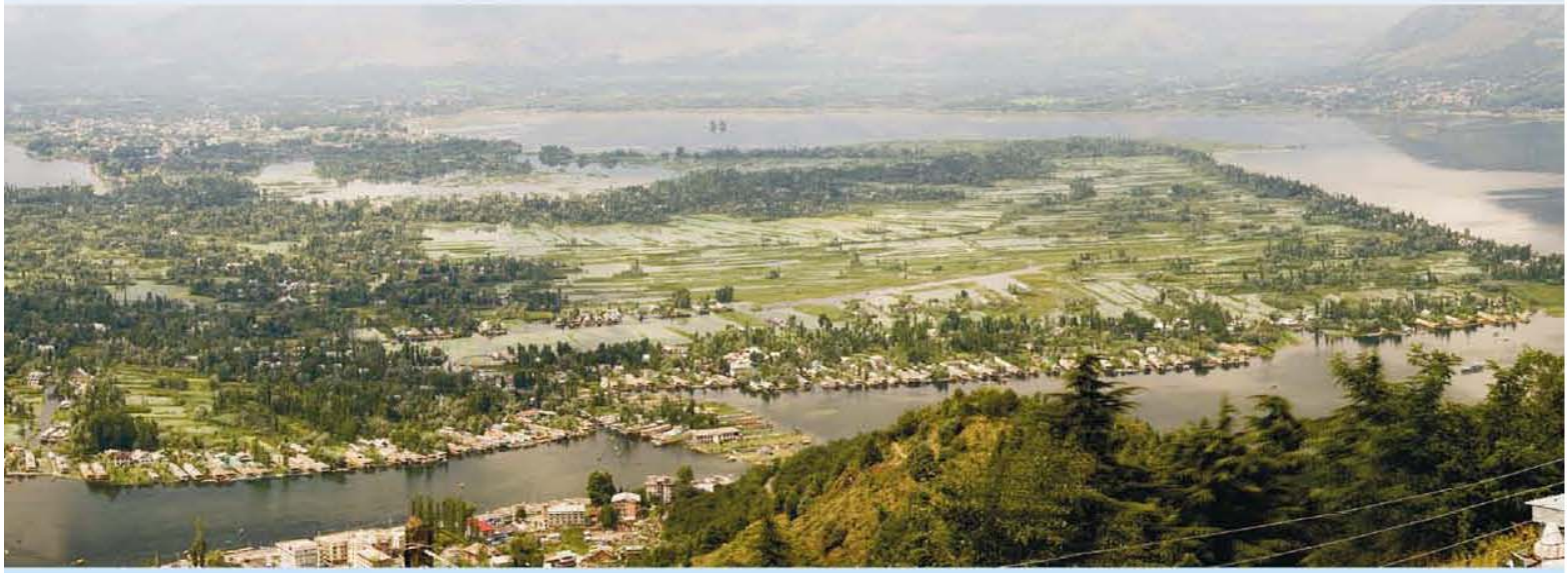
सत्यमेव जयते

GUIDELINES FOR NATIONAL LAKE CONSERVATION PLAN



MINISTRY OF ENVIRONMENT & FORESTS
NATIONAL RIVER CONSERVATION DIRECTORATE
PARYAVARAN BHAWAN, CGO COMPLEX, LODHI ROAD,
NEW DELHI

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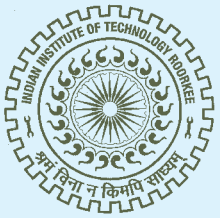
May, 2008



Courtsey :

Alternate Hydro Energy Centre,
Indian Institute of Technology Roorkee,
Roorkee - 247 667, Uttarakhand
Phone : (+91 1332) 274254, 285213
Fax : (+91 1332) 273517, 273560
E-mail : ahec@iitr.ernet.in, aheciitr@gmail.com
website : www.iitr.ernet.in/centers/AHEC/Pages/index.html ; www.ahec.org.in

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GUIDELINES

FOR

NATIONAL LAKE CONSERVATION PLAN

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NEW DELHI - 110 003

May, 2008

सत्यमेव जयते
आर० एच० ख्वाजा
अपर सचिव
R.H. Khwaja
Additional Secretary

भारत सरकार
पर्यावरण एवं वन मंत्रालय
नई दिल्ली–110003
GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT & FORESTS
NEW DELHI - 110003

FOREWORD

Ministry of Environment and Forests has been implementing the National Lake Conservation Plan (NLCP) since 2001 for conservation and management of polluted and degraded lakes in urban and semi-urban areas. The major objectives of NLCP include encouraging and assisting state Governments for sustainable management and conservation of lakes. Lakes being major sources of accessible fresh water, require well planned, sustainable and scientific efforts to prevent their degradation and ultimate death.

