BEFORE THE NATIONAL GREEN TRIBUNAL

PRINCIPLE BENCH, NEW DELHI

O.A. No. 325/2015

IN THE MATTER OF:-

LT. COL. SARVADAMAN SINGH OBEROI **APPLICANT**

VS.

UNION OF INDIA & ORS. **RESPONDENTS**

INDEX

S. No.	PARTICULARS	PAGE No.
1.	**VIEWS OF CPCB ON THE ACTION PLANS** SUBMITTED BY THE STATES OR UTS FOR RESTORATION OF WATER BODIES IN COMPLIANCE TO HON'BLE NGT ORDER DATED 10.05.2019 IN O.A NO. 325 OF 2015 IN THE MATTER OF LT. COL. SARVADAMAN SINGH OBERIO (VS) UNION OF INDIA & ORS.	
2.	**ANNEXURE-I:** COPY OF HON'BLE NGT ORDER DATED 10.05.2019.	
3.	**ANNEXURE-II:** LETTER ISSUED BY CPCB TO ALL STATEs/UTs DATED 30.05.2019.	
4.	**ANNEXURE-III:** LETTER ISSUED BY CPCB TO MOEF & CC AND MoWR, RD & GR DATED 30.05.2019.	
5.	**ANNEXURE-IV & V:** LETTERS ISSUED BY CPCB TO ALL STATEs/UTs DATED 18.06.2019 & 26.07.2019.	
6.	**ANNEXURE-VI:** A COPY OF THE INDICATIVE GUIDELINES FOR RESTORATION OF WATER BODIES PREPARED AND CIRCULATED BY CPCB.	
7.	**ANNEXURE-VII:** A COPY OF OFFICE ORDER WITH REGARDS TO CONSTITUTION OF COMMITTEE.	
8.	**ANNEXURE-VIII:** MINUTES OF FIRST MEETING OF THE EXPERT COMMITTEE HELD ON 16.09.2019 IN CPCB, DELHI UNDER THE CHAIRMANSHIP OF 'MEMBER SECRETARY, CPCB'	
9.	**ANNEXURE-IX:** STATE-WISE STATUS OF WATER QUALITY OF LAKES, PONDS AND TANKS CARRIEDOUT IN THE YEAR 2018.	

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DATE: 09.10.2019
PLACE: DELHI

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH: NEW DELHI

ORIGINAL APPLICATION NO. 325/2015

IN THE MATTER OF

Lt. COL. SARVADAMAN SINGH OBEROI VS UNION OF INDIA & ORS.

TITLED

"RESTORATION OF WATER BODIES"

"VIEWS OF CPCB ON THE ACTION PLANS SUBMITTED BY THE STATEs/UTs FOR RESTORATION OF WATER BODIES"

CENTRAL POLLUTION CONTROL BOARD
(Ministry of Environment, Forest and Climate Change)
"Parivesh Bhawan", East Arjun Nagar,
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09.10.2019

VIEWS OF CPCB ON THE ACTION PLANS SUBMITTED BY THE STATEs OR UTs FOR RESTORATION OF WATER BODIES IN COMPLIANCE TO HON'BLE NGT ORDER DATED 10.05.2019 IN OA NO. 325 OF 2015 IN THE MATTER OF LT.COL.SARVADAMAN SINGH OBEROI VS UNION OF INDIA & ORS"

1. Background

Hon'ble National Green Tribunal in M.A. No 26/2019 in Original Application No. 325/2015 in the matter of Lt. Col. Sarvadaman Singh Oberoi Vs Union of India & Ors. vide order dated 10.5.2019 directed (relevant to CPCB) as follows:-

Para No. 13:

- To give effect to 'Precautionary' principle and 'Sustainable Development' principle, directed that all the States and UTs to review the existing framework of restoration all the water bodies by preparing an appropriate action plan. Such action plans may be prepared within three months and a report furnished to the CPCB.

- The CPCB may examine all such plans and furnish its comments to this Tribunal within two months thereafter.

Para No. 14:-

- The CPCB to prepare and place on its website guidelines in the matter of restoration of water bodies in the light of above order within one month

A copy of the Hon'ble NGT Order dated 10.05.2019 is enclosed as **Annexure-I**.

2. Actions initiated by CPCB

In pursuance to Hon'ble NGT order dated 10.05.2019, actions taken by CPCB in the afore-said matter are detailed below: -

a) CPCBs communications sent to States/UTs:- CPCB vide letter dated 30.5.2019 requested all the States/UTs (copy enclosed at **Annexure-II)** to arrange to provide details of Central Govt. funded schemes being implemented or being implemented for repair, renovation and restoration of water bodies in the respective State/UT along with the details (i) No of water bodies identified in the State/UT; (ii) No. of water bodies selected for restoration; (iii) Details of funds received from Central Government (Water body-wise); (iv) No. of water bodies restored completely

so far and no. of water bodies under restoration at present; (v) water body wise action plans proposed or implemented for restoration.

CPCB vide letter dated 30.5.2019 **(Annexure-III)** also requested the Joint Secretary, Ministry of Environment, Forests and Climate Change (CP-Division) and the Joint Secretary, Ministry of Water Resources, River Development and Ganga Rejuvenation to arrange to provide State-wise details of Central Govt. funded schemes being implemented or any such schemes, if available at present for restoration of water bodies in the Country.

b) Preparation, uploading in CPCB website and circulation of indicative guidelines for restoration of water bodies:- In pursuance to Hon'ble NGT order dated 10.5.2019, CPCB prepared ' Indicative Guidelines for Restoration of Water Bodies' and uploaded in CPCB website at http://cpcb.nic.in/NGTMC/Ind-Guidelines-RestWaterBodies-10062019.pdf on 10.06.2019. Further, prepared indicative guidelines were also circulated to all States/ UTs and requested all the States and UTs to send the action plans prepared for restoration of water bodies falling in the jurisdiction of the respective State/UT in compliance to Hon'ble NGT Order, vide CPCB letters dated 18.6.2019 and 26.07.2019 **(Annexure-IV and Annexure-V).** A copy of the indicative guidelines for restoration of water bodies prepared and circulated by CPCB is annexed as **Annexure-VI.** The guidelines include 5 phases for restoration, covering aspects to be addressed by concerned authorities for restoration of water bodies. Salient features of the indicative guidelines for restoration of water bodies are detailed below: -

i) Recognition Phase
ii) Restoration Phase
iii) Protection Phase
iv) Improvement Phase
v) Sustenance phase

Recognition Phase includes Identification and recognition of the problem (inventory of existing and lost water bodies (due to encroachment, pollution, diversion etc.), analysis of cause of the problem and its effect and development of alternative solutions of problem.

Restoration Phase includes declaring the 'designated best use' in order to formulate strategies and to decide degree of treatment required for restoration of such water body.

Protection Phase that takes care of the general health of the water body and ensures normal functioning. A long-term, preventive approach directed to preventing the causes of water body degradation is essential.

Improvement phase deals with overall improvement in the water body and its uses including resolution of conflicts among competing users of lake resources taking into account the needs of present and future generations and of nature.

Sustenance phase deals with good governance based on fairness, transparency and empowerment of all stakeholders

c) Constitution of Expert Committee:- As the guidelines prepared and circulated by CPCB are indicative and not consulted any stakeholder, an Expert Committee was constituted by CPCB vide order dated 28.08.2019 under the Chairmanship of 'Member Secretary, CPCB' and the Representatives of MoEF&CC, MoJS, MoHUA **Not below the rank of Director)*, Prof. A. K. Gosain, IIT, Delhi, Prof. C. R. Babu, Emeritus Professor, Delhi University, Mrs. Divya Sinha, AD, UPC Division, CPCB as members and Divisional Head, WQM-I Division, CPCB as Member Convener, with the following terms of reference:-

i) Finalization of Indicative Guidelines for Restoration of Water Bodies prepared by CPCB;

ii) Finalization of check-list for examining the proposed action plans for restoration of water bodies by States/UTs;

iii) Random scrutiny of action plans for restoration of polluted water bodies proposed by the State Government/Union Territory (UT) Administration in compliance to the Hon'ble NGT order dated 10.5.2019;

iv) The Chairman of the Committee may invite an expert from any reputed organization/ individual officials as special invitees for the meetings of the committee for seeking views/ suggestions/ review of action plans, as and when required;

A copy of the Office Order with regard to constitution of Committee is annexed as ***Annexure-VII.*** First meeting of Expert Committee was held on 16.09.2019 in CPCB, Delhi under the Chairmanship of 'Member Secretary, CPCB' and Minutes of First meeting of Expert Committee is annexed at **Annexure –VIII.**

(d) Water Quality of Lakes/ Ponds/ Tanks:-

Central Pollution Control Board (CPCB) is implementing a nationwide water quality monitoring of aquatic resources across the country through a network of 4022 monitoring locations to fulfil the mandate of Water (Prevention & Control of Pollution) Act, 1974 which include 341 monitoring locations on lakes, 105 monitoring locations on ponds and 138 monitoring locations on tanks under National Water Quality Monitoring Programme (NWMP) in association with the State Pollution Control Boards & Pollution Control Committees. State-wise number of locations monitored is given in the **Table 1** given below: -

Table1. State-wise No. of Monitoring Locations on Lakes/Ponds/Tank

NAME OF THE STATE/ UT	No. of Monitoring Locations			
	LAKE	POND	TANK	Grand Total
ANDAMAN & NICOBAR ISLANDS	-	-	-	-
ANDHRA PRADESH	3	-	1	4
ARUNACHAL PRADESH	-	-	-	0
ASSAM	6	27	1	34
BIHAR	3	2	-	5
CHANDIGARH	1	-	-	1
CHHATTISGARH	1	1	-	2
DAMAN & DIU, DADRA & NAGAR HAVELI	-	-	-	0
DELHI	4	-	-	4
GOA	9	-	-	9
GUJARAT	20	2	1	23
HARYANA	3	-	-	3
HIMACHAL PRADESH	5	-	-	5
JAMMU & KASHMIR	36	-	-	36
JHARKHAND	4	4	-	8
KARNATAKA	80	-	95	175
KERALA	16	2	-	18
LAKSHADWEEP	-	3	-	3
MADHYA PRADESH	22	12	1	35
MAHARASHTRA	-	-	-	0
MANIPUR	5	13	-	18
MEGHALAYA	7	-	-	7
MIZORAM	1	2	1	4
NAGALAND	2	-	-	2
ODISHA	7	8	-	15
PUDUCHERRY	3	-	-	3
PUNJAB	3	3	-	6
RAJASTHAN	17	1	-	18
SIKKIM	-	-	-	0
TAMIL NADU	8	-	1	9
TELANGANA	50	13	37	100
TRIPURA	8	10	-	18
UTTAR PRADESH	2	2	-	4
UTTARAKHAND	2	-	-	2
WEST BENGAL	13	-	-	13
Grand Total	**341**	**105**	**138**	**584**

e) Water Quality Status of Monitored Lakes/Ponds/Tanks: -

Based on water quality assessment of lakes, ponds & tanks carryout in the year 2018, out of 435 locations monitored, 357 locations were not complying to the

primary water quality criteria for bathing w.r.t either of the parameter namely DO, BOD and FC. State-wise water quality of lakes, ponds and tanks carried out in the year 2018 is enclosed as **Annexure-IX.** State-wise no of locations complying and non- complying to the afore-said criteria are provided in the **Table 2** below

Table 2. State-wise no of locations complying and non- complying to primary water quality criteria for bathing w.r.t either of the parameter - DO, BOD and FC

State	No of locations monitored (Lakes/Ponds/Tanks)	No of Complying locations (Lakes/Ponds/Tanks)	No of Non-Complying locations (Lakes/Ponds/Tanks)
Andhra Pradesh	2	1	1
Assam	30	1	29
Bihar	5	-	5
Chandigarh	1	-	1
Chhattisgarh	2	1	1
Delhi	4	-	4
Goa	8	1	7
Gujarat	23	8	15
Haryana	3	-	3
Himachal Pradesh	5	3	2
Jammu & Kashmir	20	3	17
Jammu &Kashmir	8	-	8
Jharkhand	4	3	1
Karnataka	109	4	105
Kerala	18	7	11
Lakshadweep	1	1	-
Madhya Pradesh	31	14	17
Manipur	18	-	18
Meghalaya	7	2	5
Nagaland	2	-	2
Odisha	15	-	15
Puducherry	2	2	-
Punjab	3	1	2
Rajasthan	16	5	11
Tamil Nadu	8	-	8
Telangana	59	3	56
Tripura	15	14	1
Uttar Pradesh	4	-	4
Uttarakhand	2	2	-
West Bengal	10	2	8
Total	**435**	**78**	**357**

3. **Response received from States/UTs:**

In pursuance to CPCBs letters dated 30.5.2019, 18.6.2019 and 26.07.2019, response has not received from the States of Andhra Pradesh, Arunachal Pradesh,

Bihar, H.P, Karnataka, Kerala, Maharashtra, Manipur, Madhya Pradesh, Punjab, Rajasthan, Sikkim, Telangana, Uttarakhand, Uttar Pradesh and UTs viz., Daman, Diu, Dadra and Nagar Haveli, Lakshadweep, Puducherry. Information received from the States/UTs is tabulated and is given in **Table 3** given below.

Table 3. State-wise status of information as received by CPCB with regard to the restoration of water bodies

S. No	Date of receipt of information	Name of the State/UT	No of Water bodies identified in the State/UT	No of water bodies selected for restoration	Details of funds received From Central Govt. (Rupees in Crore)	No of Water Bodies		Water Body- wise	
						Restored so far	Under restoration at present	Action plans proposed for restoration	Restoration plans already Implemented
1	03.7.2019	Andaman & Nicobar	-	-	No central Govt. schemes implemented or being implemented for RRR of water bodies				
2	20.7.2019	Assam	130 (under NWMP)	44	Not provided	Not provided	Not provided	Yes	-
3	28.6.2019 & 10.7.2019	Chhattisgarh	45	16	31	1 (Telibanda Lake- 26.12.2018)	1 (Budha Talab- 26.8.2020)	Yes	-
4	08.08.2019	Chandigarh	1	-	-	-	1	WQ Found within limits, No action is required	
5	24.09.2019	Delhi	-	6 (in Central District)	-	-	-	-	-
6	07.08.2019	Goa	-	8	Not provided	Not provided	Not provided	Not provided	Not provided
7	22.8.2019	Gujarat	Notified	34294	84.28 Funding under RRR scheme	383 restored and 34294 deepened	-	-	-
8	09.08.2019	Haryana	16424	16424	-	-	-	yes	-
9	22.08.2019	Jammu & Kashmir	1230	-	-	-	-	No	-
10	04.09.2019	Jharkhand	270619		-	1386	2200	-	-
11	03.07.2019 and 08.08.2019	Meghalaya	9	9	51.83	6	3	Yes	
12	02.08.2019	Mizoram	Not provided	2	5.36	-	-	-	-
13	28.08.2019	Nagaland	under compilation	Nil	Nil	Nil	Nil	Nil	Nil
14	07.08.2019	Odisha	154	110	14.28	48	18	-	-
15	06.08.2019	Sikkim	Information submitted for water bodies						
16	08.08.2019	Tamil Nadu	253	252	1625.14	150	3	Yes	-
17	01.08.2019 and 23.08.2019	Tripura	27000 (Lakes & Ponds)	-	-	-	-	Yes	-
18	30.09.2019	West Bengal	17982	Sought time upto 30.04.2020 for collection of information and preparation of action plans					

4. Action Plans submitted by the States for restoration of Water Bodies: -

Action plans submitted by the States for restoration of water bodies are detailed below:-

a). Haryana:-

The Haryana Ponds and Waste Water Management Authority (HPWWMS) which has been established under the obligation of an Act No. 33 of 2018 dated 23.10.2018

(notified dated 18.12.2018) for performing the functions as prescribed under section 6 of the Act No. 33 of 2018. Haryana State also appointed District Pond Management Officers (DPMO) in 22 districts vide notification dated 20.09.2019 and also constituted District Level Consultation and Monitoring Committees vide order dated 02.11.2018 under the chairmanship of Hon'ble Minister-in-Charge, District Grievance Committee with other departments in Haryana as members.

As per the information received from HPWWMS vide letter dated 09.08.2019, total water bodies (ponds or lakes having area > 0.5 acres or more) identified are 16424 (which include 15910 ponds in rural areas and 514 ponds in urban areas) falling in 22 districts in Haryana State. Haryana State has already allotted a Unique Identification No. (UID) to all the ponds. A software has been developed by the authority for collection and analysis of ponds data and also prepared Ponds Altlas. As per Ponds Atlas, the ponds have also been divided in various categories depending on their usage such as overflowing ponds, waste water ponds, irrigation Ponds, pisci-culture ponds, dry ponds and any other category of ponds. Ponds Atlas is available on website at www.hpwwma.org.in. On first priority, 15 ponds were taken for development as model ponds and the budgetary provision for 13 ponds has already been made under various heads by the State Government. Funds for the remaining two ponds are under process of approval and sanction. During the years 2019-2024, 440 ponds located in urban ponds have been chosen for restoration at a cost of Rs. 375.43 Cr whereas 15910 ponds have been chosen for restoration at a cost of Rs. 6545.28 Cr. Irrigation & Water Resources Department, Development & Panchayats Department, Department if Urban Local Bodies and Govt./Educational Institutes has been identified as executing agencies. Keeping in view of the existing quality of ponds & economic constrains, restoration /rejuvenation of ponds have been divided into 10-12 years plans. For the purpose of identification of main sources of pollution in ponds (15 First priority ponds and 324 model and overflowing ponds), HSPCB have been asked to get analyse the samples of ponds water to ascertain the water quality and technology required for restoration/rejuvenation of ponds.

Action plan for restoration of ponds or lakes includes

(i) De –watering & De-silting of ponds ;

(ii) Linking of ponds with Drains (3315 over flowing ponds in rural areas and 8 pods in urban areas of State proposing to connect with nearby drain in rural areas and with sewer lines in urban areas. Within a period of 10 years)

(iii) Filling of dry ponds with canal water: 626 remain dry partly or through, proposes filling them with canal water or other alternate sources available to make utilisable for bathing of human and cattles)

(iv) Specific remedial measures like Bio-remedies, Chemical treatment, Physical removal of sediment and floating garbage, de-silting and de-sludging of ponds, connecting the ponds with inlet outlet channels, diversion of household waste water and connecting with the STP, applying affluent filtration system on the inlet of the ponds. etc. will be taken up as a part of restoration of water body based on the available PDMS data.

