



CONSERVATION OF WATER BODIES

National River Conservation Directorate

The National River Conservation Directorate (NRCD) of the Ministry is engaged in implementing the River Action Plan under the National River Conservation Plan (NRCP) by providing assistance to the State Governments.

National River Conservation Plan (NRCP)

The objective of NRCP is to improve the water quality of the rivers, which are the major fresh water sources in the country, through the implementation of pollution abatement schemes. So far a total of 31 rivers have been covered under the programme. The rivers are:

The activities being taken up under the NRCP include:

- ❑ Interception and diversion works to capture the raw sewage flowing into the river through open drains and divert them for treatment.
- ❑ Sewage Treatment Plants for treating the diverted sewage.
- ❑ Low Cost sanitation works to prevent open defecation on riverbanks.
- ❑ Electric crematoria and Improved Wood Crematoria to conserve the use of wood and help in ensuring proper cremation of bodies brought to the burning ghats.

- ❑ River Front Development works such as improvement of bathing ghats.

The present approved cost of NRCP projects as a whole stands at Rs.4492 crore (excluding CETP Kolkata, establishment and R&D) covering pollution abatement works in 157 towns along polluted stretches of 31 rivers spread over 18 States. Various programmes undertaken under NRCP are as follows:

S.No.	River	S.No.	River	S.No.	River	S.No.	River
1	Adyar	9	Ganga	17	Musi	25	Tunga
2	Betwa	10	Godavari	18	Narmada	26	Tungbhadra
3	Bhadra	11	Gomati	19	Pennar	27	Tamrabarani
4	Brahmani	12	Khan	20	Pamba	28	Vaigai
5	Cauvery	13	Krishna	21	Sabarmati	29	Vennar
6	Cooum	14	Kshipra	22	Satluj	30	Wainganga
7	Chambal	15	Mahanadi	23	Subarnarekha	31	Yamuna
8	Damodar	16	Mandovi	24	Tapti		

Ganga Action Plan

A sewage treatment capacity of 865 MLD under Phase-I of Ganga Action Plan has been created under the programme and an amount of about Rs.452 crore spent. Additional works are also being taken up in 59 towns along the main stem of river Ganga at an approved cost of Rs.682.11 crore.

As a part of the Development Study, Japan International Cooperation Agency (JICA) is also providing grant assistance amounting to around Rs.70 lakhs for improvement of one ghat (Manikarnika ghat at Varanasi). This work is being got done by the JICA Study Team themselves in close consultation with Varanasi Nagar Nigam and the local people. This work is under implementation and also scheduled to be completed shortly.

Yamuna Action Plan

As part of National River Conservation Plan the Ministry has received financial assistance of Yen 13.33 billion from the Japan Bank for International Cooperation (JBIC) for implementation of Yamuna Action Plan (YAP) Phase II. The loan agreement between Government of Japan and Government of India has been signed on 31st March, 2003 and the project has been approved by CCEA at an estimated cost of Rs.624 crore for abatement of pollution of river Yamuna in Delhi, UP (nine towns) and Haryana (eight towns) under YAP-II. Works have started since December, 2004.

The cost of works under YAP-II is to be shared between Government of India and State Governments in the ratio of 85:15 i.e. Rs.530 crore Central share and Rs.94 crore State's share.

The main components to be implemented under the project are:

- Delhi : STP (135 mld capacity new and 324 mld capacity rehabilitation) Rehabilitation/replacement of trunk sewers (30.82 kms)
- UP : STP (38 mld capacity new)
Sewer lines (73 kms)
Rising Main (12.7 kms)
- Haryana : Sewer lines (73 kms) and improvements in efficiencies of Existing STPs.

YAP-II project also includes preparation of DPRs for projects in the three States which are proposed to be undertaken under YAP-III with JBIC assistance. Emphasis has also been given on public participation, capacity building etc. in order to ensure better utilisation of assets and long term sustainability of the project.

Gomti Action Plan

Financial sanction for the 2nd phase of Gomti Action Plan at Lucknow has also been accorded in June, 2003 for Rs.263.04 crore. The project cost is to be shared in the ratio of 70:30 between Government of India and State Government. The works in this phase will include two sewage treatment plants of a total capacity of 375 MLD (over and above the 42 MLD capacity being set up in the first phase), interception and diversion works of sewage of the remaining drains and other miscellaneous items such as river front development, toilets, plantation, public awareness and participation and acquisition. Out of 30 Schemes works on four schemes have started.

Other River Action Plans

In addition, pollution abatement works are also being taken up in seventy four towns along twenty eight major rivers in fourteen States of the country. These include Damodar Action Plan, Musi River Pollution Abatement Project.