NLCP has attempted to learn from its experience in the field for making improvements in the existing system of project formulation and implementation. This document attempts to help the proponents in proper prioritization of lakes based on scientific selection criteria. It lays down guidelines for preparation of detailed project reports and focuses upon the responsibilities of the State Governments to work in close partnership with the Government of India in protection, conservation and sustainable management of lakes. It is hoped that State Government will find the revised guidelines useful. Their committed implementation will immensely improve the prospects for protection and conservation of lakes.

The preparation of these guidelines is the result of excellent team work. I would like to acknowledge the contributions made by Dr. M. Sengupta, Advisor, Dr. (Mrs.) R. Dalwani, Director and Shri S. K. Srivastava, Deputy Director, NRCD (MoEF) who have worked with great dedication and devotion in preparation of this document.

(R.H.Khwaja)
Additional Secretary & Project Director

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पर्यावरण भवन, सी.जी.ओ. कॉम्पलैक्स, लोदी रोड़, नई दिल्ली–110 003
PARYAVARAN BHAWAN, C.G.O. COMPLEX, LODHI ROAD, NEW DELHI - 110 003
Tel. : 24362285, Fax : (91) 011 - 24363918
E-mail : rhkhwaja@hotmail.com, rhkhwaja@rediff.com

Contents

1.0 BACKGROUND

1.1 Lakes are an important feature of the Earth's landscape. They are not only a significant source of precious water, but often provide valuable habitats to plants and animals, moderate the hydrological extreme events (drought and floods), influence microclimate, enhance the aesthetic beauty of the landscape and extend many recreational opportunities.

1.2 The lakes provide a wide diversity of values & uses ranging from ecological goods & services to direct production values. These can be categorised as direct use values with consumptive & non-consumptive uses such as drinking, irrigation, fishing, eco-tourism etc. Indirect use values with beneficiary located away from the lake, potential future use & non-use social benefit of availability of a healthy water resource for future generation.

1.3 The different problems encountered in the lake include excessive influx of sediments from the lake catchment, discharge of untreated or partially treated sewage & industrial waste waters/ solid waste disposal, entry of diffused source nutrients from agricultural and forestry, improper management of storm water/combined with over abstraction, over-exploitation of lake for activities like recreation, fishing, encroachments, land reclamation resulting in lake shrinkage, shoreline erosion and impact on lake hydrology, deterioration in water quality and impact on bio diversity, climate change etc.

1.4 Recognising the importance of lakes, Ministry of Environment & Forests, Government of India, launched the National Lake Conservation Plan (NLCP), a Centrally Sponsored Scheme exclusively aimed at restoring the water quality and ecology of the lakes in different parts of the country. The scheme was approved by Government of India during IX Plan (June 2001) as 100% Central Grant. Funding pattern under NLCP has since been changed w.e.f. February, 2002 from 100% central funding to 70:30 costs sharing between the Central and the concerned State Government.

2.0 OBJECTIVE

The objective of the scheme is to restore and conserve the urban and semi-urban lakes of the country degraded due to waste water discharge into the lake and other unique freshwater eco systems[1], through an integrated ecosystem approach.

3.0 ACTIVITIES COVERED UNDER NLCP

Prevention of pollution from point sources by intercepting, diverting and treating the pollution loads entering the lake. The interception and diversion works may include sewerage & sewage treatment for the entire lake catchment area.

(i) In situ measures of lake cleaning such as de-silting, de-weeding, bioremediation, aeration, bio-manipulation, nutrient reduction, withdrawal of anoxic hypolimn ion, constructed wetland approach or any other successfully tested eco-technologies etc depending upon the site conditions.
(ii) Catchment area treatment which may include afforestation, storm water drainage, silt traps etc.
(iii) Strengthening of bund, lake fencing, shoreline development etc.