(v) Main components of model pond and activities proposed are as below:-

- ✓ Provision of inlet and outlet of a pond
- ✓ Minimum water depth 8ft is to be maintained
- ✓ Overflowing of pond must be addressed properly
- ✓ Ponds must consist of bed, green belt and catchment area
- ✓ There must be wire mesh on each and every inlet drain before flowing it into pond
- ✓ Green belt must consists of native tree plants
- ✓ Biodiversity of pond must be addressed with respect to zooplanktons and phytoplanktons viz fish, tortoise, frog, snakes, lotus, duckweed, cannas, water poppies, and vetiver glass
- ✓ A passage for cow (cow ghat) and other animals to be there
- ✓ Deepening/de-silting/de-sludging, cleaning and beautification.
- ✓ Free board of the pond
- ✓ Retaining wall/fencing

(vi) As per demand of DPMOs of 22 Districts, the budgetary requirement for work of development of these water bodies/ponds is estimated as Rs 6545.27 Crore for rural ponds and 375.43 Crore for 440 urban ponds.

(vii) The Agriculture and Farmer Welfare Department, Haryana is promoting some schemes in the State for the conservation of ground water which include (i) conservation practices-cluster demonstration of alternate crop, farm mechanization and value addition, site specific activities, contingency for awareness, training, implementation and monitoring, crop diversification under Rashtriya Krishi Vikas Yojana (RKVY) , water efficient agricultural practices

(viii) Installation of STP wherever required;

(ix) Plan for Integrated Solid Waste Management for a cluster.

(x) Project for recycle and reuse of treated waste water for irrigation purposes in Fatehbad, Hissar, Sirsa and Jind Districts of Haryana at a cost of Rs. 87 Crore in first phase planned during the year 2018-19.

(xi) Increasing the water storage capacity by construction of dikes all around the ponds through Development and Panchayats Department.

(xii) Greenery Development Plan around the ponds will be carried out to control soil erosion and improve the water quality of the ponds.

(xiii) Ground water management by preventing excess use of ground water as well as flushing of cow dung with other garbage

b) Tripura:-

As per the information received vide letter dated 23.08.2019 from Department of Science, Technology & Environment, Government of Tripura, State Government has already notified the " Statutory Guidelines for Protection & Preservation of Lakes, Ponds and Water Bodies in Tripura" on 24.05.2017 in pursuance to Hon'ble High Court of Tripura order dated 16.08.2016 in W.P (C) (PIL) No. 2 of 2014. State Level Committee under the chairmanship of Chief Wild Life Warden and Sub-Division Level Committee (SDLC) was constituted vide memorandum dated 11.04.2018 by the Government for Monitoring and effective implementation of the statutory guidelines. Principal Scientific Officer (PSO), Tripura Space Application Centre (TSAC) and Director, Fisheries shall arrange for list of water bodies (irrespective owner department) to SDLC and Director, Science , Technology and Environment and also to municipal bodies. TSAC will develop protocol for assignment of Geo-referred UID to each water body.

The State of Tripura is endowed with rich water resources in the form of 7 perinnial rivers and about 27000 lakes. Lakes and ponds are used for a variety of purposes like irrigation, pisciculture, drinking and in some cases for house hold activities. Action plans are simply reproducing the indicative guidelines circulated by CPCB. Action plan includes aspects such as

- ✓ Identification of water bodies of Tripura;
- ✓ Allocation of unique identification number to water bodies
- ✓ Identification of various threats to water bodies/sources of pollution
- ✓ Declaring designated best use
- ✓ Identification of sources of pollution;
- ✓ Gap Analysis

- ✓ Action plan for control of sources of pollution, buffer development, bio-diversity park, recreational activities, removing encroachments;
- ✓ Monitoring and reporting
- ✓ Sustenance actions such as awareness, outreach activities, training and recreation centre and review

c) Gujarat :-

As per the information received vide letter dated 22.08.2019, Additional Chief Secretary, F & ED, Government of Gujarat vide letter dated 24.06.2019 directed (i) Urban Development Department for the water bodies of urban area; (ii) Panchayat, Rural Housing & Rural Development Department for the water bodies of rural area; (iii) Water Resources Department of Narmada, Water Resources, Water Supply and Kalpsar Department (WR, NWR WS & KD) for the water Bodies under Irrigation Department, to take necessary action for ensuring compliance to the directions of Hon'ble NGT.

Member Secretary, Gujarat Pollution Control Board (GPCB) vide letter dated 24.06.2019 requested Forest Department for inventory of the water bodies of forest area and to take necessary action for ensuring compliance to the directions of Hon'ble NGT.

Gujarat Urban Development & Urban Housing Department vide letter dated 06.08.2019 has informed that their department is working on Sujalam-Suflam Jal Snachay Yojana which is a 100 % State sponsored scheme. Under this scheme, about 307 water bodies were restored in the year 2018 and 76 water bodies in urban areas of Gujarat are under restoration in the year 2019 and many water bodies are being restored with the help of this scheme.

Main activities implemented under the afore-said scheme include (i) lake deepening work and (ii) lake cleaning work only with the help of state owned departments.

Forest Department vide letter dated 09.08.2019 informed that there is no any water hazardous drainage found in forest areas. However, plantation of 25 lakh trees planned on the bank side of rivers in Gujarat. As on 06.08.2019, about 20.03 lakh plantations have been carried out. Work of plantation and Bio-diversity park have been carried out in Flood Plain Zone as per the guidelines of CPCB.

As per information received vide letter dated 09.08.2019 from Narmada, Water Resources Water Supply and Kalpsar Department, Govt of Gujarat has notified identified water bodies in the Gujarat State vide notification No.

GEN/1/PRCH/1020023218/1 dated 24.10.2002. As on 25.06.2019, about 34294 tanks have been deepened. 95 ponds have been selected for restoration in North Gujarat region of Gujarat State which is under CWC of RRR with total estimated budget of Rs 3756.6 Lakhs (i.e., CA of Rs.2233.93 Lakhs and State Share of Rs. 1502.64 Lakhs whereas approvals accorded for restoration of 61 ponds in Saurashtra region of Gujarat State at a total cost of Rs 10290.8 Lakhs (i.e., CA: Rs 6174.48 Lkahs and State Share:4116.32 Lakhs)

Water body wise action plan proposed or implemented for restoration are : -

i) Under Sardar Patel Participatory Water Conservation Scheme in the year 2000 (SPP-WCS): Gujarat State carried out deepening & restoration of water bodies on public private partnership basis in the ratio of 90:10. For Ponds deepening and construction of check dams on 80.20 & 60.40 public partnership basis.

ii) Under Sujalam Sufalam Jal Abhiyaan (2018-2019): State carried out various water conservation activities including construction of new ponds, farm ponds, river rejuvenation, reservoir desilting etc., with the help of several state departments, non-government stakeholders & corporates.

d) Tamil Nadu:-

As per the information received from Tamil Nadu vide letter dated 07.08.2019, there are 17 Major river basins, 61 reservoirs and about 41948 Tanks. Total no. of water bodies available in TN State are 90,048 which are maintained by PWD, Rural Development and Panchayat Raj Department, Hindu Religious and Charitable Endowment Department, Municipal Administration Department, Greater Chennai Corporation and Directorate of Town Panchayats. During the past five years 5607 water bodies were rejuvenated and at present 1806 water bodies are under rejuvenation.

Greater Chennai Corporation is having 210 water bodies under its control and restoration completed for 22 water bodies. Under Chennai Smart City Fund 63 water bodies are under restoration, 21 water bodies are under restoration with the help of charitable trusts, corporates and welfare organization. 53 water bodies are under restoration under CMCDM scheme and balance 51 ponds are being taken up for restoration.

Chennai River Restoration Trust undertaken wetland and water body restoration projects. Ecological restoration of Adyar Creek involves (i) Increasing the water

spread and tidal interaction area; (ii) Plantation of native plants such as tropical dry evergreen forest species, mangrove & its associates, reeds etc. and (iii) Landscaping for interactive environmental programme

Restoration by Municipal Administration Department/ Town Panchayats/ Rural Development Department/ Public Works Department

By Municipal Administration Department: - There are 1746 water bodies within the municipal corporations limits. 237 out of 585 municipal owned water bodies have been restored at a cost of Rs. 56 Crore. Restoration involves desilting, deweeding, strengthening of bunds etc., Under Smart City Funds, 8 lakes in Coimbatore corporation have been taken up for restoration. 2 Ponds under restoration by Thanjavur Corporation. 42 water bodies under restoration by 5 ULBs under Kfw fund and 2 water bodies under rejuvenation by Pallavaram Municipality under TN Sustainable Urban Development Programme

By Town Panchayats:- Total water bodies in various districts : 3881 under 528 Town Panchayats. 586 water bodies have been restored by the ULD during the last five years. Restoration involves desilting, deweeding, strengthening of bunds etc.,

By Rural Development Department:- Total water bodies: 70,367, Total water bodies in various districts: 48758 and Total no of minor Irrigation tank: 21609, Water bodies restored: 1200, Restoration approved for 5000 Micro irrigation tanks and 25,000 Ponds under State funds

By Public Works Department: - Total Irrigation tanks in various districts: 14,341, Restoration completed: 2713 water bodies under RRR.

Tamilnadu Irrigated Agriculture Modernization Project (TNIAMP) schemes:- Restoration proposed: 1674 tanks and Restoration under process: 1005
Main activities in Restoration of Ponds or Lakes involved are

- ✓ De-silting,
- ✓ De-weeding,
- ✓ Deepening of water bodies,
- ✓ Strengthening of bunds and
- ✓ To preserve rainy water for ground water recharging.

(e) Jammu & Kashmir :-

As per the information received from Department of Forest, Environment & Ecology, Government of Jammu & Kashmir vide letter dated 22.08.2019, in J & K State, there are 1230 total water bodies (Lakes & Wetlands) i.e., In Jammu -150, 415 in Kashmir and 665 in Ladakh region. Water bodies in the State are under the administrative control of various departments like Housing and Urban Development, Irrigation, Flood Control and Irrigation Department, Urban Environmental Engineering Department (UEED), Forest Department, Wildlife Protection Department, Rural Development Department etc., . Proposed Action points for restoration of identified water bodies in J&K State includes

- ✓ Inventorisation and survey of water bodies;
- ✓ Demarcation of water bodies;
- ✓ Prioritisation of water bodies;
- ✓ Preparation of management plan covering aspects relating to - Boundary demarcation, Catchment Conservation, Water management, Water allocation for human & ecological purposes, Biodiversity Conservation, Capacity building, Infrastructure development, Ecotourism development and any other aspect of particular water body.
- ✓ Implementation of Management plan

(f) Assam:-

As per the information received vide letter dated 07.08.2019 Secretary to Government of Assam, Environment & Forest Department, requested for extension of time for submission of action plans for restoration of water bodies as inventory of water bodies in Assam is not possible as entire state was reeling under flood water since June 2019. Study will continue as soon as the flood water recede. Pollution Control Board Assam monitors- 130 water bodies (Rivers, Ponds etc.,).

(g) Jharkhand:-

As per the information received vide letter dated 04.09.2019 from Water Resources Department, Government of Jharkhand, so far identified 270619 no. of water bodies and geo-tagged. So far, 1386 no. of water bodies have been restored during the last five years by WRD, Jharkhand and Urban Development Department. 2200 water bodies will be restored in phases depending on the physical condition in coming two years. Identification of water bodies by Forest and Agricultural Departments are under progress, which will be completed within one year.

(h) Chhattisgarh: -

As per the information received vide letter dated 10.07.2019, total water bodies identified:45, Water bodies selected for Restoration: 16, water bodies restored completely- one lake; Water body under restoration: one, Water bodies to be restored under Phase-I: 14. Water bodies to be restored under Phase II :29. Action plans for Repair, Renovation & Restoration of water Bodies includes: -

- ✓ Identification and Projectivization - by March 2020
- ✓ Lagal framework- By March 2020
- ✓ Technology, Planning and Mapping- By April 2020
- ✓ Project Planning and Formulation- By March 2020
- ✓ Gap Identification and Augmentation- By November 2021
- ✓ Project Goals-Restoration, O & M of Restored Water Bodies of Urban areas in Six Years' time period

i) Meghalaya:-

As per the information received vide letter dated 02.09.2019, in Meghalaya State there are over 60,000 springs. Under Spring shed Project, 412 springs under 306 spring shed has been identified for treatment. Proposed action plans for restoration of springs are Desilting, Maintenance & Repair.

j) Delhi:-

As per the information received vide letter dated 24.09.2019 from Central District Magistrate, total water bodies identified in central district is 6. No. of Water bodies selected for restoration: 6. Water bodies restored completely: 5. Restoration of Water body at Muakundpur is pending.

5. Views of CPCB: -

It is pertinent to mention that the response from the States/UTs is not adequate to ensure restoration of all polluted water bodies (Lakes or Ponds) which may be attributed to

(i) No basic information on water bodies is available as the ponds or lakes are owned by both public and private owners,

(j) Data on water quality of water bodies may not be readily available to arrive at the water body is polluted or not;

(k) No provisions for prioritisation of water bodies;

(l) Lack of knowledge or guidelines on the subject matter; and

(m) There is a confusion among the States/UTs w.r.t the definition of water bodies as it covers all running water bodies as well as stagnant water bodies such as lakes or ponds or tanks. Clarity should be given in this regard.

In view of above, Hon'ble NGT may consider ***following actions as proposed by CPCB*** and to consider extension of appropriate time for preparation of action plans for restoration of water bodies (especially polluted ponds or lakes) by the States/UTs and thereafter CPCB to review the action plans received from States/UTs as well as implementation of action plans by the concerned States/UTs.

Expert Committee constituted by CPCB suggested CPCB for seeking time of six months for finalisation of the guidelines for restoration of Ponds or Lakes. However, CPCB will make all possible efforts to finalise the same ***within four month's time.***

S. No.	**Activity Proposed**	**Organization Responsible**	**Recommended Time Lines for compliance**
1	Finalization of Guidelines for Restoration of Ponds or Lakes in consultation with the Stakeholders	CPCB	Within Six Months
	Organizing Workshop on restoration of water bodies (Ponds or lakes) through experts for the concerned Stakeholders	CPCB	

Thereafter, all the concerned States or UTs may finalise and submission of action plans ***within four months*** *to CPCB as well as implementation of approved action plans* ***in a time frame of not more than two years.*** *Details of activities to be performed are detailed below: -*

S. No.	Activity Proposed	Organization Responsible
1.	Identification and Geo-Tagging of Ponds or Lakes in the Country	NRSA, State Space Application Centre and Concerned State Departments
2	Assessment of Water Quality of Ponds or lakes	Through Laboratories approved under E (P) Act, 1986 by the Concerned State Department/ULBs/State Environment Dept. / SPCB/PCC
3	Prioritization of Ponds or Lakes for restoration in consultation with the respective SPCB	State Environment Department/ SPCB/PCC
4	Preparation and submission of action plans for restoration of prioritized ponds or Lakes to CPCB for random scrutiny of proposed action plans	State Environment Department/ SPCB/PCC
5.	Execution of approved action plans	State Environment Department/ SPCB/PCC under the overall supervision of Principal Secretary, Environment Department

CPCB would be abide by any order passed by Hon'ble National Green Tribunal in the matter.

ANNEXURE -I

Item No.09 Court No. 1

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

M.A. No. 26/2019
IN
Original Application No. 325/2015

Lt. Col. Sarvadaman Singh Oberoi Applicant(s)

Versus

Union of India &Ors. Respondent(s)

Date of hearing: 10.05.2019

CORAM: **HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON**
HON'BLE MR. JUSTICE S.P. WANGDI, JUDICIAL MEMBER
HON'BLE MR. JUSTICE K. RAMAKRISHNAN, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

For Applicant(s): Ms. Nivedita Sharma, Advocate with Mr. Lt. Col. Sarvadaman Singh Oberoi, Applicant

For Respondent(s): Mr. Anil Grover, AAG, State of Haryana and Mr. Rahul Khurana, Advocate

ORDER

1. The issue for consideration in the original application is identification, protection and restoration of water bodies in the State of Haryana. However, in the light of proceedings which have taken place, we are of the view that the scope of the application needs to be extended to the entire country in the interest of protection of environment.

2. This application was filed on 14.08.2015 before this Tribunal in the context of Gurgaon District and as per status report as on

19

(201)

09.03.2017 filed before this Tribunal on behalf of State of Haryana referred to in the order dated 20.07.2018, there are 1216 water bodies in the State of Haryana which are larger than 2.25 Ha and 123 water bodies which are in possession of the State in Gurgaon District while the total number of the water bodies are 641 (later corrected as 647) in Gurgaon District. The Tribunal directed that for 123 water bodies which are in possession of the State, steps be taken for their proper maintenance and restoration. An exercise be undertaken in the entire State of Haryana to identify water bodies. On such identification, water bodies be assigned Unique Identification (UID) number and steps be taken for restoration. Report was sought within six months.

3. Status report has been filed vide email dated 25.04.2019 by the Haryana Pond and Waste Water Management Authority (HPWWMA) stating that HPWWMA has been established under a State Act called the HPWWMA Act, 2018 notified on 23.10.2018 for development and protection of ponds and matters connected therewith. Pond has been defined as a tank or lake or any other inland water body having an area of 0.5 acre or more. The authority is to undertake survey and take steps for restoration of water bodies, PDMS (Pond Data management System) has been developed which can be accessed through "http://hpwwma.org": DPMOs (District Pond Management Officers) are appointed for each District. As per PDMS data, 16306 ponds fall under the Panchayats and 265 ponds fall under the Urban Local Bodies. The same have been given UID

20

200

numbers and work of development will be undertaken by DPD (Development and Panchayat Department). The work for connecting the ponds with the nearby canal network will be executed by the IWRD (Irrigation and water Resources Department). 200 most problematic and overflowing ponds will be addressed during 2019-20. 193 model ponds which are overlapping with the said 200 ponds will be developed in first phase for which a plan has been prepared.