Fig 53. Bharatpur wetlands

Out of three hundred and thirty six schemes of pollution abatement sanctioned so far, one hundred and fifty seven schemes have been completed. About 3188 million liters per day (MLD) of sewage is targeted to be intercepted, diverted and treated. Out of the approved cost of Rs.2294.07 crore, the expenditure incurred by States amount to Rs.797 crore.

Projects Approved/Completed

A total number of 40 projects supported by NRCD were completed between 1st February to 30th September 2004. Another 76 projects were also sanctioned to various states during the year.

Water Quality Management Plan for River Ganga

The water quality of river Ganga is being monitored at twenty seven locations from Rishikesh in Uttaranchal to Uluberia in West Bengal by institutions such as Pollution Control Research Institute (Hardwar), CPCB Zonal Office Lucknow, Indian Institute of Technology, Kanpur, Patna University and Bidhan Chandra Krishi Vishwavidhyalaya, Kalyani. As a result of the schemes completed under GAP Phase-I, the water quality of river Ganga shows a general improvement. The summer average values of two important river water quality parameters viz. Dissolved Oxygen (DO) and Biochemical Oxygen Demand (BOD) for some of the important monitoring stations on river Ganga is given in Table-11.

Station Name	Distance in km	Dissolved Oxygen* (mg/l)			Biochemical Oxygen Demand* (mg/l)				
		1986	2002	2003	2004	1986	2002	2003	2004
Rishikesh	0	8.1	8.30	8.1	8.40	1.7	1.10	0.5	1.10
Hardwar D/S	30	8.1	7.90	8.1	8.10	1.8	1.60	0.8	1.50
Garhmukteshwar	175	7.8	-	7.8	7.60	2.2	-	1.2	1.90
Kannauj U/S	430	7.2	7.65	7.2	6.95	5.5	1.17	1.2	1.73
Kannauj D/S	433	NA	6.50	NA	7.85	NA	4.23	3.3	3.18
Kanpur U/S	530	7.2	6.27	7.2	7.18	7.2	3.80	3.7	3.20
Kanpur D/S	548	6.7	6.75	6.7	5.28	8.6	4.90	6.1	5.73
Allahabad U/S	733	6.4	13.00	6.4	7.82	11.4	-	4.8	7.38
Allahabad D/S	743	6.6	8.20	6.6	6.58	15.5	3.80	3.2	3.58
Varanasi U/S	908	5.6	10.80	5.6	6.30	10.1	3.00	2.5	2.60
Varanasi D/S	916	5.9	7.50	5.9	5.55	10.6	2.50	5.4	2.65
Patna U/S	1188	8.4	7.08	8.4	6.55	2.0	1.88	2.0	1.63
Patna D/S	1198	8.1	7.10	8.1	6.73	2.2	1.95	2.8	1.63
Rajmahal	1508	7.8	7.93	7.8	6.90	1.8	1.48	2.2	2.10
Palta	2050	NA	7.25	NA	7.55	NA	2.66	2.2	2.03
Uluberia	2500	NA	5.43	NA	6.33	NA	1.94	1.9	2.43

* Mean value for the months of March to June when the temperatures are high and flows are low. NA – Data not available, U/S – Upstream, D/S – Downstream, mg/l – milligram per litre

The Japan International Cooperation Agency (JICA) is providing grant and technical assistance for a development study relating to water quality management plan for Ganga River with focus along stretches of four towns namely Kanpur, Lucknow, Allahabad and Varanasi. The JICA Study Team/Consultants selected by JICA for carrying out the study started their work from March 2003. The study basically aims at formulating the Master Plans and Feasibility Studies (basically for priority projects) for sewerage (including sewage treatment) and non-sewerage components for the four towns. The Master Plan and Feasibility Study for Varanasi has already been completed while those for the other three towns are under preparation and scheduled for completion by March 2005.

The water quality monitoring has also been undertaken for rivers namely, Yamuna, Western Yamuna Canal, Gomti, Hindon, Satluj (Punjab), Cauvery (Tamil Nadu), Tunga, Bhadra & Tungbhadra in Karnataka. The number of monitoring stations presently are 160 in 10 rivers which include 26 stations set up in the upper reaches of Ganga in the current year.

Industrial Pollution Control

The National River Conservation Authority (NRCA) in its meeting held on July 12, 1997 under the Chairmanship of the Prime Minister, decided that the polluting industries which are directly discharging their effluents into rivers and lakes, without requisite treatment, should be asked to install the requisite effluent treatment systems within three months, failing which closure notices should be issued. State wise status of Pollution Control in grossly polluting industries discharging effluents in rivers and lakes is given in Table-12.