[1] Unique fresh water ecosystems shall cover lakes that are unique entities of incomparable values and need to be preserved & conserved e.g. high altitude lakes, Lonar lake Maharashtra etc.

(iv) Lake front eco-development including public interface.
(v) Solid waste management[2] & provision of dhobi ghats is generally not covered under NLCP.
(vi) Prevention of pollution from non-point sources by providing low cost sanitation.
(vii) Public awareness and public participation.
(viii) Capacity building, training and research in the area of Lake Conservation.
(ix) Any other activity depending upon location specific requirements.

4.0 PRIORITIZATION OF LAKES

4.1 While the causes of degradation of lakes are many, in view of the limited resources available, it is not possible to take up all degraded lakes for conservation under NLCP. It is, therefore, necessary to prioritize lakes along with the catchments, where conservation programmes need to be taken up first.

4.2 In order to identify polluted and degraded lakes across the country, a study was carried out by the Ministry at the instance of Planning Commission, vide which 62 lakes were identified across the country for conservation. This list was sent to all State Governments for amendment and finalisation keeping in view the state priority and the justification for their inclusion in the priority list. The state priority and justification for such a selection needs to be a part of the proposal for consideration under NLCP. In view of the prevailing dynamic situation, states may revise the priority list at an interval of 5 years covering different geographic regions of the state.

5.0 SELECTION CRITERIA

5.1 Hydrological Criteria

5.1.1 The lake water body is perennial i.e. it holds a certain volume of water at all times, even in the lean season of the year.

5.1.2 Physical parameters of the lake are:-

(i) Lake size > 10 Ha (Exception: lakes larger than 3 Ha having socio cultural or religious importance)
(ii) Lake depth (maximum depth) > 3 m

5.2 Scientific Criteria

5.2.1 The lake is justifiably prioritised by the concerned State Government or if the water body is highly degraded and cannot be put to its traditional use primarily because of either (a) or (a) & (b) as indicated under:

(a) Discharge of domestic and industrial waste water into the lake
(b) (i) Dumping of municipal solid waste
(ii) Other non point sources of pollution
(iii) Flow of heavy silt loads from the lake catchment.

[2]Solid waste management especially waste minimization and recycling for resource recovery (waste collection & transportation) and providing dhobi ghats (especially in semi-urban areas) generally remains to be a municipal function not covered under NLCP.

5.2.2 The lake water body is degraded and not meeting the desired standards. In the absence of specific water quality criteria developed in respect of lakes, for the present Designated Best Use criteria for surface waters for bathing quality as given by Central Pollution Control Board (CPCB) shall be the target for lake water quality (Box-1)[3].

Box 1: Designated Best Use Criteria for Surface Waters (Source: CPCB)

Designated Best Use	Class of criteria	Criteria
Drinking Water Source without conventional treatment but after disinfection	A	1. Total Coliforms OrganismMPN/ 100ml shall be 50 or less 2. pH between 6.5 and 8.5 3. Dissolved Oxygen 6mg/l or more 4. Biochemical Oxygen Demand 5 days 20°C 2mg/l or less
Outdoor bathing (Organised)	B	1. Fecal Coliforms Organism MPN/ 100ml shall be 2500 (Imax permissible), or 1000 (desirable) 2. pH between 6.5 and 8.5 3. Dissolved Oxygen 5mg/l or more 4. Biochemical Oxygen Demand 5 days 20°C 3mg/l or less
Drinking water source after conventional treatment and disinfection	C	1. Total Coliforms Organism MPN/ 100ml shall be 5000 or less 2. pH between 6 to 9 3. Dissolved Oxygen 4mg/l or more 4. Biochemical Oxygen Demand 5 days 20°C 3mg/l or less
Propagation of Wild life and Fisheries	D	1. pH between 6.5 to 8.5 2. Dissolved Oxygen 4mg/l or more 3. Free Ammonia (as N) 1.2 mg/l or less
Irrigation, Industrial Cooling, Controlled Waste disposal	E	1. pH between 6.0 to 8.5 2. Electrical Conductivity at 25°C micro mhos/cm Max.2250 3. Sodium absorption Ratio Max. 26 4. Boron Max. 2mg/l

Incorrect land use leading to heavy soil erosion and sediment transport into the lake resulting in nutrient enrichment of lake (Nitrate & Phosphate) signifying eutrophication.