4. The Gurgaon Metropolitan Development Authority (GMDA) has also given a report to the effect that water bodies in the District are owned by 20 different entities. Work of restoration of 123 water bodies was taken up which has been widened to improve 647 water bodies. In all 826 water bodies, as found as per record, the task involves identification and verification of data, review and categorization of water bodies, assigning UID numbers, preparation of maps and analysis of information in regard to size, restoration potential, etc. 20% of the water bodies are at risk due to discharge of untreated sewage, industrial effluents or waste water.

5. Learned counsel for the applicant submits that not even a single water body has so far been taken up for restoration inspite of the exercise undertaken for identification of the water bodies. The steps for preventing dumping of solid waste or discharging of effluents are urgently required. The State of Haryana may take necessary steps in terms of the status report referred to in para 3 & 4 above as well as in the light of general directions which we propose to issue to all the States/UTs.

21

199

6. There can be no dispute that the water bodies play significant role in recharge of ground water, preventing soil erosion, harnessing rain water and maintaining micro-climate in the area. Need for conservation and protection of water bodies is thus obvious. This requires involvement not only at the level of the State but also at the level of the community for which State needs to take initiative. The threat caused to the water bodies is by dumping of waste, discharge of effluents and encroachments. The steps required for restoration will include preparation and implementation of catchment area treatment plans, setting up of green belt and wherever viable setting up of bio-diversity parks around the water bodies, cleaning up of the garbage/debris and demarcation by the Revenue Department on identification survey and demarcation. Each water body is required to be given a geo-referenced-UID and an action plan is required for restoration and protection of each of the water bodies. In this view of the matter, need for conservation and protection of water bodies is not confined to the State of Haryana alone but extends to the whole country.

7. The Hon'ble Supreme Court in *Hinch Lal Tiwari v. Kamala Devi & Ors. (2001) 6 SCC 496* observed:

> *"It is important to notice that the material resources of the community like forests, tanks, ponds, hillock, mountain etc. are nature's bounty. They maintain delicate ecological balance. They need to be protected for a proper and healthy environment which enables*

22

people to enjoy a quality life which is the essence of the guaranteed right under Article 21 of the Constitution. The Government, including the Revenue Authorities i.e. Respondents 11 to 13, having noticed that a pond is falling in disuse, should have bestowed their attention to develop the same which would, on one hand, have prevented ecological disaster and on the other provided better environment for the benefit of the public at large. Such vigil is the best protection against knavish attempts to seek allotment in non-abadi sites."

8. The above observations advance the Public Trust Doctrine which is based on the principle that certain resources like air, water and forests have such great importance to the people as a whole that the same cannot be subject of private ownership. The same are gift of the nature and should be made freely available to the people. The Doctrine requires the State to protect such resources and not to permit them to be used for private or commercial purposes.[1] This concept is applicable to wetlands and all water bodies which is essential for protection of the environment. If the ponds and other such water bodies are not protected and conserved, this will in turn affect recharge of ground water, rain water harnessing and soil preservation.

9. Ground water conservation remains a challenge. This led the Hon'ble Supreme Court to direct constitution of the Central Ground Water Authority (CGWA) vide order reported in *M.C Mehta v. Union of*

[1] (1997) 1 SCC 388, M.C. Mehta vs Kamal Nath & Ors

197

India & Ors, (1997) 11 SCC 312. The data compiled by the said authority shows that there are over exploited, critical and semi critical areas (OCS). The ground water is on the decline in the said areas. In this regard, it may be noted that vide order dated 11.07.2018 in *W.P.C No. 4677/1985, M.C. Mehta v. Union of India and Ors.*, the Hon'ble Supreme Court noted the report of the Niti Ayog on "Composite Water Management Index", June 2018, in which it is stated, *inter alia*:

> *"In fact by 2020, 21 major cities, including Delhi, Bangalore and Hyderabad will are expected to reach zero groundwater levels, affecting access for 100 million people".*

10. The Tribunal has, vide order dated 07.05.2019 in *O.A No. 176/2015, Shailesh Singh Vs. Hotel Holiday Regency, Moradabad & Ors.*, directed the CGWA to prepare a policy for conservation of groundwater with a robust institutional mechanism for surveillance and monitoring with a view to enhance access to ground water for drinking purposes in OCS areas by way of appropriate replenishment practices which can be properly accounted and measured as well as to sustain the flood plains of rivers in terms of e-flows, augmentation of subterranean flows and preservation of other water bodies. The Tribunal also considered the matter in the context of Delhi, vide order dated 30.08.2018 in *Original Application No. 496 of 2016, Tribunal on its own Motion Vs. Govt. of NCT of Delhi & Ors.*, and appointed a Committee headed by the former Judge of Delhi High Court to oversee the steps for conservation of ground

24

water in Delhi. We also note the guidelines for National Lake Conservation Plan prepared by MoEF&CC in May 2008 as well as National Plan for Conservation of Aquatic Ecosystem (NPCA) prepared by MoEF&CC in November, 2016. Irrespective of the subject being covered by a particular State statute, the protection of water bodies is an essential need for protection of environment as held in *Hinch Lal Tiwari (Supra)*. Such requirement is covered by the 'Precautionary' principle as well as the 'Sustainable Development' principle which are required to be enforced by this Tribunal under Section 20 of the NGT Act, 2010. The HPWWMA Act, 2018 covers only ponds having area of more than 0.5 acres. Thus ponds of lesser area have been left out of regulation under the said Act. This aspect needs to be addressed to the extent the same remains un-addressed not only in Haryana but throughout India to the extent the existing statutory framework or guidelines do not cover comprehensively the subject of restoration of all the water bodies. The definition of water body in the Haryana Act is as follows:

> *"the 'pond' means a tank or lake or any other inland water body having an area of 0.5 acre or more, whether it contains water or not, and mentioned in revenue records as talab, johar, tank or by any other name and includes green belt and the peripheral catchments areas, main feeder inlet and other inlets, bunds, weirs, sluices etc but does not include wet lands as notified by the Government from time to time."*

195

11. The above definition shows that only ponds of area of more than 0.5 acres are sought to be restored under the statutory provisions of the said Act. While in terms of the orders of the Hon'ble Supreme Court in *Hinch Lal Tiwari (Supra)* even ponds of lesser area will be covered for being protected and restored. This is also imperative in terms of the concern raised in the order of Hon'ble Supreme Court dated 11.07.2018 in *W.P.C Nos. 4677/1985, M.C. Mehta vs. Union of India &Ors.* for conservation of ground water. If all water bodies including ponds of lesser area than 0.5 acre are not covered, this will affect the environment including recharge of ground water, harnessing of rain water, prevention of soil erosion and maintaining the micro climate. We may, however, clarify that focus may be on ponds, etc. recorded in the revenue record.

12. We may note that there are 351 polluted river stretches in India identified as such by the CPCB which need remediation. The matter is being considered by this Tribunal in *Original Application No.673/2018, News item published in "The Hindu"authored by Shri Jacob Koshy titled "More river stretches are now critically polluted : CPCB.* In *O.A. No. 148/2016, Mahesh Chandra Saxena Vs. South Delhi Municipal Corporation &Ors.*, vide order dated10.05.2019, it was observed that reuse of treated sewage water as well as restoration of water bodies are connected to ground water conservation, which in turn is connected to remedying the pollution of polluted river stretches.

26

193

13. Thus to give effect to 'Precautionary' principle and 'Sustainable Development' principle, we direct all the States and UTs to review the existing framework of restoration all the water bodies by preparing an appropriate action plan. Such action plans may be prepared within three months and a report furnished to the CPCB. The CPCB may examine all such plans and furnish its comments to this Tribunal within two months thereafter. The Chief Secretaries of all the States/UTs in the course of undertaking monitoring exercise in pursuance of the order of this Tribunal in *O.A No. 606/2018, Compliance of MSW Rules, 2016,* may also include restoration of water bodies as one of the items as the same is also incidental to waste management which are covered by orders in *O.A No. 606/2018, Compliance of MSW Rules, 2016.*

14. The CPCB may prepare and place on its website guidelines in the matter of restoration of water bodies in the light of above order within one month.

15. The matter may also be monitored by Central Monitoring Committee constituted in terms of order dated 08.04.2019 in *O.A No. 673/2018, News item published in "The Hindu" authored by Shri Jacob Koshy titled "More river stretches are now critically polluted : CPCB,* as this matter is connected to the steps required for remedying the polluted river stretches as already explained.

16. A copy of this order be sent to the Chief Secretaries of all the States and Union Territories and the CPCB by email.

27

194

List for further consideration on 09.12.2019.

Adarsh Kumar Goel, CP

S.P. Wangdi, JM

K. Ramakrishnan, JM

Dr. Nagin Nanda, EM

May 10, 2019
M.A. No. 26/2019
INOriginal Application No. 325/2015
AK

28

ANNEXURE -II

HON'BLE NGT MATTER
Date: 30.05.2019

F No- A-14011/1/2019-WQM-I

2294-2339

To

PS to Chief Secretary,
All State Govt. /UT Admin

Sub: Hon'ble NGT, PB, New Delhi order dated 10.5.2019 in M.A. No. 26/2019 in O.A. No. 325/2015 in the matter of Lt. Col. Sarvadaman Singh Oberoi Vs UOI & Ors before –reg.

Sir,

Kindly refer to Hon'ble NGT order dated 10.5.2019 in O. A. No. 325 of 2015 and Para 13 of Hon'ble NGT order is reproduced as follows: "we direct all the States and UTs to review the existing framework of restoration all the water bodies by preparing an appropriate action plan. Such action plans may be prepared within three months and a report furnished to the CPCB. The CPCB may examine all such plans and furnish its comments to this Tribunal within two months thereafter."

Further, it is to inform that as per Parliament Standing Committee on Water Resources Report of 2016 (https://www.prsindia.org/report-summaries/repair-renovation-and-restoration-water-bodies) entitled "Repair, Renovation and Restoration of Water Bodies", some of the identified water bodies have been restored under the "Repair, Renovation and Restoration of Water Bodies Scheme"

In view of the above, it is requested to kindly arrange to provide details of Central Govt. funded schemes implemented or being implemented for repair, renovation and restoration of water bodies in your UT along with the following details:-

1. No. of water bodies identified in the UT
2. No. of water bodies selected for restoration
3. Details of funds received from Central Govt. (Water body wise funds received and the funding agency)
4. No. of water bodies restored completely so far and no. of water bodies under restoration at present
5. Water body wise action plans proposed or implemented for restoration

Above details may please be arranged to submit to CPCB within 15 days to enable to submit consolidated report to Hon'ble NGT.

Yours faithfully,

(A. Sudhakar)
DH, WQM-I Division

Copy to:

1. The Member Secretary, SPCBs/PCCs : for necessary action, please
2. Regional Director, (All RDs) : for information & follow-up with SPCBs/PCCs, please
3. PS to MS : for information of 'MS', please
4. LO, CPCB : for information, please

केन्द्रीय प्रदूषण नियंत्रण बोर्ड
निर्गत..... 18.05.19
दिनांक.....

(A. Sudhakar)

1. Regional Director,
Central Pollution Control Board
Regional Directorate (South)
1st Floor, Nisarga Bhawan,
A-Block, Thimmaiah
Road, 7th D cross,
Shivnagar, Opp Pushpanjali
Theatre, Bengaluru 560079

2. Regional Director,
Central Pollution Control Board
Regional Directorate – Shillong
"TUM-SIR". Lower Motinagar,
Near Fire Brigade H.Q.,
Shillong, Meghalaya-793014

3. Regional Director,
Central Pollution Control Board
Regional Directorate- Kolkata
Southend Conclave, Block 502,
5th & 6th Floors, 1582 Rajdanga Main Road
Kolkata - 700 107

4. Regional Director,
Central Pollution Control Board
Regional Directorate – Bhopal
3rd Floor, Sahkar Bhawan, North TT Nagar,
Bhopal - 462003

5. Regional Director,
Central Pollution Control Board
Regional Directorate - Vadodara
Parivesh Bhawan,Opp. VMC Ward Office No. 10,
Subhanpura, Vadodara-390 023

6. Regional Director,
Regional Directorate - Lucknow
PICUP Bhawan, Vibhuti Khand,
Gomti Nagar, Lucknow– 226010

37

1. PS to Chief Secretary,
   Government of Assam
   Block- C, 3rd Floor,
   Assam Sachivalaya
   Dispur - 781006, Guwahati

2. PS to Chief Secretary,
   Government of Manipur
   South Block, Old Secretariat
   Imphal-795001

3. PS to Chief Secretary,
   Government of Uttar Pradesh
   1st Floor, Room No. 110
   Lal bahadur Shastri Bhawan
   Uttar Pradesh Secretariat,
   Lucknow - 226 001

4. PS to Chief Secretary,
   Delhi Secretariat,
   IP Estate, New Delhi - 110002

5. PS to Chief Secretary,
   Government of Meghalaya
   Main Secretariat Building
   Rilang Building, Room No. 321
   Meghalaya Secretariat,
   Shillong – 793001

6. PS to Chief Secretary,
   Government of Nagaland
   Civil Secretariat,
   Kohima-797004

7. PS to Chief Secretary,
   Government of Tamil Nadu
   Secretariat, Chennai – 600009

8. PS to Chief Secretary,
   Government of Uttarakhand
   4 Subhash Road, Uttarakhand Secretariat
   Dehradun – 248001

9. PS to Chief Secretary,
   Secretariat, Moti, Silvasa,
   Daman - 396220

10. PS to Chief Secretary,
    Government of Haryana
    4th Floor, Haryana Civil Secretariat
    Sector-1, Chandigarh – 160019

11. PS to Chief Secretary,
    Government of Andhra Pradesh
    1st Block, 1st Floor
    A.P Secretariat Office,
    Velagapudi – 522503

12. PS to Chief Secretary,
    Government of Bihar
    Main Secretariat, Patna – 800015

13. PS to Chief Secretary,
    Government of Chhattisgarh
    Mahanadi Bhawan, Mantralaya
    Naya Raipur - 492002

14. PS to Chief Secretary,
    Government of Goa Secretariat,
    Porvroim, Bardez, Goa – 403521

15. PS to Chief Secretary,
    Government of Gujarat
    1st Block, 5th Floor Sachivalaya,
    Gandhinagar – 382010

16. PS to Chief Secretary,
    Government of Himachal Pradesh
    H P Secretariat, Shimla –171002

17. PS to Chief Secretary,
    Government of Jammu & Kashmir
    R. No. 2/7, 2nd, Floor Main Building
    Civil Secretariat, Jammu – 180001

18. PS to Chief Secretary,
    Government of Jammu & Kashmir
    R. No. 307, 3rd Floor
    Civil Secretariat, Srinagar – 190001

19. PS to Chief Secretary,
    Government of Jharkhand
    1st Floor, Project Building,
    Dhurwa, Ranchi- 834004

20. PS to Chief Secretary,
    Governement of Karanataka
    Room No. 320, 3rd Floor
    Vidhana Soudha, Bengaluru - 560 001

36

21. PS to Chief Secretary,
Government of Kerala
Secretariat, Thiruvananthapuram - 695001

22. PS to Chief Secretary,
Government of Madhya Pradesh
MP Mantralaya, Vallabh Bhavan
Bhopal – 462004

23. PS to Chief Secretary,
Government of Maharashtra
CS Office Main Building, Mantralaya
6th Floor, Madame Cama Road,
Mumbai – 400032

24. PS to Chief Secretary,
Government of Mizoram
New Secretariat Complex,
Aizwal – 796001

25. PS to Chief Secretary,
Government of Odisha
General Administration Department
Odisha Secretariat, Bhubaneswar - 751001

26. PS to Chief Secretary,
Chief Secretariat, Goubert Avenue,
Puducherry – 605001

27. PS to Chief Secretary,
Government of Punjab
Chief Secretary Office,
6th Floor, Punjab Civil Secretariat -1,
Sector 1, Chandigarh, 160001

28. PS to Chief Secretary,
Government of Rajasthan
Secretariat, Jaipur – 302005

29. PS to Chief Secretary,
Government of Sikkim
New Secretariat,
Gangtok – 737101

30. PS to Chief Secretary,
Government of Telangana
Block C, 3rd Floor,
Telangana Secretariat, Khairatabad,
Hyderabad, Telangana - 500022

31. PS to Chief Secretary,
Government of Tripura
Agartala West Tripura
New Secretariat Complex
Secretariat-799010

32. PS to Chief Secretary,
Government of West Bengal
Nabanna, 13th Floor, 325,
Sarat Chatterjee Road, Mandirtala
Shibpur, Howrah – 711102

33. PS to Chief Secretary,
Raj Bhawan, Chandigarh

34. PS to Chief Secretary,
Andaman and Nicobar Administration
Secretariat, Port Blair – 744101

35. PS to Chief Secretary,
Government of Arunachal Pradesh
Civil Secretariat, Itanagar – 791111

36. PS to Chief Secretary,
Lakshadweep, Kavaratti – 682555

1. The Member Secretary,
Assam Pollution Control Board,
Bamunimaidam,
Guwahati – 781021

2. The Member Secretary,
Manipur Pollution Control Board,
Lamphelpat, Imphal West D.C. Office Complex
Imphal– 795004

3. The Member Secretary,
Uttar Pradesh Pollution Control Board,
Building.No. TC-12V, Vibhuti Khand,
Gomti Nagar, Lucknow-226 010

4. The Member Secretary,
Delhi Pollution Control Committee,
Government of N.C.T. Delhi
4th Floor, ISBT Building,
Kashmere Gate, Delhi-110006

5. The Member Secretary,
Meghalaya Pollution Control Board
Arden- Lumpyngngad
Shillong: 793014

6. The Member Secretary,
Nagaland Pollution Control Board,
Signal Point, Dimapur
Nagaland – 797112

7. The Member Secretary,
Tamil Nadu Pollution Control Board,
76, Mount Salai, Guindy,
Chennai-600 032

8. The Member Secretary,
Uttarakhand Environmental Protection & Pollution Control Board,
29/20, Nemi Road,
Dehradun, Uttarakhand – 248001

