

Preparation of Model off-site Emergency preparedness plans for 8 districts is in progress. 2 Plans have already been received.

Draft Rules on Classification, labelling and packaging of Hazardous Chemicals were prepared."

Draft of vulnerability analysis report in respect of 8 extremely hazardous chemicals, viz. chlorine & ammonia, hydrogen, cyanide, phosgene, carbondisulphide, ethylene oxide, oleum and thionyl chloride had been prepared.

At the instance of the Ministry of Environment Forest, PC:P (Penta Chloro Phenol) had been banned by the Department of Agriculture. PCP was earlier being used 'in leather industry and is harmful to skin.

An Inter Departmental meeting was held to promote utilisation of flyash base products. The State Government were requested to promote the use of flyash production in PWD and other Government constructions.

IMPACT ASSESSMENT

At the beginning of 1st April, 1990, there were 152 proposals for examination by this Ministry. During the year 1990-91, 164 proposals were received of these 316 proposals, 290 were appraised. Decisions were taken with regard to 215 projects and additional information was sought for with regard to 25 projects.

During the year 133 fresh proposals were received and 267 proposals were appraised, Environmental clearance was given to 106 projects and 72 were rejected.

During the year 1991-92, action was also initiated for taking up certain studies which would help in objective analysis of development projects and will provide certain baseline data. Besides three proposals had been drawn up for taking up studies uncompleted projects which had been accorded environmental clearance by this Ministry.

INTERNATIONAL COOPERATION

An agreement was signed with the World Bank for a major project on Industrial Pollution Control under which credit of about US \$ 155 million would be available over the course of next five years.

Under Ganga Action Plan, three sewage treatment plants in Uttar Pradesh and 12 pumping Scheme in West Bengal are being executed with World Bank Assistance.

The Ministry established an Inter-Ministerial Group and held consultation with selected NGOs and experts to coordinate the preparation for the UNCED Conference held in

Brazil in 1992. India also participated in the Ministerial Conference of Selected Developing countries on Environment and Development, organised by China at Beijing in June 1991.

Inter-Governmental negotiation on a Global Convention on Climate Change under the aegis of the UN General Assembly were held during the year, in which India actively participated,

As a nodal Agency for the Global Convention on Conservation of Bio-Diversity, wide-scale consultation with Government agencies and experts to formulate Government's views on various aspects of the Convention were field.

India participated actively in the 2nd Meeting of the parties to the Vienna Convention and the 3rd Meeting of the parties to the Montreal Protocol held in June 1991.

Besides the above programme, bilateral arrangements for financial assistance were explored and some other were under finalisation with other countries Organisations like Australia, UK, Canada, Denmark, France, Germany, Japan, Poland, Norway, Sweden, USA etc. and Asian Development Bank, EEC.

GANGA ACTION PLAN

As on April 1, 1991, 172 schemes out of 261 schemes sanctioned were completed. During 1991-92, 17 schemes were completed raising the total number of schemes completed to 189.

Seven sewage treatment plants (STP) out of the total 35 sewage treatment plants (STPs) to be established, had become operational. The BHU Plant were generating methane to supply about five hours of its energy requirements during the peak hours.

The schemes for sewage interception and diversion were accorded priority under the Ganga Action Plan, In all, 88 schemes were sanctioned in the three States which involved laying of 370 kms. of sewers (including force-mains) and installations I renovation of 129 sewage pumping stations, 59 schemes were completed. As a result, 485 mid. of waste water flowing into the river has been diverted out of which 223 mid. is being taken to the sewage treatment plants for treatment. The Plant when completed, will intercept, divert and treat 873 mid. waste water.

Under the low cost sanitation programme, 43 schemes were taken up in the 3 States. Forty schemes involving construction of 2752 public toilet complexes and 47,122 individual poor flush latrines were completed. The others were in various stages of progress. These had helped tourists and the people living near the river bank to use these toilets, which had helped in reducing pollution of the river.

Studies in the following areas were undertaken :

1. Use of treated sewage for irrigation.
2. Literature search on land application of sewage.
3. Drafting of Indian Fisheries Act.

Four Automatic Water Quality Monitoring Stations (AWQMS) were installed. Action was initiated to install 5 more AWQMS. Two training programmes for Technicians and Operator for maintaining and operating the stations were completed.

A project on rearing of turtles at Varanasi was in progress to utilise the scavenging habits of turtles. Based on the success of the project during the first four years, the project was extended. As on date, 2200f turtles were released in Varanasi sanctuary and about 1800 turtles were in the captive - rearing stage.

One Unit of Rotating Biological Rope Contractor Process was commissioned at Swarg Ashram, Rishikesh.

A new method 'Afforestation with Raw Sewage' developed by the Central Soil Salinity Research Institute (CSSRI), Karnal was applied in the Ganga Action Plan at Buxar at Varanasi.

43 industries out of 68 gross polluting industries along the river Ganga were installed. Effluent Treatment Plants as a result of legal and administrative measures were taken under the Environment (protection) Act, 1986 and Water (Prevention and control of Pollution) Act, 1974.

Three chrome recovery plants to stop the inflow of harmful chromium into the river were set up in a pilot tannery in Jaimau area of Kanpur.