5.3 Administrative Criteria[4]

5.3.1 The lake if getting degraded/eutrophied, is an important source of drinking water supply, domestic use, recreational use, provide other goods & services, may be proposed under NLCP, when:

[3]All proposals to be supported by lake water quality for two seasons namely, pre-monsoon and post – monsoon seasons and lake condition on the extent of degradation & eutrophication.

[4] The State Government may give due consideration to this criteria or demand in their prioritization process also.

- there is a high degree of demand from a public forum/local stakeholders for its conservation and if
- the forum/stakeholders give their commitment to bear 10% out of State share in the project cost.

5.3.2 Lake categorised as a 'unique fresh water ecosystems.'

6.0 OTHER CONDITIONS

Following are some of the other relevant conditions not reflected in the preceding paras but considered to be a pre-requisite, based on site specific requirements, for preparation of the proposal:-

(i) While outlining the lake water use, the details regarding stakeholders involved and impact of lake degradation on each of these are to be provided. The lake rejuvenation proposal may consider the stakeholder demands through a public hearing at site and their involvement in operation & maintenance.

(ii) Increasing the lake depth through de-siltation does have an impact on its flora and fauna and may lead to destruction of habitat for migratory birds. De-siltation component in the proposals must be supported by bathymetry of the lake as per the standard methodology and its planning and execution to be carried out scientifically under expert guidance.

(iii) The cost towards 'Lake Front Development' activities under the proposal may be restricted to 25% of the project cost.

(iv) Engineering works in respect of bund may be minimized with naturalization of bund as a preferred option. The cost towards shaping/strengthening including slope revetment, provision for construction of retaining wall, if any etc. should not exceed 10-15% of the total project cost. Stone revetment along the inner slope of the earthen bund, to be resorted to in cases where strengthening of burnt required. As far as possible naturalisation of slops by providing suitable vegetation with proper selection of species, be resorted to.

(v) The lake shores to be naturalized as far as possible by planting macrophytes on the lake slope rather than providing hard stone pitching.

(vi) The water quality monitoring plan should include sampling and analysis of lake water as per standard methods (refer para 9.0) by appointing an independent agency having a laboratory accredited by Ministry of Environment & Forests or National Accreditation Board for Testing and Calibration of Laboratories (NABL) with Lake Development Authority of the State as the nodal agency. In case, there is known source of industrial pollution to the lake or agricultural run-off from the lake catchment, heavy metals and total Pesticides monitoring may also be included. The conservation plan should ensure that the water quality after implementation of the project is restored to the criteria for Designated Best Use classification for B Class waters.

(vii) All lake conservation measures lead to incidental ground water recharge depending upon the soil strata. However, the objective should not be charging the bore wells.

(viii) The State Governments may prepare comprehensive plan for environmental awareness and public participation which would suite site specific requirements and also depicting the values and functions of the water bodies.

(ix) While planning the project and deciding the restoration measures, the states may consider for recycle and reuse of sewage and also the introduction of eco-friendly activities to minimize degradative impacts on the water body.

7.0 LEGAL SUPPORT & POLICY FRAMEWORK

The Lakes & Wetlands are presently not covered by any specific legal statute but several legislations enacted till date have relevance & provisions for conservation of lakes. Some of these are:

The Forest Conservation Act, 1980, The Wildlife Act, 1972, The Water (Prevention & Control of Pollution) Act, 1974, and the Environment (Protection) Act, 1986. Besides these, some of the States have individual State level legislations for protection & conservation of their lakes & water bodies. The National Environment Policy (NEP), 2006 also seeks for setting up of a legally enforceable regulatory mechanism for lakes & wetlands to prevent their degradation and enhance their conservation.