9. The Member Secretary,
Daman, Diu & Dadra Nagar Haveli Pollution Control Committee,
Office of the Deputy Conservator of Forests,
Fort Area, Court Compound,
Moti Daman, Daman – 396220

10. The Member Secretary,
Andhra Pradesh Pollution Control Board
D.No. 33-26-14 D/2, Near Sunrise Hospital,
Pushpa Hotel Centre, Chalamalavari Street,
Kasturibaipet, Vijayawada – 520 010

11. The Member Secretary,
Bihar State Pollution Control Board,
Parivesh Bhawan, Plot No. NS-B/2
Paliputra Industrial Area,
Patliputra, Patna (Bihar) - 800 010

12. The Member Secretary,
Chhattisgarh Environment Conservation Board,
Paryavas Bhavan, North Block Sector-19,
Atal Nagar Dist- Raipur (C.G.) 492002

13. The Member Secretary,
Goa State Pollution Control Board,
1st Floor, Dempo Tower,
EDC Patto Plaza, Panaji, Goa-403 001

14. The Member Secretary,
Gujarat Pollution Control Board
Paryavan Bhavan, Sector 10- A,
Gandhinagar – 382 043

15. The Member Secretary,
Himachal Pradesh Pollution Control Board,
Him Parivesh, Phase-III,
New Shimla, Himachal Pradesh 171009

16. The Member Secretary,
Jammu & Kashmir State Pollution Control Board,
Parivesh Bhawan, Forest Complex,
Gladni, Narwal, transport Nagar, Jammu,
Jammu and Kashmir 180004

17. The Member Secretary,
Jammu & Kashmir State Pollution Control Board,
Shiekh-ul-Campus, behind Govt. Silk Factory,
Raj Bagh, Srinagar (J&K)

18. The Member Secretary,
Jharkhand Pollution Control Board,
T.A Building, HEC, P.O. Dhurwa,
Ranchi – 834004

19. The Member Secretary,
Karnataka State Pollution Control Board,
Parisara Bhavan, 4th & 5th Floor,

Haryana State Pollution Control Board,
C-11, Sector-6, Panchkula-134109,
Haryana

21. The Member Secretary,
Kerala State Pollution Control Board,
Plamoodu Jn., Pattom Palace P.O.
Thiruvananthapuram - 695 004

22. The Member Secretary,
Madhya Pradesh Pollution Control Board,
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23. The Member Secretary,
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24. The Member Secretary,
Mizoram Pollution Control Board,
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Khatla, Aizawl, Mizoram: 796001

25. The Member Secretary,
Odisha Pollution Control Board,
A-118, Nilakanta Nagar, Unit –VIII,
Bhubaneshwar – 751012

26. The Member Secretary,
Puducherry Pollution Control Committee,
Housing Board Complex, Anna Nagar,
Puducherry -600 005

27. The Member Secretary,
Punjab Pollution Control Board,
Vatavaran Bhawan, Nabha Road,
Patiala, Punjab

28. The Member Secretary,
Rajasthan Pollution Control Board,
4, Jhalana Institutional Area,
Jhalana Doongri,
Jaipur (Rajasthan) - 302 004

49, Church St., Bengaluru-560 001

34

29. The Member Secretary,
Sikkim State Pollution Control Board,
Department of Forest,
Environment & Wildlife Management
Government of Sikkim,
Deorali, Gangtok, -737102

30. The Member Secretary,
Telangana State Pollution Control Board,
Paryavaran Bhawan, A-3, I.E. Sanath Nagar,
Hyderabad-500 018

31. The Member Secretary,
Tripura Pollution Control Board,
Vigyan Bhawan, Pandit Nehru Complex,
Gorkhabasti, PO: Kunjaban Agartala – 799006

32. The Member Secretary,
West Bengal Pollution Control Board,
Paribesh Bhavan, 10A, Block-L.A.,
Sector III, Salt Lake City,
Kolkata - 700 106

33. The Member Secretary,
Lakshadweep Pollution Control Committee,
Department of Science, Technology &
Environment,
Kavarati- 682555

34. The Member Secretary,
Arunachal Pradesh State Pollution Control
Board,
Paryavaran Bhawan, Papu Hill, Yupia Road,
Naharlagun- 791110

35. The Member Secretary,
Andaman & Nicobar Islands Pollution Control
Committee,
Department of Science & Technology,
Dollygunj Van Sadan, Haddo P.O., Port
Blair – 744102

36. The Member Secretary,
Chandigarh Pollution Control Committee,
Paryavaran Bhawan, Ground Floor, Sector 19 B
Madhya Marg, Chandigarh

ANNEXURE-III

F No- A-14011/1/2019-WQM-I 429-30 **Date: 30.05.2019**

To

1. The Joint Secretary,
   Ministry of Environment, Forests and Climate Change
   CP-Division, Prithvi Wing, 2nd Floor,
   Room No. 216, Indira Paryavaran Bhawan
   Aliganj, Jor Bagh Road
   New Delhi – 110003
2. The Joint Secretary,
   Ministry of Water Resources, RD&GR
   Shram Shakti Bhawan,
   New Delhi-110001

Sub: Hon'ble NGT, PB, New Delhi dated 10.5.2019 in M.A. No 26/2019 in O.A. No. 325/2015 in the matter of Lt. Col. Sarvadaman Singh Oberoi Vs UOI & Ors before - reg

Sir,

Kindly refer to Hon'ble NGT order dated 10.5.2019 in O. A. No 325 of 2015 and Para 13 of Hon'ble NGT order is reproduced as follows: "we direct all the States and UTs to review the existing framework of restoration all the water bodies by preparing an appropriate action plan. Such action plans may be prepared within three months and a report furnished to the CPCB. The CPCB may examine all such plans and furnish its comments to this Tribunal within two months thereafter."

Also, as per Parliament Standing Committee on Water Resources Report of 2016 (https://www.prsindia.org/report-summaries/repair-renovation-and-restoration-water-bodies) entitled "Repair, Renovation and Restoration of Water Bodies", some of the identified water bodies have been restored with the financial support from MoWR, RD&GR / MoEF&CC.

In view of above, it is requested to kindly arrange to provide State-wise details of Central Govt. funded schemes being implemented or any such schemes, if available at present for restoration of water bodies in the Country, for appraising the Hon'ble NGT in the matter.

Yours faithfully,

(A. Sudhakar)
DH, WQM-I Division

Copy to:
1. PS to MS : for information of 'MS', please
2. LO, CPCB : for information, please

(A. Sudhakar)

केन्द्रीय प्रदूषण नियंत्रण बोर्ड
निर्गत.....
दिनांक.....3/6/2019

ANNEXURE-IV

HON'BLE NGT MATTER

F No- A-14011/1/2019-WQM-I 2635-2676 **Date: 18.06.2019**

To

PS to Chief Secretary,
All State Govt. /UT Admin

Sub: Hon'ble NGT order dated 10.5.2019 in M.A. No 26/2019 in O.A. No. 325/2015 in the matter of Lt. Col. Sarvadaman Singh Oberoi Vs UOI & Ors

Sir,

Kindly refer to Hon'ble NGT order dated 10.5.2019 in O. A. No 325 of 2015 and directions of Hon'ble NGT at Para 13 is reproduced as follows: "we direct all the States and UTs to review the existing framework of restoration all the water bodies by preparing an appropriate action plan. Such action plans may be prepared within three months and a report furnished to the CPCB. The CPCB may examine all such plans and furnish its comments to this Tribunal within two months thereafter."

In pursuance to Hon'ble NGT order in the aforesaid matter, CPCB has prepared Guidelines for restoration of water bodies and same is uploaded in CPCB website at (http://cpcb.nic.in/NGTMC/Ind-Guidelines-RestWaterBodies-10062019.pdf)

In this regard, it is requested to kindly arrange to send the action plan prepared for restoration of water bodies falling in jurisdiction of your State/ UT to CPCB in compliance to Hon'ble NGT order dated 10.5.2019.

Yours faithfully,

(A. Sudhakar)
DH, WQM-I Division

Copy to:

1. The Member Secretary, SPCBs/PCCs : for necessary action, please
2. Regional Director, (All RDs) : for information & follow-up with SPCBs/PCCs, please
3. PS to MS : for information of 'MS', please
4. LO, CPCB : for information, please

केन्द्रीय प्रदूषण नियंत्रण बोर्ड
निर्गत.....
दिनांक.....19/06/19

(A. Sudhakar)

1. Regional Director,
Central Pollution Control Board
Regional Directorate (South)
1st Floor, Nisarga Bhawan,
A-Block, Thimmaiah
Road, 7th D cross,
Shivnagar, Opp Pushpanjali
Theatre, Bengaluru 560079

2. Regional Director,
Central Pollution Control Board
Regional Directorate – Shillong
"TUM-SIR". Lower Motinagar,
Near Fire Brigade H.Q.,
Shillong, Meghalaya-793014

3. Regional Director,
Central Pollution Control Board
Regional Directorate- Kolkata
Southend Conclave, Block 502,
5th & 6th Floors, 1582 Rajdanga Main Road
Kolkata - 700 107

4. Regional Director,
Central Pollution Control Board
Regional Directorate – Bhopal
3rd Floor, Sahkar Bhawan, North TT Nagar,
Bhopal - 462003

5. Regional Director,
Central Pollution Control Board
Regional Directorate - Vadodara
Parivesh Bhawan,Opp. VMC Ward Office No. 10,
Subhanpura, Vadodara-390 023

6. Regional Director,
Regional Directorate - Lucknow
PICUP Bhawan, Vibhuti Khand,
Gomti Nagar, Lucknow– 226010

2 11

1. PS to Chief Secretary,
   Government of Assam
   Block- C, 3rd Floor,
   Assam Sachivalaya
   Dispur - 781006, Guwahati

2. PS to Chief Secretary,
   Government of Manipur
   South Block, Old Secretariat
   Imphal-795001

3. PS to Chief Secretary,
   Government of Uttar Pradesh
   1st Floor, Room No. 110
   Lal bahadur Shastri Bhawan
   Uttar Pradesh Secretariat,
   Lucknow - 226 001

4. PS to Chief Secretary,
   Delhi Secretariat,
   IP Estate, New Delhi - 110002

5. PS to Chief Secretary,
   Government of Meghalaya
   Main Secretariat Building
   Rilang Building, Room No. 321
   Meghalaya Secretariat,
   Shillong – 793001

6. PS to Chief Secretary,
   Government of Nagaland
   Civil Secretariat,
   Kohima-797004

7. PS to Chief Secretary,
   Government of Tamil Nadu
   Secretariat, Chennai – 600009

8. PS to Chief Secretary,
   Government of Uttarakhand
   4 Subhash Road, Uttarakhand Secretariat
   Dehradun – 248001

9. PS to Chief Secretary,
   Secretariat, Moti, Silvasa,
   Daman - 396220

10. PS to Chief Secretary,
    Government of Haryana
    4th Floor, Haryana Civil Secretariat
    Sector-1, Chandigarh – 160019

11. PS to Chief Secretary,
    Government of Andhra Pradesh
    1st Block, 1st Floor
    A.P Secretariat Office,
    Velagapudi – 522503

12. PS to Chief Secretary,
    Government of Bihar
    Main Secretariat, Patna – 800015

13. PS to Chief Secretary,
    Government of Chhattisgarh
    Mahanadi Bhawan, Mantralaya
    Naya Raipur - 492002

14. PS to Chief Secretary,
    Government of Goa Secretariat,
    Porvroim, Bardez, Goa – 403521

15. PS to Chief Secretary,
    Government of Gujarat
    1st Block, 5th Floor Sachivalaya,
    Gandhinagar – 382010

16. PS to Chief Secretary,
    Government of Himachal Pradesh
    H P Secretariat, Shimla –171002

17. PS to Chief Secretary,
    Government of Jammu & Kashmir
    R. No. 2/7, 2nd, Floor Main Building
    Civil Secretariat, Jammu – 180001

18. PS to Chief Secretary,
    Government of Jammu & Kashmir
    R. No. 307, 3rd Floor
    Civil Secretariat, Srinagar – 190001

19. PS to Chief Secretary,
    Government of Jharkhand
    1st Floor, Project Building,
    Dhurwa, Ranchi- 834004

20. PS to Chief Secretary,
    Governement of Karanataka
    Room No. 320, 3rd Floor
    Vidhana Soudha, Bengaluru - 560 001

210

21. PS to Chief Secretary,
Government of Kerala
Secretariat, Thiruvananthapuram - 695001

22. PS to Chief Secretary,
Government of Madhya Pradesh
MP Mantralaya, Vallabh Bhavan
Bhopal – 462004

23. PS to Chief Secretary,
Government of Maharashtra
CS Office Main Building, Mantralaya
6th Floor, Madame Cama Road,
Mumbai – 400032

24. PS to Chief Secretary,
Government of Mizoram
New Secretariat Complex,
Aizwal – 796001

25. PS to Chief Secretary,
Government of Odisha
General Administration Department
Odisha Secretariat, Bhubaneswar - 751001

26. PS to Chief Secretary,
Chief Secretariat, Goubert Avenue,
Puducherry – 605001

27. PS to Chief Secretary,
Government of Punjab
Chief Secretary Office,
6th Floor, Punjab Civil Secretariat -1,
Sector 1, Chandigarh, 160001

28. PS to Chief Secretary,
Government of Rajasthan
Secretariat, Jaipur – 302005

29. PS to Chief Secretary,
Government of Sikkim
New Secretariat,
Gangtok – 737101

30. PS to Chief Secretary,
Government of Telangana
Block C, 3rd Floor,
Telangana Secretariat, Khairatabad,
Hyderabad, Telangana - 500022

31. PS to Chief Secretary,
Government of Tripura
Agartala West Tripura
New Secretariat Complex
Secretariat-799010

32. PS to Chief Secretary,
Government of West Bengal
Nabanna, 13th Floor, 325,
Sarat Chatterjee Road, Mandirtala
Shibpur, Howrah – 711102

33. PS to Chief Secretary,
Raj Bhawan, Chandigarh

34. PS to Chief Secretary,
Andaman and Nicobar Administration
Secretariat, Port Blair – 744101

35. PS to Chief Secretary,
Government of Arunachal Pradesh
Civil Secretariat, Itanagar – 791111

36. PS to Chief Secretary,
Lakshadweep, Kavaratti – 682555

1. The Member Secretary,
Assam Pollution Control Board,
Bamunimaidam,
Guwahati – 781021

2. The Member Secretary,
Manipur Pollution Control Board,
Lamphelpat, Imphal West D.C. Office Complex
Imphal– 795004

3. The Member Secretary,
Uttar Pradesh Pollution Control Board,
Building.No. TC-12V, Vibhuti Khand,
Gomti Nagar, Lucknow-226 010

4. The Member Secretary,
Delhi Pollution Control Committee,
Government of N.C.T. Delhi
4th Floor, ISBT Building,
Kashmere Gate, Delhi-110006

5. The Member Secretary,
Meghalaya Pollution Control Board
Arden- Lumpyngngad
Shillong: 793014

6. The Member Secretary,
Nagaland Pollution Control Board,
Signal Point, Dimapur
Nagaland – 797112

7. The Member Secretary,
Tamil Nadu Pollution Control Board,
76, Mount Salai, Guindy,
Chennai-600 032

8. The Member Secretary,
Uttarakhand Environmental Protection & Pollution Control Board,
29/20, Nemi Road,
Dehradun, Uttarakhand – 248001

9. The Member Secretary,
Daman, Diu & Dadra Nagar Haveli Pollution Control Committee,
Office of the Deputy Conservator of Forests,
Fort Area, Court Compound,
Moti Daman, Daman – 396220

10. The Member Secretary,
Andhra Pradesh Pollution Control Board
D.No. 33-26-14 D/2, Near Sunrise Hospital,
Pushpa Hotel Centre, Chalamalavari Street,
Kasturibaipet, Vijayawada – 520 010

11. The Member Secretary,
Bihar State Pollution Control Board,
Parivesh Bhawan, Plot No. NS-B/2
Paliputra Industrial Area,
Patliputra, Patna (Bihar) - 800 010

12. The Member Secretary,
Chhattisgarh Environment Conservation Board,
Paryavas Bhavan, North Block Sector-19,
Atal Nagar Dist- Raipur (C.G.) 492002

13. The Member Secretary,
Goa State Pollution Control Board,
1st Floor, Dempo Tower,
EDC Patto Plaza, Panaji, Goa-403 001

14. The Member Secretary,
Gujarat Pollution Control Board
Paryavan Bhavan, Sector 10- A,
Gandhinagar – 382 043

15. The Member Secretary,
Himachal Pradesh Pollution Control Board,
Him Parivesh, Phase-III,
New Shimla, Himachal Pradesh 171009

16. The Member Secretary,
Jammu & Kashmir State Pollution Control Board,
Parivesh Bhawan, Forest Complex,
Gladni, Narwal, transport Nagar, Jammu,
Jammu and Kashmir 180004

17. The Member Secretary,
Jammu & Kashmir State Pollution Control Board,
Shiekh-ul-Campus, behind Govt. Silk Factory,
Raj Bagh, Srinagar (J&K)

18. The Member Secretary,
Jharkhand Pollution Control Board,
T.A Building, HEC, P.O. Dhurwa,
Ranchi – 834004

19. The Member Secretary,
Karnataka State Pollution Control Board,
Parisara Bhavan, 4th & 5th Floor,

Haryana State Pollution Control Board,
C-11, Sector-6, Panchkula-134109,
Haryana

21. The Member Secretary,
Kerala State Pollution Control Board,
Plamoodu Jn., Pattom Palace P.O.
Thiruvananthapuram - 695 004

22. The Member Secretary,
Madhya Pradesh Pollution Control Board,
E-5, Arera Colony, ParyavaranParisar,
Bhopal - 462 016, Madhya Pradesh

23. The Member Secretary,
Maharashtra Pollution Control Board,
Kalpataru Point, 2nd – 4th Floor
Opp. Cine Planet Cinema,
Nr. Sion Circle, Sion (E)
Mumbai – 400 022

24. The Member Secretary,
Mizoram Pollution Control Board,
New Secretariat Complex,
KhatlaThlanmualPeng,
Khatla, Aizawl, Mizoram: 796001