Table-12 : State-wise Status of Pollution Control in Grossly Polluting Industries Discharging their effluents into rivers and lakes

(As on June, 2004)

S. No.	Name of the State/UT	Total No. of Units	No. of units Closed	No. of units operating satisfactorily	No. of units not operating satisfactorily
1	Andhra Pradesh	60	18	42	0
2	Assam	7	6	1	0
3	Bihar	14	4	10	0
4	Gujarat	17	3	14	0
5	Haryana	21	9	12	0
6	Karnataka	20	2	18	0
7	Kerala	36	4	32	0
8	Madhya Pradesh	2	0	1	1
9	Maharashtra	6	3	3	0
10	Orissa	21	2	13	6
11	Pondicherry	4	0	4	0
12	Punjab	35	4	21	9
13	Tamil Nadu	366	138	228	0
14	Uttar Pradesh	236	57	178	1
15	West Bengal	66	19	43	4
Total		911	269	620	21

Note: Delhi covered under the separate plan involving shifting/relocation of the units as per the orders of Supreme Court.

National Lake Conservation Plan

Under National Lake Conservation Plan (NLCP) a programme for conservation and management of polluted lakes was approved. The objective of the scheme is to restore and conserve polluted and degraded lakes and other similar bodies. So far works on 28 lakes have been taken up including Mirik Lake, Darjeeling where the work was taken up at a cost of Rs. 400 lakhs in 2004-2005. Works on three lakes, viz. Powai in Mumbai, Vengaiakere and Nagavara in Bangalore have been completed.

National Wetland Conservation Programme

Taking into consideration the deterioration of water bodies, a programme on conservation of Wetlands was initiated by the Ministry with the basic objective of assessment of wetland resources, identification of wetlands of national importance, promotion of R&D activities and formulation and implementation of management action plans of the identified wetlands which are at present 66 covering 21 States.



Fig 54. Loktak Lake in Manipur

Under the management action plans for identified wetlands, activities include survey and demarcation, catchment area treatment, desiltation, weed control, fisheries development, biodiversity conservation, community participation, water management, public awareness, pollution abatement, etc. States Steering Committees have been constituted in all the concerned States under the chairmanship of Chief Secretary having members from various subject matter departments relating to wetland conservation in the State.



Fig 55. Harike wetland - one of the wetlands under NLCP

The significant achievements of this programme are:

- ❑ The main focus for wetland conservation is now on biological methods of conservation than engineering options under the catchment area treatment component.
- ❑ The main thrust is on watershed management and activities under this component are aimed at involving close participation of stakeholders in order to involve them in decision making processes of Wetland conservation in a sustainable manner.
- ❑ Thirty nine new wetlands have been identified for inclusion in the National list this year which raises the number of identified wetlands to 66 under National Wetland Conservation Programme. List of new wetlands identified is given in Annexure-III.
- ❑ Financial assistance released for conservation of Wetlands to various states include:
 - J & K (Hokersar, Tso Morari, Mansar & Surinsar and Pangong Tso), Gujarat (Nalsarovar), Orissa (Chilka), West Bengal (Sunderbans), Tamil Nadu (Pt. Calimer) and Rajasthan (Sambhar), Kerala (Ashtamudi), Himachal Pradesh (Pong dam and Renuka), & Manipur (Loktak).
- ❑ Seven more research proposals approved for assistance during the year.
- ❑ On the basis of results obtained in UNDP project on inland wetlands of India, PDF-B project is proposed for taking up intensive conservation of some wetlands in totality.
- ❑ One Regional workshop on Wetlands organized in Bhopal during May, 2004.
- ❑ Asian Wetland Symposium was held from 6th to 9th February, 2005 at Bhubaneshwar. The goal of the symposium was to synergize cooperation among all stakeholders to achieve the wise use of wetlands. 400 participants from more than 40 Asian countries participated in the workshop.
- ❑ Asian Regional meeting of Ramsar Contracting Parties of Asia was held from 9th to 12th February, 2005 at Bhubaneshwar. About 43 countries including non contracting parties participated in the meeting.

UPDATES 2004-05



- A total of 31 rivers in the country has been covered under National River Conservation Plan programme.
- Pollution abatement works are being taken up in 74 towns along 28 major rivers in 14 States of the country.
- Out of 2,301 medium and large scale units in 17 categories of highly polluting industries, 1,927 units have provided the requisite pollution control facilities, 139 are defaulting and the remaining 235 units have been closed.
- Activities on 28 lakes have been taken up under National Lake Conservation Plan Programme at a cost of Rs. 400 lakhs in 2004-05.
- 39 new wetlands throughout the country have been identified for inclusion in the national list of wetlands making the total as 66 wetlands covering 21 States in the Country.