Till any specific regulatory framework for lakes & wetlands is formulated, the Lake Conservation may be covered under the provisions of existing Central and State Legislations (Box.2)

Box 2: Existing legal provisions

- The Water (Prevention & Control of Pollution) Act, 1974 as amended deals comprehensively with water issues. It empowers the Government to maintain the wholesomeness of National Water Bodies. The Act also provides for prohibition on use of stream (includes inland water whether natural & artificial) or well for disposal of polluting matter etc. It enables the Government through Central & State Pollution Control Boards to prescribe standards and has provisions for monitoring & compliance and penal provisions against the violators of the Act.
- The Environment (Protection) Act, 1986 defines the power of the Central Government to take measures to protect and improve environment which includes water, air and land and the inter relationship which exists among and between water, air and land and human beings, other living creatures, plants, micro organisms and property.
- The National Environment Policy (NEP), 2006, recognises the ecological services rendered by the water bodies like lakes & wetlands. The NEP states that wetlands including lakes are under threat from drainage and conversion for agriculture & human settlements besides pollution. The reduction in economic value of their environmental services due to pollution, as well as the health costs of the pollution itself, are not taken into account while using them as a waste dump. The NEP identifies an Action Plan for these water bodies which importantly include formulation of conservation & prudent use strategies, integration of wetland and lake conservation into sectoral development plans for poverty alleviation and livelihood improvement, formulation of eco-tourism strategies prove multi stakeholders partnership and above all setting up of a legally enforceable regulatory mechanism for these water bodies.

8.0 CAPACITY BUILDING

The State may undertake measures for capacity building in the area of Lake Conservation by deputing the concerned officers to MoEF sponsored programs on capacity building (e.g. 2 years M.Tech and short term programs being offered by AHEC, IIT Roorkee) or any other State Level programs.

9.0 PROPOSALS ON CONSERVATION & MANAGEMENT OF LAKES

Subsequent to prioritisation and for consideration of a lake under NLCP, the State Governments need to get perspective plans and proposal (Detailed Project Reports) prepared through consultants or in house in case the expertise exists, based on surveys including water quality and biodiversity of the lake. The Manual on Sewerage & Sewage Treatment (Central Public Health Environmental Engineering Organization (CPHEEO), Ministry of Urban Development, Govt of India. December, 1993) be referred for sewerage, sewage treatment and storm water management whereas for water quality and sediment monitoring, Gazette Notification on Uniform Protocol Water Quality Monitoring Order (June, 2005) and American Public Health Association (Latest Edition) on Water and Waste water Analysis be followed. Standard methods to be used for other components such as desilting and Lake Front Development works. The DPRs need to be submitted to the Ministry along with a summary of the proposal as per the format placed at Annexure-II & II A.

A number of mandatory administrative requirements like funding pattern, O&M costs, institutional mechanism, monitoring mechanism etc. are to be complied with during the submission of the DPRs. These are detailed in Annexure-III.

Annexure-I
(1/2)

INFORMATION SHEET

(for collecting basic information)

GENERAL

Name of the water body:

Location (describe; name nearest town, District & State)

Geographical Coordinates (Latitude/Longitude/Altitude): N E; m above MSL

Lake Type ☐ Natural Lake ☐ Lagoon (connected with sea) ☐ Man-made (Reservoir)

Area, ha (Full water level):

Maximum depth, m (Full water level) Mean depth, m (Full water level)

Hydrology

Source of water (inflow): ☐ Rainfall ☐ Runoff ☐ River ☐ Drain ☐ Wastewater drain

Outflow. if any (describe):

Water level changes (annual). meters

Does the lake dry out completely? ☐ Every year ☐ Occasionally ☐ Rarely

Catchment (Watershed)

Area, sq km: Nature: ☐ Hilly (if so, slope in degrees) ☐ Plain ☐ Coastal

Land use (%): Urban Agriculture Forest Mining Grazing Fallow

Human Population (Total) Animal population

If Urban Catchment:

Has Sewerage been provided? ☐ Yes ☐ No Proportion of population (%)

Sewage treatment: ☐ NO ☐ STP ☐ Oxidation Ponds ☐ Septic tanks Volume (MLD)

Solid waste disposal in lake (if any)
(incl. Religious offerings/idol immersion etc.)