25. The Member Secretary,
Odisha Pollution Control Board,
A-118, Nilakanta Nagar, Unit –VIII,
Bhubaneshwar – 751012

26. The Member Secretary,
Puducherry Pollution Control Committee,
Housing Board Complex, Anna Nagar,
Puducherry -600 005

27. The Member Secretary,
Punjab Pollution Control Board,
Vatavaran Bhawan, Nabha Road,
Patiala, Punjab

28. The Member Secretary,
Rajasthan Pollution Control Board,
4, Jhalana Institutional Area,
Jhalana Doongri,
Jaipur (Rajasthan) - 302 004

49, Church St., Bengaluru-560 001

29. The Member Secretary,
Sikkim State Pollution Control Board,
Department of Forest,
Environment & Wildlife Management
Government of Sikkim,
Deorali, Gangtok, -737102

30. The Member Secretary,
Telangana State Pollution Control Board,
Paryavaran Bhawan, A-3, I.E. Sanath Nagar,
Hyderabad-500 018

31. The Member Secretary,
Tripura Pollution Control Board,
Vigyan Bhawan, Pandit Nehru Complex,
Gorkhabasti, PO: Kunjaban Agartala – 799006

32. The Member Secretary,
West Bengal Pollution Control Board,
Paribesh Bhavan, 10A, Block-L.A.,
Sector III, Salt Lake City,
Kolkata - 700 106

33. The Member Secretary,
Lakshadweep Pollution Control Committee,
Department of Science, Technology &
Environment,
Kavarati- 682555

34. The Member Secretary,
Arunachal Pradesh State Pollution Control
Board,
Paryavaran Bhawan, Papu Hill, Yupia Road,
Naharlagun- 791110

35. The Member Secretary,
Andaman & Nicobar Islands Pollution Control
Committee,
Department of Science & Technology,
Dollygunj Van Sadan, Haddo P.O., Port
Blair – 744102

36. The Member Secretary,
Chandigarh Pollution Control Committee,
Paryavaran Bhawan, Ground Floor, Sector 19 B
Madhya Marg, Chandigarh

ANNEXURE-V

F.No.A-14011/1/2019-WQM-I 4470-4512

26.07.2019

To

The Chief Secretary

(Andhra Pradesh, Andaman & Nicobar Island, Arunachal Pradesh, Assam, Bihar, Chhatisgarh, Daman, Diu And Dadra Nagar Haveli, Delhi, Goa, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Karnataka, Kerala, Lakshadweep, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Puducherry, Punjab, Rajasthan, Sikkim, Tamil Nadu, Telangana, Tripura, Uttar Pradesh, Uttarakhand, West Bengal)

Sub: M.A. No 26/2019 in OA No 325/2015 in the matter of Lt. Col. Sarvadaman Singh Oberoi Vs UOI & Ors before Hon'ble NGT, PB New Delhi

Sir,

Kindly refer to order passed by Hon'ble NGT (PB), New Delhi on 10.05.2019 in OA No 325/2015 in the matter of Lt. Col. Sarvadaman Singh Oberoi Vs UOI & Ors wherein *State Govt./UT administration were directed for taking necessary action for restoration of all water bodies by preparing action plan within three month in compliance to afore-said Hon'ble NGT order.* (Please refer to CPCB website *https://cpcb.nic.in/NGTMC/NGT-order_dated-10052019.pdf*).

CPCB vide letter dated 18.06.2019 already informed about indicative guidelines for restoration of water bodies, which is available on website at *https://cpcb.nic.in/NGTMC/Ind-Guidelines-RestWaterBodies-10062019.pdf*. It was also requested for submission of action plan for restoration of water bodies within 3 months, or before 09.08.2019.

In view of the above, I am directed to kindly remind about taking necessary action and to arrange for providing finalized action plans on or before 09.08.2019 to CPCB for review please.

Yours faithfully,

(B. Vinod Babu)
Member Secretary
O/C

Copy to:

1. Member Secretary, (All SPCBs/PCCs) : For kind information and necessary action, please
2. All RDs
   Shillong, Kolkata, Bengaluru, Bhopal, Vadodara, Lucknow, Chandigarh, Chennai & Pune : For information, follow- up with the concerned SPCBs/PCCs, please
3. Law Officer, Law Section ,CPCB : For information and record please

(B. Vinod Babu)
O/C

31/7/19

केन्द्रीय प्रदूषण नियंत्रण बोर्ड
निर्गत.....
दिनांक 29/7/19

42

ANNEXURE-VI

"Indicative Guidelines for Restoration of Water Bodies"

(in compliance to Hon'ble NGT Order dated 10.05.2019 in M.A.No. 26/2019 in OA.No. 325 of 2015)

Central Pollution Control Board

(Ministry of Environment, Forest and Climate Change, Govt. of India)

Parivesh Bhawan, East Arjun Nagar

DELHI-10 032

(www.cpcb.nic.in)

June 2019

43

CONTENTS

Indicative Guidelines for Restoration of Water Bodies (Polluted Lakes, Ponds and Rivers)

1 Introduction

Adequate availability of water of required quality is pre-requisite for survival and quality of human life. Surface water bodies like lakes, ponds, reservoirs, tanks and rivers were treated as community resource or asset over the centuries. In urban areas also such water bodies played an important role as a source of drinking water, absorption of flood water and a conduit for ground water recharge. They were being nurtured, protected, conserved and managed by the active participation of the local community without any code of conduct or rule. In turn, these water bodies have been catering the local human and livestock populations. The introduction of public water supply and ground water development through tube wells and hand pumps in the modern times, coupled with urbanization and industrialization induced pollution, a tectonic shift in the attitude of the people towards these water bodies has been witnessed. Both locals as well as the government have started neglecting this asset and have stopped caring, nurturing and conserving these community resources. Mushrooming urban, industrial and infrastructure development has further changed the status of these water bodies from community resources to a mere dumping ground or sink for solid wastes, construction debris, domestic sewage, industrial effluents, religious offering etc. resulting in severe degradation in the quality of such resources.

India has had abundant supply of water resources. However, from being a water abundant country India is gradually progressing towards water scarcity due to increasing population pressure, urbanization and uncontrolled growth. At present it is sustaining 18 per cent of world population with 4 per cent of global water

resources. Therefore, management of water resources has assumed great importance. Today availability of water resources is a major issue and is a big challenge facing our country.

In order to revive, restore and rehabilitate the traditional water bodies, the Government of India launched a Scheme for Repair, Renovation and Restoration (RRR) of water bodies which has multiple objectives like comprehensive improvement and restoration of water bodies thereby increasing tank storage capacity, ground water recharge, increased availability of drinking water, improvement in agriculture/horticulture productivity, improvement of catchment areas of tank commands, environmental benefits through improved water use efficiency by promotion of conjunctive use of surface and ground water, community participation and self-supporting system for sustainable management for each water body, capacity Building of communities in better water management and development of tourism, cultural activities, etc. by providing Central Grant to State Governments under a Pilot Scheme directly linked to agriculture during the remaining period of Xth Five Year Plan in January 2005. Keeping in view the benefits arising out of the implementation of the scheme, it was extended to XII Plan as well. Further, the Ministry of Environment, Forest and Climate Change is implementing a Centrally Sponsored Scheme of National Plan for Conservation of Aquatic Eco-systems (NPCA) since February, 2013 for conservation and management of identified lakes and wetlands in the 11 country in a holistic and integrated manner. Under the scheme financial assistance is provided to the concerned State Governments for undertaking various activities for conservation of wetlands and lakes, which also include a small component of lake front development and beautification, especially in urban lakes.

The National Water Policy (2012) formulated by MoWR,RD&GR advocates conservation, promotion and protection of water and highlights the need for augmenting the availability of water through rain water harvesting, direct use of

rainfall and other management measures. Further, the Standing Committee on Water Resources (2012-13) in their 16th Report on "Repair, Renovation and Restoration (RRR) of Water Bodies" also substantiated that *encroachment on water bodies is threatening the existence of a large number of water bodies and throwing consequent challenges of depleting ground water resources, occurrence of devastating floods in urban areas as well as water scarcity. Afore-said Committee suggested steps required to remove encroachment and to restore the water bodies.*

In recent years several metro cities such as Mumbai and Chennai have witnessed unprecedented flood. Encroachment of river bed is one of the reasons of flooding since it reduces the desired waterway of the river. Inadequacies of flood protection works, reduction in the water holding capacity of natural reservoirs in the basin due to progressive siltation, breaching of river banks, raising of river bed caused by deposition of silt are also the reasons. Encroachments happen due to number of local factors, thus issue is to be looked into by concerned State Government as per the prevailing rules and regulations of the respective State/UT.

As per MoWR, RD & GR, total number of water bodies have declined in the States which may be attributed to (i) increase in population and density of population per square kilometer; (ii) change in land use pattern; (iii) shift from paddy based agriculture to cash crop cultivation; (iv) depletion of ground water; (v) rapid Urbanization; (vi) unplanned urbanization and development activities; (vii) boom in construction activity; (viii) new water bodies have been developed to meet the additional requirement of water for drinking water and irrigation arising due to increase in population; (ix) some of the water bodies mainly, wells in southern group of islands were lost due to submergence of coastal area during tsunami in 2004.

NITI Aayog based on a study warning that India is facing its 'worst' water crisis in history and that demand for potable water will outstrip supply by 2030 if remedial steps are not taken. Nearly 600 million people faced high to extreme water stress. Also, made predictions that twenty-one cities, including Delhi, Bengaluru, Chennai and Hyderabad will run out of groundwater by 2020, affecting 100 million people. If matters are to continue, there will be a 6% loss in the country's Gross Domestic Product (GDP) by 2050. Moreover, critical groundwater resources, which accounted for 40% of India's water supply, are being depleted at "unsustainable" rates and up to 70% of India's water supply is "contaminated" 'Therefore, *water resource available to the country should be brought within the category of utilizable resources to the maximum possible extent.*

Therefore, existing scenario necessitates formulation of guidelines for restoration of water bodies keeping in view (i) to make pollution free water bodies and to meet the desired water quality criteria; (ii) to preserve excess water during monsoon, (iii) to restore and augment storage capacities of water bodies (iv) to serve and enhance ground water recharge; (v) increased availability of water for different intended purposes etc., These guidelines are only indicative guidelines and limited to restoration of ponds, lakes, polluted rivers or streams and divided into two parts i.e., stagnated surface water bodies such as ponds, lakes and rolling surface water bodies such as rivers or streams. However, concerned stakeholders are advised to conduct detailed gap analysis to enable to include related action plans for restoration of water bodies for ensuring compliance to Hon'ble NGT order dated 10.05.2019. For understanding aspects relating to restoration of water bodies, the documents already published or issued by Ministry of Water Resources, River Development and Ganga Rejuvenation (MoWR, RD & GR), Ministry of Housing and Urban Development also be referred as given at Sl. No. 7 References of these indicative guidelines.

This requires an understanding on the status of the water bodies, their suitable use, need for management and conservation so that they serve as a good

resource for future, potential strategies for long-term management especially in the urban areas, which are facing severe water shortage. It should include (i) Recognition Phase, (ii) Restoration Phase; (iii) Protection Phase; (iv) Improvement Phase and (v) Sustenance phase

2. Recognition Phase

Identification and recognition of the problem (inventory of existing and lost water bodies (due to encroachment, pollution, diversion etc.), analysis of cause of the problem and its effect and development of alternative solutions of problem as detailed below: -

2.1 Collection and maintenance of historical information relating to the water bodies

Based on the records available or remote sensing data or GIS maps, interaction with the public living in the vicinity of the water body, following information relating to the water bodies should be collected and records maintained by the concerned department in the State/UT: -

2.1.1 Stagnated water bodies such as ponds/lakes

A. ***Geographical details of the water body: -*** GPS Location and address of the water body, size or dimensions, area, elevation above mean sea level, ownership of the water body, boundaries with earmarking, map of water body (Digital map or remote sensing or satellite map over the years/National Wetland Atlas) with salient features

B. ***Hydrological description of the water body: -*** area, category of lake or pond (natural or man-made), average and maximum depth of stored water (during monsoon and non-monsoon period), total storage capacity, main source of water (rainfall/groundwater seepage/catchment

runoff/direct or indirect flow from any river or stream or creek), water permanence (permanent or intermittent), destination of excess water from pond or lake, purpose used to serve (like drinking water source, fisheries and agriculture or cultivation of aquatic food plants, recreational and aquatic sports, ground water recharge, act as a sink for sediments, habitat for noteworthy animal species, migratory birds or any other purpose), status of lakes or ponds in terms of % open water and aquatic vegetation.

C. Catchment Description

- Details on natural drains or flood channels and their flows contributing to water accumulation.
- Major Towns, total population living around the water body, any sewage contribution from the towns, total sewage generation, total no. of existing STPs and their treatment capacities, if any.
- Major industrial clusters or estates contributing to pollution in water body, total no. of industries (sector-wise), sector-wise total industrial effluent generation, existing industrial effluent treatment capacity [(both captive and Common Effluent Treatment Plants (CETPs)], if any.
- Total waste generation (waste like municipal solid waste, plastic waste, industrial hazardous waste, construction and demolition waste), existing provision for collection, transportation, treatment and disposal practices in the vicinity;
- Any other relevant information such as: - (i) Declared Wetland Ramsar sites, (ii) Bio-diversity details such as flora and fauna biodiversity (list of plant species, list of animal species, species of conservation significance (rare, endangered, threatened, endemic species), major plant invasive alien species and extent of invasion, major animal invasive alien species and extent of invasion.

2.1.2 *River or streams*

A. ***Digital map*** *of river under consideration with its tributaries showing salient features.*

B. ***Geographical and Hydrological description of polluted river***

Origin of the river and confluence with any other water body, length of travel of the river before confluence with any other water body, velocity of flow (in m/sec), average cross-sectional area (in m^2), average depth of flow (in m) during monsoon and non-mon-soon period, volume of flow or discharge (in m^3/sec), tributaries of the river under consideration for restoration, GPS location details of all the tributaries and drains confluence with the river or stream; drains or channels contributing to river pollution;

C. ***Catchment description***

- Purpose used to serve by the river or streams
- Major towns along the banks of the river, town-wise total population (with projection for the next 20 years), total water consumption (both supply by local or urban bodies and the ground water consumption), total sewage generation pattern, no. of STPs and the treatment capacity.
- Major industrial estates or clusters along the banks of the river, Industry-sector –wise no. of industries, total water consumption, total industrial effluent generation and existing mechanism for treatment of industrial effluent.
- GPS location details of STPs, CETPs and their capacities, if any
- Ground water status, its utilization and the quality.

- Agricultural practices and the control measures with respect to agricultural runoff.
- Flora and fauna including biodiversity etc.

Also, water being state subject, the State Government or Union Territory Administration should assign the task of maintaining historical records pertaining to each water body to concerned Department in the State/UT and also to designate one responsible Department to enable to take necessary remedial actions as and when situation demands.

2.2 Digital Mapping of all the collected information

All the collected information to be located on the map and such details to be periodically updated and maintained by the concerned department in the State/UT.

3. **Restoration Phase** includes declaring the 'designated best use' in order to formulate strategies and to decide degree of treatment required for restoration of such water body, if required, selection of best solution to problems identified and application of the solution to the problems of the land which vary from case-to-case, to achieve the designated best use water goals as detailed below: -.

3.1 Designation of water body for its use by the State/UT

The landscape of India is dotted with large number of lakes, reservoirs and wetlands. Historically, the water bodies such as ponds or lakes have met water demands of the population for centuries and a community management system had sustained them for a long period of time.

In a water body or its part, water is subjected to several types of uses. Depending on the types of uses and activities, water quality criteria have been specified to determine its suitability for a particular purpose. Among the various

types of users there is one use that demands highest level of water quality or purity and that is termed as "Designated Best Use" in that stretch of water body. Based on this, water quality requirements have been specified for different uses in terms of primary water quality criteria. The Primary Water Quality Criteria for bathing water already prescribed under Environment (Protection) Rules, 1986.

Every pond, lake, river or stream falling under the jurisdiction of the concerned Department of the State Government or UT Administration is required to declare for its 'designated best use' in order to formulate strategies and to decide degree of treatment required for restoration of such water body, if required. In the absence of such information, it would be difficult for the regulatory authorities to formulate the strategies to be prepared in case restoration of such water bodies is required.

Water being the State subject, such list of water bodies with designated best use with all the relevant information collected by the concerned Department of the State/UT Administration is required to be submitted to the concerned State Pollution Control Board (SPCB)/Pollution Control Committee (PCC), Central Pollution Control Board (CPCB) as well as MoEF & CC, MoWR, RD & GR.

3.2 National Restoration Goals (Ponds, Lakes and Rivers)

'Water quality criteria-designated best use' water quality parameters as given at **Annexure-I** is required to be followed as 'National Restoration Goals (for Ponds, Lakes or Rivers)'. However, this national restoration goals or criteria given at Annexure-I is only indicative and national restoration goals issued from time to time need to be followed for restoration of water bodies.

Monitored water quality of the water body (lakes and ponds) for relevant parameters (monitored at least 8 times in a year) (average mean value) is compared with the 'National Restoration Goals'. In case of ponds or lakes, if the monitored water quality of the selected water body is complying at least i.e.,

6 out of 8 times to the designated best use water quality parameters, then such pond or lake is fit for the 'designated best use' and if not then requires remedial measures for its restoration. *This criterion is applicable only in case of ponds and lakes.*

In case of rivers or streams, the criteria issued from time to time by CPCB for categorization of monitoring location need to be followed and accordingly, the strategies to be formulated for its restoration to achieve at least bathing water quality criteria. Criteria for categorization of river monitoring location is ~~are~~ given in ***Annexure-II. This criterion is to screen the potential locations having pollution (w.r.t bathing water quality parameters i.e., BOD and Faecal Coliform only) and requires more comprehensive examination to identify all the possible sources of pollution.***

3.3 Steps to be followed for restoration of stagnated polluted ponds or lakes

Conservation and restoration requires a systematic and comprehensive plan to study selective and representative freshwater ecosystems. Details of the study should include the status of ponds or lakes or rivers, their suitable use, management and conservation so that they serve as a good resource for future use and formulation of strategies for long-term management especially in the urban areas.