Describe any prominent / special features

Water Quality and Pollution Status

Sources ☐ Domestic sewage ☐ Industr. Effluents ☐ Stormwater ☐ Agric. Runoff
☐ In-Lake human activity ☐ Cattle wading ☐ Other (specify)

Level ☐ Very high ☐ Moderately high ☐ Medium ☐ Low ☐ Negligible

Pollution status ☐ Oligotrophic ☐ Mesotrophic ☐ Eutrophic ☐ Toxic pollution

Biodiversity (Give number of species if known)

Aquatic Plants ☐ Submerged ☐ Emergent ☐ Free floating ☐ Algae

Aquatic Animals ☐ Zooplankton ☐ Benthic Invertebrates) ☐ Mollusca ☐ Fish ☐ Amphibia
☐ Reptiles ☐ Birds ☐ Mammals

Name important/rare/endemic/exotic species:

Annexure-I
(2/2)

Functions and Values

Water used for: (Give estimated % amount)

☐ Drinking Water supply ☐ Irrigation ☐ Hydropower ☐ Fisheries ☐ Transport

☐ Recreation (swimming bathing boating angling Other) ☐ Religious activity

Use of Biological Resources

☐ Reeds & grasses for thatch or fodder ☐ Plant cultivation for food ☐ Fish ☐ Prawn

Functions of the Lake

☐ Groundwater recharge ☐ Flood mitigation ☐ Tourism: Local/ National/ International

☐ Supports Biodiversity ☐ Influence on microclimate ☐ Socio-cultural ☐ Aesthetic

Major Problems

☐ Reduction in area (shrinkage) ☐ Reduction in depth (Siltation) ☐ Encroachments ☐ Algal blooms

☐ Aquatic weeds ☐ Decline or Loss of fisheries ☐ Eutrophication ☐ Organic Pollution ☐ Toxic pollution

Scientific Knowledge

Scientific studies ☐ No study ☐ Only one study ☐ Several studies ☐ Many studies ☐ Comprehensive & Detailed

☐ All components ☐ Few components (☐ water quality ☐ Algae ☐ Plants ☐ Zooplankton ☐ Fish ☐ Other)

Has the lake's state been monitored for several years? ☐ Yes ☐ No

Sources of Information: ☐ Research papers ☐ NGO reports ☐ Newspaper reports ☐ Government reports

☐ Published ☐ Available ☐ Restricted ☐ Unpublished

Public Awareness

Are local communities aware of the problems of the lake? ☐ Yes ☐ No

Are local communities interested in the restoration of the lake? ☐ Yes ☐ No

Are there are active local conservation groups (NGOs) interested in the lake? ☐ Yes ☐ No

Restoration Activities Required

☐ Improvement of water quality by in-lake treatment ☐ Diversion and treatment of sewage

☐ Desiltation for removal of organic/toxic sediments ☐ Weed removal ☐ Shoreline protection

☐ Catchment treatment to check erosion ☐ Others (specify)

Activities already undertaken (List the activities and agencies responsible)

Any other information:

Selected References

Annexure-II
(1/3)

SUMMARY OF THE PROPOSAL

S.No.	Item	Details		
1.0	**Background**			
1.1	If included in the state priority			
1.2	Justification for selection on priority			
1.3	Lake Water Use & Primary purpose for rejuvenation			
1.4	Location			
1.5	Stakeholders involved			
1.6	Outcome of the public hearing on site			
2.0	**Physical profile of the lake**			
2.1		Catchments area (ha)		
2.2		Water spread area (ha) (max. & min)		
2.3		Water depth (in m) Change in water levels in different seasons (max depth & min depth)		
2.4		Storage capacity		
3.0	**Lake Water Quality Analysis ***	Lake Water Quality:		
3.1	• **Agency engaged for water quality monitoring:** • **Laboratory accredited by:**		Summer season	Winter season
		Physico-chemical parameters		
		pH		
		TSS		
		BOD		
		COD		
		Nitrogen		
		Phosphorous		
		Biological profile		
3.2	**Sediment Analysis:**** TOC Phosphorous(Phosphate-P) Total Heavy metal content Total Pesticide content			
4.0	**Lake Catchment Details**			
4.1	Present population:			
4.2	Projected population***(10 yrs & 30 yrs):			
4.3	Rate of Water Supply (lpcd)			
5.0	**Environmental concerns/Sources of Pollution (Point & non point sources including industrial, if any)**			
6.0	**Conservation and Management Plan**			

Annexure-II
(2/3)