3.3.1 World Lake Vision

The World Lake Vision has been developed by International Lake Environment Committee (ILEC), Japan (https://www.ilec.or.jp/en/pubs/), in collaboration with UNEP , aiming at illuminating the growing crisis in management of lake ecosystem, articulating principles to guide the transition towards managing lakes for their sustainable use and to provide a practical blueprint for ensuring long-term health of lakes and integrity of their survival and economic development. The Seven Principles of Sustainable Lake Management are:

- A harmonious relationship between humans and nature is essential for the sustainable use of lakes.
- A lake drainage basin is the logical starting point for planning and management actions for sustainable lake use.
- A long-term, preventive approach directed to preventing the causes of lake degradation is essential.
- Policy development and decision making for lake management should be based on sound science and best available information.
- The management of lakes for their sustainable use requires the resolution of conflicts among competing users of lake resources taking into account the needs of present and future generations and of nature.
- Citizens and other stakeholders should be encouraged to participate meaningfully in identifying and resolving critical lake problems.
- Good governance, based on fairness, transparency and empowerment of all stakeholders, is essential for sustainable lake use.

The restoration of any water body should be considered only based on the needs and its utilities. *General steps to be followed for restoration of water bodies includes following: -*

3.3.2 Assessment of water quality of the selected water body

Water quality of all the designated best use water bodies are required to be monitored for relevant parameters and as per frequency prescribed under 'guidelines for water quality monitoring 2017' by Ministry of Environment, Forest and Climate Change (MoEF & CC). *Wherever, frequency is not suggested, water bodies are required to be monitored following the standard protocols for collection of samples by the concerned department at least once in a month or but not less than 08 months in a year (covering pre and post-monsoon period)*

3.3.3 Need for restoration of water body

The monitored values of the water body is analyzed based on the criteria suggested under these guidelines or criteria issued from time to time by CPCB for identification of polluted lakes or ponds or rivers or streams and decision be taken for restoration of water body. The criteria suggested for river monitoring location is to use for initial screening and identification of potential hotspots on the river. A comprehensive examination of water quality is required for identifying sources.

3.3.4 Identification of sources of pollution, quantification and assessing detailed gap analysis

Following steps to be followed for idenfication of sources of pollution, its quantification and for carrying out detailed gap analysis

A. Desk Review and Reconnaissance Survey

Identification of various sources contributing to pollution in ponds or lakes–need to be carried out based on desk survey (available information or data/ google map/ historical records) and physical reconnaissance survey (based on physical visual observations, interactions with the local public etc.,) for identification and ascertaining the sources of pollution of ponds or lakes. All the possible sources of pollution should be identified which may be

- open channels or drainage channels contributing untreated sewage or untreated or partially treated effluent discharge from existing sewage treatment plant in the vicinity (or)
- any untreated industrial effluent discharges either from the individual industry or any common effluent treatment plant (CETP) located in the vicinity (or)

- improper disposal of solid waste (plastic waste/ municipal solid waste/industrial hazardous waste/sludges from septic tanks or sewage treatment plants (STPs) or hazardous waste disposal from common effluent treatment plants (CETPs) (or)
- Run off from nearby agricultural fields, if any.
- Social and cultural misuse of ponds or lakes by local communities especially for immersion of idols during festival seasons.
- Any open-defecation around the ponds or lakes by the people living in the vicinity due to lack of sanitary facilities in their dwellings or colonies and fencing all around such water body.
- Physical condition of weed growth and necessity for dredging- Aquatic plants growing in ponds and lakes are beneficial for fish and wildlife as they provide food, dissolved oxygen, and spawning and nesting habitat for fish and waterfowl. Aquatic plants can trap excessive nutrients and detoxify chemicals. However, dense growths (over 25% of the surface area) of algae and other water plants can cause (i) Fish kills; (ii) Fish flavor problems; (iii) Pond water odor problems; (iv) Drinking water taste problem and (v) Stunted fish growth.
- Silting or sediments in the ponds or lakes due to improper disposal of waste including construction and demolition waste or silt contribution from drainage channels which reduces storage capacity and accumulation of contaminated sludges.
- Status of aesthetic conditions around the water body
- Condition of the banks or bunds, spill over (provision to ensure smooth flow of excess floods on downstream especially during monsoon period) or flood channels including obstructions if any.

- Encroachment of waterbodies due to urbanization
- Condition of Eutrophication of lakes or ponds due to inadequate measures (due to indiscriminate discharge of Industrial effluents, run-off from agricultural fields, refuse and discharge of sewage, domestic wastes like food remnants, soaps, detergents cause depleted levels of dissolved oxygen in water lead to a situation where other aquatic life-forms cannot survive).
- Available In-situ available technological options for restoration of ponds or lakes (such as aeration, bio-remediation) in lakes or plants)

B. Detailed gap analysis

Detailed gap analysis to be made w.r.t municipal sewage, industrial effluent and waste management with a projection of at least 15 to 20 years, existing infrastructure for management of municipal sewage, industrial effluents and waste management in the catchment area of the water body under consideration for its restoration including volumetric flow details of all the channels or drains contributing to pollution in water body, as detailed below: -

- ***Sewage management:*** - Total population (with projected population at least for the next 20 years) living around the water body, total water consumption (taking into account both water supply by local/urban bodies as well as ground water consumption), total sewage generation (with projected generation quantities), total no. of existing STPs and their treatment capacities and the observed gap with regard to the sewage management (gap may be estimated in the catchment of waterbody).

- ***Industrial effluent management:*** **-** Industrial clusters or estates contributing to pollution in water bodies, total no. of industries, estimation of total water consumption by the industries, total industrial effluent generation, existing treatment capacity (both captive and common effluent treatment plants (CETPs), gap in industrial effluent management and the requirement for captive or common effluent treatment plants

- ***Waste Management:*** **-** waste-wise total waste generation, existing provisions for collection, transportation, treatment and disposal (in compliance to the concerned rules) with their capacities and waste-wise gap analysis and the requirements for their management

C. Identification of other associated issues which requires attention as a part of restoration of pond or lake

Apart from identification of all possible pollution sources, detailed gap analysis, additional measures required on case-to-case basis to be identified especially in case of ponds or lakes w.r.t the following aspects: -

- Buffer Zone development maintenance and the existing activities within the buffer zone.
- Feasibility for Bio-diversity park in case adequate land is available in the vicinity of ponds or lakes.
- Greenery development in the vicinity of the ponds or lakes.
- Introduction of recreation facilities such as paddle boats, building jetty.
- Machinery and the man power requirement for maintenance of

the restored water body.

- Existing provision for disposal of waste arising from the de-siltation and de-weeding activity of a pond or lake.
- Awareness and training requirements.
- Any other related measures required also be analyzed for inclusion of such actions while making action plans for restoration of water body (E.g., aesthetic point of view, bins for rubbish management which may be generated due to visitors).

4. **Protection Phase** that takes care of the general health of the water body and ensures normal functioning. A long-term, preventive approach directed to preventing the causes of waterbody degradation is essential.

4.1 Preparation of action plans

Action plans to be prepared based on the historical information collected, desk review, reconnaissance survey conducted, detailed gap analysis for ensuring additional measures required for restoration of water body (vary from case-to-case) covering both direct and indirect measures with specific time targets and the organization responsible for implementation of action plans with budget estimates. Action plans should include covering following aspects: -

A. **Sewage Management: -** for management of sewage inflow if any (which is causing eutrophication of lake or pond) by having adequate infrastructure for treatment of sewage through adequate capacity of sewage treatment plants (STPs) or combination of other low cost treatment technologies for ensuring discharge norms notified under Environment (Protection) Act, 1986 and same should be ensured by an individual generator of sewage as well as by the concerned local or urban body.

B. **Industrial effluent management: -** for management of industrial effluent inflow by having adequate infrastructure for treatment of industrial effluent in the form of captive industrial effluent treatment plants or through common effluent treatment plants by the respective industry contributing to the pollution of water bodies and same also should be ensured by the respective State Industrial Development Corporations or State Pollution Control Board (SPCB) or Pollution Control Committee (PCC). Adoption of state-of-the technologies for production processes and for ensuring treatment of generated industrial effluent (feasibility adoption of zero liquid discharge).

C. **Management of waste**

- Adequate infrastructure should be ensured for management of wastes (such as municipal solid waste, industrial hazardous waste, construction and demolition waste, plastic waste, e-waste) in accordance with the respective provisions notified under the Environment (Protection) Act,1986, by all the concerned.

- Periodic physical removal of improperly disposed wastes (such as municipal solid waste, construction and demolition waste, plastic waste, industrial hazardous waste, human and animal night soils) by the concerned local or urban body.

D. **De-siltation**

- Periodic removal of nutrient enriched accumulated sludges in ponds and lakes helps in ground water recharge potential, removal of contaminated sediments as well as increases storage capacity of lakes or ponds.

b/

- Sediments removed from the ponds or lakes should be stored in a designated area (till moisture is completed drained out) at a suitable distance away from ponds or lakes and such dried sediments should be removed immediately so that sediments will not become a part of ponds or lakes once again especially in the event of any rain fall. Depending on the characteristics, such sediments after draining may be used as manure (complying to the manure quality prescribed under Solid Waste Management Rules, 2016 as amended from time to time or disposed of in accordance with the relevant provisions notified under Environment (Protection) Act, 1986.

E. De-weeding

- **Periodic dredging** (once in three months) of 80 % of dense and thickly covered aquatic plants viz., floating plants such as algae, duckweed, watermeal, water hyacinth; submerged plants such as milfoil, hydrilla, water lettuce, curly-leaf pondweed, clasping-leaf pondweed, coontail, sago pondweed, water lilly, water shield etc., bottom sediment, and associated nutrients should be carried out. De-weeding methods include: -

- **Preventive measures**

  - such as proper design and construction of ponds or lakes including levelling and smoothing of banks

- **Manual or physical control measures**

  - Manual or physical control measures such as non-chemical and non-motorized measures be taken for removal of weeds (manual harvesting) using hand pulling, rakes, cutters, benthic barriers, drawdown, aeration, shading and weed rollers as these measures are typically very low, however, such measures

62

are labor intensive and are therefore better suited to small, less established weed populations. Hand pulling and raking may result in turbid or murky water and may create plant fragments that can subsequently spread to new sites.

- **Mechanical control measures**
  - Using motor-driven under water weed cutters or floating weeds. rotovators essentially large-scale underwater rototillers for tilling up lake or pond sediments as well as to chop and loosen plant roots, or draglines (in case of underwater pond or lake dredging) (or) dry-land excavation machinery such as bulldozers (in case of drained ponds or lakes) shall be used (or)
  - Limiting the amount of sunlight available to aquatic plants by floating black plastic sheeting on the water surface (or) use of dark-colored and nontoxic water dyes (such as nigrosine aniline and aqua-shade)

- **Biological controls** i.e., introducing aquatic animals and plants that eat or compete with waterweeds. Herbivorous animals (those that eat plants) include a wide variety of insects, snails, crayfish, tadpoles, turtles, fish (sterile, triploid grass carp), ducks, geese, and swans which can be stocked in ponds or lakes to consume aquatic plant.

- **Application of common aquatic herbicides** for **control of lake or pond weeds**

Use of herbicides is not recommended as it may kill fish in ponds or lakes. Herbicides should be used in a controlled and systematic way under the supervision of the expert and general herbicides that may be used for weed control are as given below-

- *For Algae (microscopic, filamentous, Chara) control- Herbicides such as copper sulfate, copper chelates, endothall,, simazine)*
- *Submerged Plants (coontail, watermilfoil, pondweeds such as sago, curlyleaf, leafy) control- Herbicides such as Endothall, Diquat, simazine, fluridone may be used*
- *Free-floating plants (duckweed, watermeal) control:- Herbicides such as Diquat, simazine may be used*
- *Rooted-floating plants such as (waterlilies, spanerdock) control- Herbicides such as Glyphosate and 2,4,-D may be used*
- *Emergent plants (cattails, perennial grasses, and broadleaves) control: - Herbicides such as Glyphosate may be used*

F. Prohibition of discharges or disposal of waste or washing activity and action against violators

- Ban on discharge of industrial effluent or sewage or waste (such as municipal solid waste or industrial hazardous waste or plastic waste or construction and demolition waste or sludges from septic tanks/ STPs/CETPs) into lakes or ponds or drainage channels connected with ponds or lakes or open defecation in the vicinity as well as washing of clothes or wading of cattle
- Stringent actions be taken against violating industry by the SPCB/PCC as per provisions under Water (Prevention and Control of Pollution) Act, 1974 as well as Environment (Protection) Act, 1986

- Levying of fine or Environmental Compensation on the violators for improper disposal of sewage or industrial effluent or wastes into lakes or ponds.

G. Stabilization of earthen bunds and the drainage channels as well as silt and soil erosion control measures

- Stabilization of earthen embankments, shore line protection with vegetative or rock riprap to avoid soil erosion and the inflow drainage channels with the stone revetment or pitching so as to avoid rapid seepage or leakages

- All the inflow drainage channels should be provided with suitable silt barriers or sediment traps or sediment detention basins at suitable intervals for control of silt especially during monsoon.

- Also, at all the outfalls of drainage channels, suitable strains or traps should be provided to control inflow of all the floating materials and periodic removal of floating materials should be ensured.

H. Protection drainage basin including preservation of drainage channels

A lake or pond drainage basin is the logical starting point for planning and management actions for sustainable lake or pond use. A long-term, preventive approach for preventing the causes of degradation is essential.

- Historically the drainage channels which used to carry natural runoff from the drainage basin and presently carrying either untreated municipal sewage or industrial effluent or both and contributing to pollution of water bodies eventually due to encroachment in view of urbanization. All such drainage channels need to be restored by interventions such as (i) stoppage of inflow of untreated municipal

sewage or industrial effluent. If required, interaction and diversion of untreated sewage or industrial effluent from such drainage channels by routing through properly designed dedicated sewerage network to ensure conveyance and for ensuring treatment and disposal through STPs/CETPs. Feasibility of in-situ treatment of treated sewage and industrial effluent within drainage channels and prior to the inflow into the water bodies also be explored by the concerned authorities.

- Major channels running from the larger watersheds should be identified based on the historical data and such drainage channels should be preserved and protected with suitable buffer land without any impervious cover. This aspect should be ensured by the State Local/ Urban Development/Town Planning authorities while planning or expansion of a locality.

I. Removal of encroachments and blockades

- The Stat Government or UT Administration should maintain records pertaining to the boundaries of each pond or lake in the respective State/UT and necessary steps should be taken and ensured removal of all encroachments in the water body spread area/water body boundary as and when required.

- Removal of encroachments in the drainage channels should be carried out periodically to facilitates enhancement in aeration naturally in the water body

- Refrain from granting any consent for establishment for large scale projects in the catchment areas.

- Pond or lake boundary should be provided with fence (permanent / temporary fencing) to avoid unauthorized entry.

J. Flood Control Measures

- Excess floods from drainage basin be controlled with a provision of properly designed 'spill way' with a provision of controlled gates for smooth flow of excess water or run off during monsoon.

- Remove all encroachments (lake bed, storm water drains) to prevent calamities related to floods and to facilitate inter connectivity of water bodies.

- Removal all blockades at inlet or outlets should be ensured to avoid stagnation or blockage of storm water.

5. **Improvement phase** that deals with overall improvement in the water body and its uses including resolution of conflicts among competing users of lake resources taking into account the needs of present and future generations and of nature.

5.1 Adoption of In-situ techniques for in-situ remediation of ponds or lakes

A. Physical treatment approaches

Aeration (using surface aerators or , submerged aerators or a combination of both may be used to increase the dissolved oxygen in the water body, which is used by microorganisms to degrade the pollutants. Aeration also aids in mixing the different thermal layers of the water body, resulting in de-stratification, exposing the lower-most layers to atmospheric air. The need and extent of aeration is calculated based on the water quality parameters, depth of water body, ambient temperatures, wind conditions

etc.). Apart from aeration, methods such as wastewater diversion, periodic de-weeding and sediment dredging, proper maintenance of drainage channels or feeder channels also helps in increase in dissolved oxygen)

B. **Chemical treatment approaches**

Flocculation using chemicals like alum and neutralizing chemicals especially during acidification (increase in pH level of the stagnated water body)

C. **In-situ techniques**

- *Using aquatic plants* (Macrophytes such as water hyacinth (Eichhornia crassipes) and water lettuce (Pistia stratiotes), Whorl-leaf watermilfoil (Myriophyllum verticillatum), pondweed (Potamogeton spp.), common reed (Phragmites communis), cattail (Typha latifolia), duckweed (Lemna gibba) and canna (Canna indica)

- *Using aquatic animals* such as clams, snails and other filter-feeding shellfish

- *Using biological techniques* may be used to decompose, transform and absorb water pollutants. However, concentration and frequency of dosing of the microbial cultures is decided based on the volume of the water body, water quality parameters, ambient temperatures and extent of algal growth [as per literature (i) an enzyme namely Phycoplus and the nutrients are mixed thoroughly and sprayed into the pond within 2-3 weeks' time significance difference may be seen; (ii) treatment method based on hydroponics technique that cleans the lake by absorbing nutrients dissolved in the water and thereby supporting living species inside the lake; (iii) floating

treatment wetlands (FTW) which are artificial islands made of chemically inert materials, gravel having floating characteristics with plants that stay afloat on the lake or ponds such as wetland plants, water hyacinth, mosquito repellents and ornamental plants like cattails, bulrush, citronella, canna, hibiscus, fountain grass, flowering herbs, tulsi and ashwagandha) which helps in cleaning the lake or pond through hydroponics system, (iv) Introduction of mixture of nutrients to grow algae formed by diatoms (the most basic, single-cell life form found in water bodies) which helps in release of oxygen into water and in turn aerobic bacteria present in water body helps to break down the organic matter and convert the pollutants to base constituents and also reduces odors from the lakes or ponds. The diatoms are eaten by zooplanktons that are, in turn, consumed by fish].

5.2 Drainage basin management

- Drainage basin management includes control of non-point sources, structural and land treatment measures (regular monitoring of structures and systems and carrying out necessary rehabilitation and modernization programmes), interception and diversion of nutrients, sediments control (terracing, contour farming, grassed water ways, prior to reaching stagnated water body.

- Crop management, crop residue management and creation of shelter belts, good Irrigation practices, run off control provisions from agriculture runoff laden with excess fertilizers and pesticides

5.3 Green or Buffer Zone

- Buffer Zone around a lake or pond (at least 50 to 100 m periphery) should be maintained as green belt zone or no activity zone and no activity is allowed within the buffer zone by the concerned Departments in the State/UT. In case, any activity presently existing within the buffer zone (50 to 100 m), such as residential or commercial or industrial activity should take necessary measures to prevent discharge of any wastes into the water body.

- Within the buffer zone, no impervious cover is allowed and mainly plantation with a dense population of deeply rooted plants, trees, shrubs and grasses should be created so as to absorb nutrients (which promotes aquatic plant growth and a shift in the water quality) that comes directly from the anthropogenic activities.

5.4 Creation of biodiversity environment

In case the water body happens to be a site for the visit by migratory birds the number and type of trees by the side of the water body and water channels have also to be monitored to ensure adequate shelter as well as suitable environment for egg laying and propagation of bird species.

5.5 Monitoring of Implementation of action plans for restoration of ponds or lakes

The action plans are to be prepared and submitted to CPCB for seeking approval. The action-plan should include activity-wise action points, specific time lines, organization responsible for implementation, budget estimates as well as Program Evaluation and Review Technique (**PERT**) chart for implementation of action plans within the specified timelines, Upon approval of action plans for restoration

of ponds or lakes, thereafter, execution of action plans to begin and to be mentioned on monthly basis by the Monitoring Committee to be constituted under the Chairmanship of Principal Secretary (Environment) of the respective State Government or Union Territory Administration. The monitoring committee should review the progress on implementation of the action plans at least once in three months and apprise the Chief Secretary of the State/UT periodically.

A model lake restoration technique is given at **Figure 1** and a model flow chart for restoration of Ponds or Lakes is given in **Figure 2**.

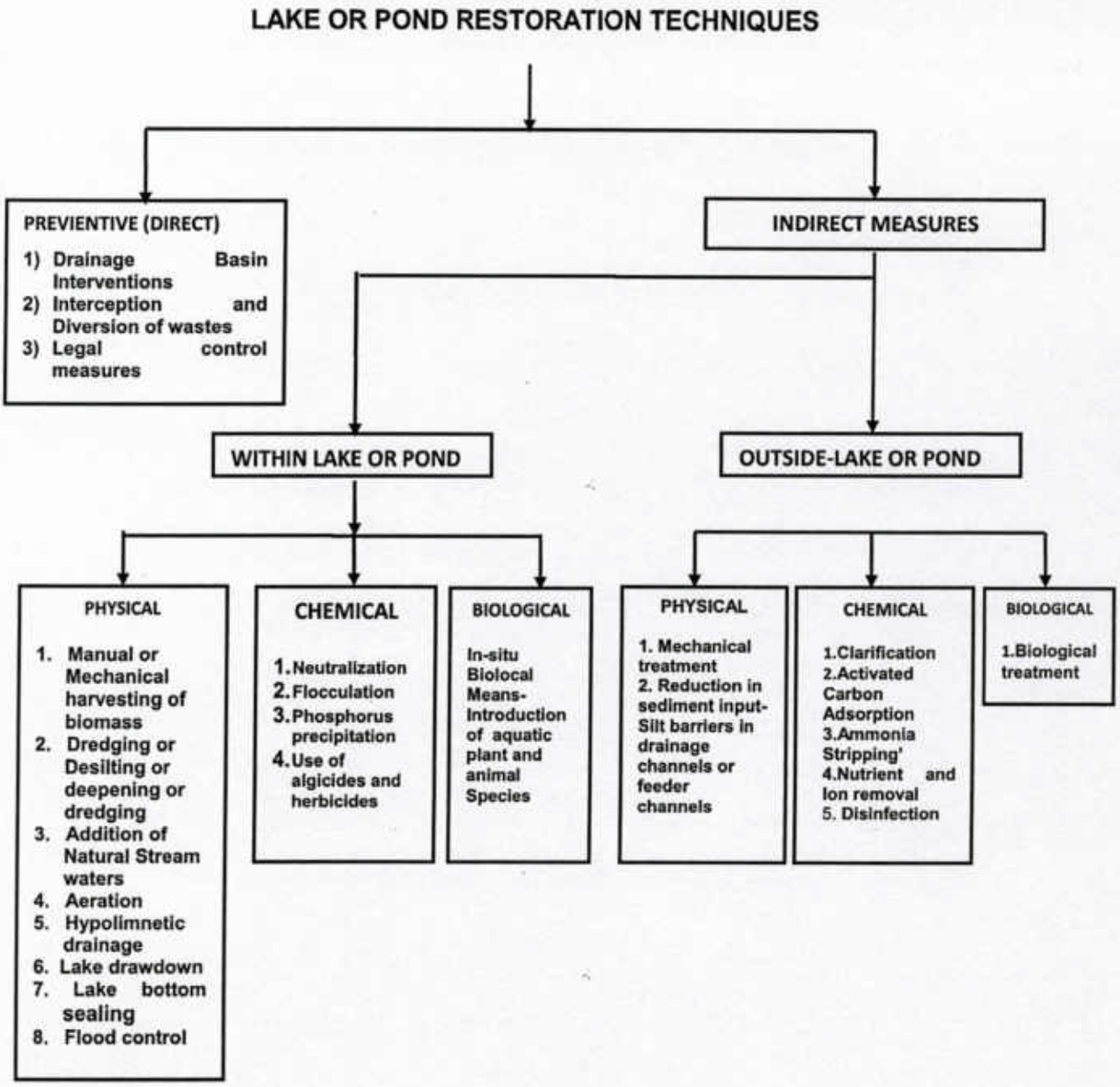

Figure 1. A Model Lake or Pond Restoration Technique

72

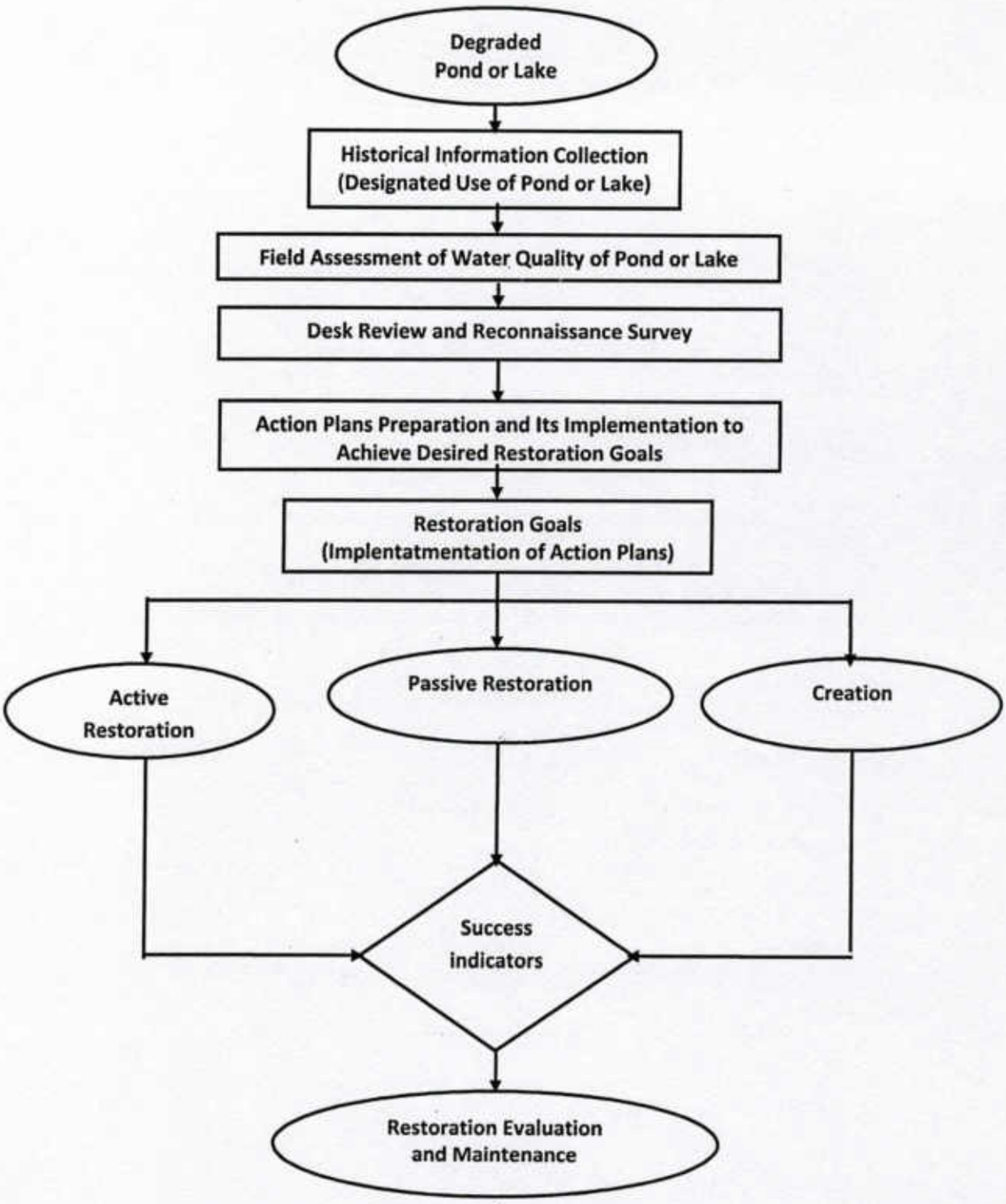

Figure 2. Model Flow Chart for Restoration of Pond or Lake

5.6 Steps involved in preparation of Action Plan for rejuvenation of polluted river stretches

A. Background Information (Refer to Sl. No. 2.1.2)

(i) Digital map of identified polluted river with its tributaries
(ii) Geographical and hydrological description of polluted river
(iii) Catchment description- uses of river, towns, cities and villages, industries (sector-wise no. of industries), ground water status and its utilisation, agricultural practices, flora and fauna etc.

B. Water Quality of River and Its Tributaries

(i) Water quality of river and its tributaries (at least for five years)
(ii) Quality assigned as per modified Water Quality Criteria **(Annexure-I)**

C. Identification of Causes of Pollution in Catchment Area of the River

➢ Industrial Pollution

(i) List of water polluting industries, industry sector-wise: water consumption, effluent generation and quantity of industrial effluent discharged into river
(ii) Status on granting of Consent under Water (Prevention and Control of Pollution) Act, 1974
(iii) Status on granting of authorization under the Hazardous & Other Waste (Management & Transboundary Movement) Rules, 2016 as amended (as applicable)
(iv) Compliance status and action taken (Placing in public domain)
(v) Final disposal mode of treated industrial effluents (i.e., disposal on land or drain or ZLD or drain connected to CETP etc.,)
(vi) Performance status of captive Effluent Treatment Plants (if applicable)
(vii) Existing Common Effluent Treatment Plants (CETPs) and their performance status.
(viii) Regulation of small scale industries/tiny units'/service units discharging effluents/sludge disposal into drains/landfill or any other mode of disposal

➢ Ground water management

(i) Status of ground water level-reserves in the catchment area of river under consideration
(ii) Blocks identified as over exploited, critical, semi-critical and safe (as per Central Ground Water Board (CGWB) if any)

(iii) Status of permissions granted by Central Ground Water Board (CGWB) to the industries and other Development projects in the catchment area of river.

(i) Compliance of conditions stipulated by CGWB and subsequently by SPCB.

(ii) Ground water sources (Hand –pumps, Wells, Tube Wells) identified in the catchment area of the river and the characteristics (at least for the period of two years);

(iii) Ground water sources (Hand –pumps, Wells, Tube Wells) identified as non-potable for human consumption in river stretch with Geo-genic/or polluted due to industries.

(iv) Compliance on ground water charging imposed by Rain Water Harvesting Mechanism.

(v) Existing mechanism for supply of potable water to the human population in the affected areas.

(vi) Health deformities /clinical reports in polluted river stretch areas in view of ground water contamination.

➢ **Sewage treatment and disposal: -**

(i) Cities, towns and villages located on the bank of river stretches discharging sewage effluents through drains into the river.

(ii) Quantification and pollution load of sewage generated by a city/town/village.

(iv) Status of septage management.

(v) Listing of drains carrying sewage and trade effluents joining river and determining flow and characteristics with details of catchment contributing sources (drainage maps from major /minor irrigation development of State/or local body).

(vi) Existing sewage treatment capacities and performance of Sewage Treatment Plants and their compliance Status

(vii) Final mode of disposal of treated sewage as well as sludge management

➢ **Waste management in the catchment area of river: -**

(i) Area-wise Hazardous waste generation, treatment and final mode of disposal and the existing infrastructure.

(ii) Area-wise Status on municipal solid waste generation, treatment and final mode of disposal and the existing infrastructure

(iii) Area-wise Status on bio-medical waste generation, treatment and final mode of disposal and the existing infrastructure

(iv) Any other waste generation, treatment and final mode of disposal and the existing infrastructure

- **River catchment information**

(i) Regulation of Flood Plain Zone
(ii) Encroachment in Flood Plain Zone
(iii) Plantation status
(iv) Flow data of river/tributary

- **Gap Analysis and Identification of the problems in the identified polluted river catchment: -**

(i) Sewage generation, existing infrastructure with treatment capacities and the observed gaps w.r.to infrastructure for sewage management
(ii) Industrial effluent generation, existing infrastructure with treatment capacities and the observed gaps w.r.to infrastructure for industrial effluent management
(iii) Waste generation, existing infrastructure with treatment capacities, designed life of the treatment and disposal facilities as applicable and the observed gaps w.r.to infrastructure for waste management
(iv) Any other relevant issues

(Note: - All the details such as river and its tributaries, area-wise population, sources and water consumption quantities, sewage generation, existing infrastructure for sewage management and the gaps observed, area-wise industries (industry sector-wise no. of industries), sources of water and water consumption quantities (industry-sector-wise), industrial effluent generation, existing infrastructure for treatment (like Captive ETPs, CETPs), final mode of disposal of industrial effluents, waste generation and its management with existing infrastructure, characteristics of river and its tributaries, identified contaminated ground water resource areas has to be detailed in the map preferably a digital map)

D. The River Rejuvenation Action Plan:-

After having complete based information as detailed under earlier paras A to D above, Action Plans on each Activity with time-lines can be framed. The key components of action plan may follow the suggested points as given the Table below:

S. No	Key Activity and Components		Agency to perform the task	Proposed Specific Time Frame for implement ation of action plan
1	**Industrial Pollution Control**			
	(a)	Inventorisation of water polluting industries	SPCB	
	(b)	Grant of consents	SPCB	
	(c)	Compliance verification	SPCB/ District Magistrate (DM)	
	(d)	Planning for CETP (as applicable)	SPCB+ State Industries Department or of Industries	
	(e)	Insisting on ZLD measures, recycling/reuse of treated industrial effluents	SPCB	
	(f)	Prohibition of disposal of effluents into drains except during rainy season subject to complying to effluent discharge norms for disposal in surface water.	SPCB + DM	
	(g)	Covering small and tiny units and not allowing discharge of effluents either individually or combined	SPCB+ Local Body/ Urban Body	
	(h)	Publishing list of defaulting industries in local newspapers and involving public in reporting deliberate discharges (without entering in the premises-backyard water and reporting running of industry against the closure orders.	SPCB + DM	
	(i)	Hazardous or Non Hazardous Waste Management Plan and no dumps anywhere except at identified locations	SPCB + DM	
	(j)	Reporting Non-Compliance of CGWB	SPCB +	

		conditions and closure of Non complying units.	CGWB	
	(k)	Levying compensation or fines for non-compliances as empowered to UPPCB under the Hon'ble NGT Order Dtd. 13/07/2017 in Ganga Matter in case of Tanneries.	SPCB	
	(l)	Other Action as relevant	SPCB + Concerned Agency of State	
2	**Ground Water Protection**			
	(a)	Declaration of Polluted Blocks	CGWB	
	(b)	Embargo on Water pollution /over-abstraction of industries as per block status	CGWB	
	(c)	Rain water harvesting	Local Body + DM	
	(d)	Identification of Geo-genic contamination (as applicable)	CGWB	
	(e)	Identification of industries discharging industrial effluent illegally and levying fine on such industries including closure of such industries	SPCB + CGWB	
	(f)	Remediation of contaminated ground water (due to discharge of industrial /sewage) with the recovered funds from the default industry	SPCB + CGWB	
	(g)	Capping of contaminated tube wells and Potable water supply through alternate measures in the affected areas of groundwater	Water Supply Department	
3	**Sewage Management**			
	(a)	Identification of cities, towns and villages discharging sewage into river/tributary	State Local and Urban Development and Executing Agencies	
	(b)	Identifying drains joining river and their quantification and characterizations of pollution load		
	(c)	Preparation of Detailed Project Report (DPR) for interception and diversion (I & D) of drains to sewage treatment plant (STP) for which suitable site to be identified and plan for utilization of treated sewage.		