S.No.	Item	Details
6.1	**I&D works**	
6.1.1	Existing scenario	
(a)	Quantum of sewage entering the lake	
(b)	Sewerage system	
6.1.2	Proposed measures	
(a)	Projected design discharge and the basis for assessment	
(b)	Proposed sewerage system	
	Lake Catchment	
	Entire town	
(c)	Sewers	
(d)	Sewage pumping station	
6.2	**Sewage treatment**	
6.2.1	Proposed STP capacity and the technology	
6.2.2	*If the sewage is proposed to be treated in any existing ETP or any other STP proposed to be funded under NRCP or any other scheme (JNNURM/UIDSSMT)	
6.2.3	Final disposal	
6.3	**In-situ cleaning**	
6.3.1	De-weeding	
6.3.2	De-silting (wet/dry) Area to be de-silted (If the calculation is based on mapping of lake profile through bathymetry using standard methodology)	
6.3.4	Ozonizers/floating fountain/bioremediation	
6.3.5	Any other measures proposed	
6.4	**Storm water management**	
6.4.1	Rainfall intensity	
6.4.2	Lake water balance	
6.4.3	Screen barrier/silt trap	
6.4.4	Disposal of storm water	
6.5	**Solid waste management**	
6.5.1	If any resource recovery is also prepared	
6.6	**Catchment area treatment**	
6.6.1	Afforestation	
6.6.2	check dams etc.	
6.7	**Non core components**	
6.7.1	Chain link fencing	
6.7.2	Bathing ghats	

Annexure-II (3/3)

S.No.	Item	Details
6.7.3	Island development	
6.7.4	Fountain	
6.7.5	Development of fisheries	
6.7.6	Plantation	
6.7.7	Lighting, parks, benches/seat	
6.7.8	Others	
7.0	**Water Quality Monitoring**	
7.1	Agency to be engaged and the schedule for water quality monitoring during and after the project implementation.	
8.0	**Environmental Awareness and Public Participation**	
9.0	**Operation and Maintenance Plan**	
9.1	Why required/essential, total estimated cost annually	
9.2	Ways & means to mobilize the revenue	
10.0	**Commitments** (Enclosures to be attached for each of the following)	
10.1	To bear 30% of the project cost	
10.2	For implementation of the project and also for O&M	
10.3	To generate revenue through dedicated streams to meet O&M costs (resolution)	
10.4	Duly filled IFD performa giving O&M details	
10.5	SOR followed – Certificate for excess cost to be borne by the State Govt.	
10.6	Land availability for STP and other proposed works	
10.7	Encroachment removal/rehabilitation plan/ Commitment of local body or DC	
10.8	Lake ownership	
10.9	Any other	

* Details of the scheme (status whether proposed or under implementation) along with the implementation time frame and synergy with NLCP works to be provided.
* As per Govt. of India Gazette Notification Uniform Protocol on Water Quality Monitoring June, 2005.
** Refer Standard Methods for Water & Waste Water Analysis, American Public Health Association (APHA), 20th Edition, 1998.
*** Refer Manual on Sewerage and Sewage Treatment, Central Public Health and Environmental Engineering Organisation (CPHEEO), Ministry of Urban Development, December, 1993.

Annexure-II A
(1/1)

Cost Estimates

S. No.	Item	Quantitative Estimate	Rate	Cost	Remarks (Please refer pages in the SOR)
1.0	**Core Schemes**				
1.1	I & D Works				
1.1.1	Sewers				
1.1.2	Sewage pumping station				
1.2	Sewage Treatment Plant				
1.3	**In-situ cleaning**				
1.3.1	De-weeding				
1.3.2	De-silting				
1.4	**Storm Water Management**				
1.5	**Solid Waste Management**				
	Sub Total				
2.0	**Catchment Area Treatment**				
2.1	Afforestation				
2.2	Silt Traps				
2.3	Check dams				
3.0	Retaining Structures				
3.1	Retaining wall construction /repair				
3.2	Shaping/strengthening of bund (including stone pitching/revetment)				
	Sub Total				
4.0	**Non Core Schemes**				
4.1	Chain link fencing				
4.2	Bathing ghats				
4.3	Island development				
4.4	Fountain				
4.5	Development of fisheries				
4.6	Lighting, Parks benches/seats				
4.6	Others				
5.0	**Public Awareness & Participation**				
6.0	**Water Quality Monitoring**				
7.0	**Centages (@ 8%)**				

Note : Cost details of other interventions such as bioremediation etc. be added wherever proposed.

Annexure-III
(1/2)

Administrative Requirements for consideration of lake proposals

1.0 Funding pattern

(a) NRCD/Government of India shall bear upto 70% of the Project cost.

(b) The States shall bear 30% of the project cost, of which the share of the local body would be upto 10% to ensure public participation in the project. A commitment to this effect also to be provided by the State Government.

(c) For the lake catchment where sewerage & sewage treatment is being posed/funded from other sources, appropriate synergy of the two programmes is to be ensured. In case, the proposal also includes the internal sewerage as one of the components, the funding pattern shall be 60:40 between the Centre and the respective state. As far as possible, Government land may be identified for creation of infrastructure.

(d) The O&M shall be a part of the project and the costs thereon shall be borne entirely by the State / local bodies for which additional resources have to be demonstrably raised and committed to O&M. The O&M Plan must reveal the dedicated streams for revenue generation to meet O&M expenses and the same has to be passed as a resolution by the concerned local body.

(e) If there is a cost overrun in a project because of delay, inflation or any other reason, the contribution of NRCD/Government of India shall be limited to the amount initially agreed to in the Administrative Approval & Expenditure Sanction Order.

(f) Certain R&D activities considered to be necessary and an integral part of the project, may be undertaken by the State Govt. through academic institutions within the scheduled time frame of the project.

2.0 Institutional Mechanism

The State Governments proposing to participate in the NLCP programme must ensure availability of a 3-tier Institutional Mechanism as given below, for proper & timely implementation of the approved projects and its post implementation maintenance/ sustenance:

(i) The State Govt. must identify a nodal department in the state for all interactions with MoEF, receipt & disbursement of funds, physical & financial monitoring of Project implementation. Lake Development Authority (LDA) or Lake Conservation Authority (LCA) if already existing at State level, shall be the nodal dept./ agency.

(ii) A Project Implementation Unit (PIU) with requisite expert manpower may undertake/ oversee the Project Implementation ensuring no time & cost overruns.

(iii) The agency owning the lake (Municipal Council/Corporation/local body) may undertake the O&M of the lake and be equipped with dedicated human resources. In case of multiple agency structure, the concerned District Collector/Commissioner is authorized to take the O&M responsibility.

Annexure-III
(2/2)

3.0 Operation & Maintenance Costs

(a) As stated above, the O&M shall be borne entirely by the local bodies for which additional resources have to be demonstrably raised and committed to O&M.

(b) The O&M Plan must reveal about dedicated streams for revenue generation to meet O&M expenses and the same has to be passed as a resolution by the concerned local body.

(c) A tripartite MOU between GOI, State Government & concerned local body for sharing of cost, timely implementation and subsequent maintenance of the lake to be furnished by the State Government in the desired format.

4.0 Monitoring Mechanism

(a) The proper monitoring mechanism, both at National & State levels is to be formulated from the stage of DPR preparation itself and to ensure the timely implementation and effective monitoring of the programme even after its execution. An Inter-Departmental Coordination Committee is to be set up at the State/UT level to accomplish the same. The monitoring committee may be chaired by the Chief Secretary with Principal Secretaries of the concerned Departments as members for ensuring timely and qualitatively sound execution of works. Preferably, the committee may also include a limnologist/hydrologist/ ecologist and representatives of this Ministry.

(b) A Steering Committee under the DM/Collector of each district may be constituted with representation from LDA/LCA/State Government and all executing agencies of the projects sanctioned in each district. Representation of stakeholders and a prominent NGO of the area may be ensured. Alternatively, a lake specific monitoring committee may be constituted at local level.

4.0 Identification of Lake Boundary

(a) The State Government/local Administration is to take necessary steps for declaring the lake boundary through a Government Order. The lake boundary is to be decided in relation to the lake submergence area at its full tank level.

(b) The local administration/local body is to take all necessary steps to ensure removal of encroachments if any in the lake submergence area/lake boundary. A commitment to this effect to be furnished by the concerned state authorities before the consideration of the proposal.

(c) The project proponents to consider for notifying the 'Establishment of a Bio-conservation Zone' around the water body for better safe guard of the lake surroundings from the growing pollution potential and the encroachments.

5.0 Schedule of Rates

The DPR must specify the Schedule of Rates for finalising the cost estimates the State Government/Local body is to give a commitment to bear escalation over & above the SOR, if any.