	(d)	Execution of STP works and necessary infrastructure and ensuring household sewer connection for full utilization of STP		
	(e)	Regular cleaning of drains and prohibiting disposal of garbage/plastic and filthy material into drains including dairy waste		
	(f)	Restoration of natural drains for carrying only storm water (but not sewage)	Local and Urban Bodies + State Water Resources + State Irrigation Department + SPCB	
	(g)	Ensuring utilization of treated sewage for beneficial use such as agriculture, construction activity, washing/flushing/cleaning, industrial cooling etc.,	Local and Urban Bodies + State Irrigation Department + SPCB	
	(h)	Interception and Diversion of sewage from Drains and connectivity to STPs	Local and Urban Bodies	
4	**Flood Plain Zone (FPZ) Protection**			
	(a)	Demarcation of FPZ and not permitting encroachments	State Irrigation Department	
	(b)	Adopting good irrigation practices to conserve water	State Irrigation Department /DFO	
	(c)	Plantation and bio-diversity parks in FPZ	State Forest Department	
5	**E-Flow**			
	(a)	E-Flow determination/gauging	State Irrigation Department	
	(b)	Regulation of flow from barrages	State Irrigation Department	
6	**Health Impact Assessment Reports-Treatment Services**			

	(a)	Epidemiological survey in the catchment to find out water-born diseases/ health issues	State Health Department	
	(b)	Providing treatment services to the diseased persons in the catchment area		
7	**Education and Awareness**			
	(a)	Regular involvement of educational institutions for creating awareness and conservation programmes	State Education Department with concerned Departments	
8	**Funding for execution of Action Plans**			
	(a)	Pooling of financial resources of state and central assistance	State Finance Commission/ MoUD and MoWR, RD & GR	

E. Monitoring of Implementation of Action Plans for Rejuvenation of Polluted River Stretches:-

(i) In compliance with Hon'ble NGT Order dated 20/09/2018 (OA No. 673 of 2018), State/UT Level 'River Rejuvenation Committee (RRC)' constituted firstly has to ensure timely preparation of action plans (before 20/11/2018).

(ii) Prepared actions plans need to be submitted to CPCB for random scrutiny as well as for approvals.

(iii) Thereafter, execution of action plans to begin and to be mentioned on monthly basis by the 'RRC' under overall supervision of the Principal Secretary (Environment) of the respective State Government or Union Territory Administration.

A model flow chart for rejuvenation of polluted river is given in **Figure 3**

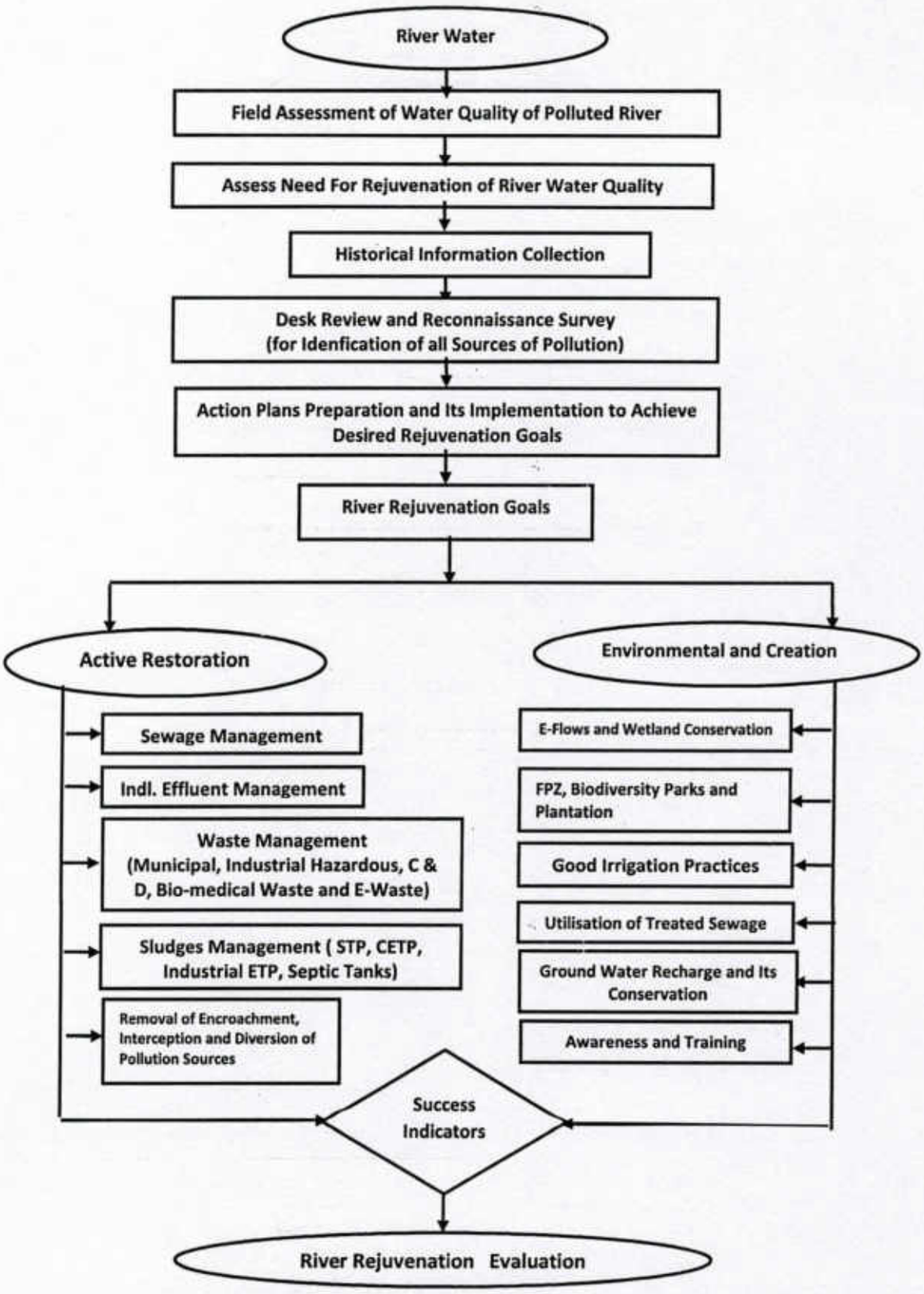

Figure 3. Model Flow Chart for Rejuvenation of Polluted Rivers

6. Sustenance Phase

Good governance, based on fairness, transparency and empowerment of all stakeholders, is essential to sustain the restoration efforts. Also, ownership of each waterbody should be decided, as most of them face indefinite sustenance due to multiplicity of administrative control and/or lack of specific action by singular authority. The in charge authority should treat the water body as 'natural resources', to act as the potential catalysts to better civic health, provide recreation, improve tourism, possibly meet water-needs of local people, etc. Such gains shall be attained only after the water bodies are treated on eco system based approach.

6.1 Awareness

Awareness for citizen's groups, resident welfare associations, local organizations, activist groups, green organizations, political organizations, educational institutions and government agencies in protection of the water bodies should be organized periodically by the concerned authorities through campaigns, electronic media in vernacular languages also be ensured by the concerned authorities

6.2 Training

Organizing periodic trainings through identified and reputed institutions for all the concerned on aspects relating to maintenance during post- restoration phase of the water body.

6.3 Promoting Public Participation

Promoting active public participation (with the help of schools, colleges and universities, NGOs) for identifying and resolving critical lake or pond problems as

well as periodic maintenance and restoration of water body from aesthetic and restoration point of view should be organized.

6.4 Dissemination of Information

Water quality of the pond or lake should be displayed at the main entrance of the pond or lake boundary and such water quality data also connected to the servers of concerned custodian State Department (s) as well as State Environment Department, respective State Pollution Control Board (SPCB)/Pollution Control Committee (PCC). Display boards also should be provided at all the salient points on **'Do's and Don'ts'** for the public.

6.5 Recreational Centre

Creation of pond or lakes can be converted into recreational centers with boating activities, walkways and benches for visitors on charge basis so as to generate revenue for operation and maintenance of the lake or pond areas

7. References

- Parliamentary Standing Committee Report 2016-"Repair, Renovation and Restoration of Water Bodies- Encroachment on Water Bodies and Steps Required to Remove the Encroachment and Restore the Water Bodies" (https://eparlib.nic.in/handle/123456789/65926?view_type=browse)

- Report of Niti Aayog (2018)- COMPOSITE WATER MANAGEMENT INDEX (CWMI) A NATIONAL TOOL FOR WATER MEASUREMENT MANAGEMENT & IMPROVEMENT http://pibphoto.nic.in/documents/rlink/2018/jun/p201861401.pdf

- GUIDELINES FOR REPAIR, RENOVATION AND RESTORATION OF WATER BODIES WITH DOMESTIC SUPPORT (2009)

https://www.indiawaterportal.org/sites/indiawaterportal.org/files/Repair%2C%20Renovation%20and%20Restoration_Water%20Bodies_Domestic%20Support_MoWR_2009.pdf

- GUIDELINES FOR REPAIR, RENOVATION AND RESTORATION OF WATER BODIES WITH EXTERNAL ASSISTANCE (2009) https://www.indiawaterportal.org/sites/indiawaterportal.org/files/Repair%2C%20Renovation%20and%20Restoration_Water%20Bodies_%20External%20Assistance_MoWR_2009.pdf

- Advisory on Conservation and Restoration of Water Bodies in Urban Areas published by Central Public Health and Environmental Engineering Organization (CPHEEO), Ministry of Urban Development (August 2013) http://mohua.gov.in/upload/uploadfiles/files/Advisory%20on%20Urban%20Water%20Bodies.pdf

- OA No. 200 of 2014 Titled M.C. Mehta Vs Union of India -(River Ganga) Order of HON'BLE NGT Dated 10/12/2015; and 13/07/2017.

- OA No. 231 of 214 Titled Doaba Paryavaran Samiti Vs State of UP & Ors. (on river Hindon) Order of HON'BLE NGT Dated 08/08/2018

- OA No. 673 of 2018 Titled News item published in "The Hindu" authored by Shri Jacob Koshy titled "More river stretches are now critically polluted: CPCB" Order of HON'BLE NGT Dated 20.09.2018, 19.12.2018 and 08.04.2019

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Annexure-I

Water Quality Criteria-Designated Best Use

Designated-Best-Use	Class of Water	Criteria
Drinking Water Source without conventional treatment but after disinfection	A	Total Coliforms Organism in MPN/100ml shall be 50 or less pH between 6.5 and 8.5 Dissolved Oxygen 6mg/l or more Biochemical Oxygen Demand 5 days 20C 2mg/l or less
Outdoor bathing (Organised)	B*	Faecal Coliform in MPN/100ml: 500 (desirable) and 2500 (Maximum Permissible) Faecal streptococci in MPN/100 ml: 100 (desirable) and 500 (maximum Permissible) pH between 6.5 to 8.5 Dissolved Oxygen: 5mg/l or more Biochemical Oxygen Demand 3 Day BOD, 27 ^{O} C: 3mg/l or less
Drinking water source after conventional treatment and disinfection	C	Total Coliforms Organism MPN/100ml shall be 5000 or less pH between 6 to 9 Dissolved Oxygen 4mg/l or more Biochemical Oxygen Demand 5 days 20C 3mg/l or less
Propagation of Wild life and Fisheries	D	pH between 6.5 to 8.5 Dissolved Oxygen 4mg/l or more Free Ammonia (as N) 1.2 mg/l or less
Irrigation, Industrial Cooling	E	pH between 6.0 to 8.5 Electrical Conductivity at 25 ^{O}C micro mhos/cm Max.2250 Sodium Absorption Ratio Max. 26 Boron Max. 2mg/l

* ***Class B as per Primary Water Quality Criteria for Bathing Water (Water Used for Organised Outdoor Bathing) as per Environment (Protection) Rules, 1986***

Annexure-II

CRITERIA FOR CATEGORISATION OF RIVER MONITORING LOCATION

1. Introduction

Water Quality monitoring is an essential component to maintain and restore the wholesomeness of resources by way of prevention and control of pollution as prescribed under the Water (Prevention and Control of Pollution) Act, 1974. However, the Water (Prevention and Control of Pollution), Act, 976 does not define the level of wholesomeness to be maintained or restored in different water bodies of the country. In view of the said reason, the Central Pollution Control Board (CPCB) has tried to define the wholesomeness of water in terms of safe human uses, and thus, taken human uses of water as base for identification of water quality objectives for different water bodies in the Country. It is considered ambitious to maintain or restore all natural water body at pristine level which is possible only by taking proper control measures. The level and degree of treatment required can be decided depending on the categorization of the polluted river locations/stretch, as per the criteria detailed below:-

2. Categorization of River Monitoring Location

The water quality data is required to be analyzed and primarily mean or average values of Biochemical Oxygen Demand (BOD) and Faecal Coliform (FC) need to be estimated. Then, based on the total score estimated for the parameters BOD (weightage- 70 %) and FC (Weightage- 30 %), based on the criteria, the monitoring location is categorized as 'polluted' location. The polluted monitoring locations in a continuous sequence are defined as 'polluted river stretch'. However, actual self-purification distance need to be estimated based on the requisite input parameters which depend on the case-to-case and the local conditions.

The monitoring locations may be categorized in five classes from Category I to Category –VI. i.e., critically polluted to Good or Fit for Bathing i.e., Category –I indicates 'critically polluted'; Category-II indicates 'severely polluted'; Category-III indicates 'moderately polluted', Category –IV indicates 'less polluted', Category – V indicates 'Good' or Fit for Bathing'

Above suggested criteria is intended only for categorization of the river monitoring locations. However, if any State/UT desires to identify any other water body such as lakes, tanks may also apply these criteria depending on the need and the requisite achievable goals for rejuvenation of such water bodies.

Table 1 to Table 3 gives the mean or average BOD/Faecal Coliform values or range and the corresponding scores as well as categorization of the monitoring location

Table 1. Observed Mean or Average BOD Value in mg/l and corresponding BOD Score

S. No	*Mean or Average* BOD (Weightage-70 %)	
	Mean or Average BOD (in mg/l)	BOD Score (X)
1	> 48	100
2	24-48	80
3	12-24	60
4	6-12	40
5	≤ 6	20

Table 2. Observed Mean or Average Faecal Coliform (in MPN/100 ml) and corresponding FC Score

S. No	Mean or Average Faecal Coliform (Weightage -30 %)	
	Mean or Average Faecal Coliform (in MPN/100 ml)	FC Score (Y)
(1)	> 5,00,000	100
(2)	5000 to 5,00,000	80
(3)	5000 to 50,000	60
(4)	500 to 5000	40
(5)	≤500	20

Table 3. Total Score and corresponding Category of River Monitoring Location

S. No	Total Score* (Z')	Category ~~Priority~~ Class of the Monitoring location	Category of Monitoring location
(1)	81-100	Category -I	Critically Polluted
(2)	61-80	Category--II	Severely Polluted
(3)	41-60	Category -III	Moderately Polluted
(4)	21-40	Category -IV	Less Polluted
(5)	≤ 20	Category -V	Good or Fit For Bathing

Note:

(i) Above criteria must be considered only for the river locations having monitored at least for 2 years and 8 observations in each year covering at least pre-monsoon and post-monsoon period;

(ii) *Above criteria is a preliminary screening criteria for categorizing monitoring locations. However, comprehensive assessment needs to be done by States/UTs to arrive at the extent of contamination;*

(iii) *Please refer to the procedure for estimation of Total Score given in S.No 3.;*

2.1 **Criteria for Category- I – Critically Polluted: -** If the Total score is 81-100, then the monitoring location is categorized as **'Critically Polluted'.**

2.2 **Criteria for Category- II – Severely Polluted: -** If the Total score is 61-80, then the monitoring location is categorized as **'Severely Polluted'**

2.3 **Criteria for Category- III-Moderately Polluted: -** If the Total score is 41-60, then the monitoring location is categorized as **'Moderately Polluted'**

2.4 **Criteria for Category-IV –Less Polluted: -** If the Total score is 21-40, then the monitoring location is categorized as **'Less Polluted'**.

2.5 **Criteria for Category -V-Good or Fit for Bathing:-**If the Total score is ≤ 20, then the monitoring location is categorized as **'Good or Fit for Bathing'.**

*For easy understanding, flow chart given in **Figure 4** and steps for calculating the total score may also be referred in the subsequent paras:-*

3. Steps for calculating total score and categorizing of monitoring location : -

(i) *Depending on the average BOD measured value, assign the BOD score (X) as given in **Table 1.***

(ii) *Similarly depending on the average FC measured value, assign the FC Score (Y) as given in **Table 2.***

(iii) *Total score **(Z)** is estimated as: BOD Score **(X) X** (Weightage of BOD i.e., 70 %) + FC Score **(Y) X** (Weightage for FC i.e., 30 %). and*

(iv) *Now compare calculated Total Score (Z) with the **Z'** Value given in the Table 3 and the monitoring location is categorized suitably.*

For easy understanding following examples may be referred in the subsequent paras.

E.g. (1): *At a particular monitoring location, the average values of BOD and the FC values are observed as 6 mg/l and 9000 MPN/100 ml respectively. Then, the total score is calculated as*

- *X is the BOD Score corresponding to the mean BOD value of 6 mg/l as per* ***Table 1*** *= 20*
- *Y is the FC Score corresponding to the average FC value of 9000 MPN/100 ml as per* ***Table 2*** *= 60*
- *Calculated Total Score* ***(Z)*** *=* ***X*** *X* ***Weightage of BOD*** *+* ***Y*** *X* ***Weightage of FC*** *i.e.,20 X 0.7 + 60 X 0.3 = 14 + 18= 32.*
- *Compare 39 value with the* ***Z'*** *values given in* ***Table 3*** *to decide on the ~~Priority~~ Category of the Monitoring Location. In this case, monitoring location is Category-IV i.e., 'Less Polluted',*

E.g.(2): *At a particular monitoring location, the average value of BOD and the FC values are observed as 2 mg/l and 45 MPN/100 ml respectively. Then, the total score is calculated as*

- *X is the BOD Score corresponding to the average BOD value of 2 mg/l as per* ***Table 1*** *= 20*
- *Y is the FC Score corresponding to the average FC value of 45 MPN/100 ml as per* ***Table 2*** *=20*
- *Calculated Total Score* ***(Z)*** *is calculated as =* ***X*** *X* ***Weightage of BOD*** *+* ***Y*** *X* ***Weightage of FC*** *i.e., 20 X 0.7 + 20 X 0.3 =20*
- *Compare 20 value with the* ***Z'*** *values given in* ***Table 3*** *to decide on the Category of the Monitoring Location. In this case, monitoring location is Category-V i.e., 'Good' or Fit for Bathing*

E.g. (3): *At a particular monitoring location, the average value of BOD and the FC values are observed as 2 mg/l and 550000 MPN/100 ml respectively. Then, the total score is calculated as*

- *X is the BOD Score corresponding to the average BOD value of 2 mg/l as per* ***Table 1*** *= 20*

- *Y is the FC Score corresponding to the average FC value of 550000 MPN/100 ml as per* ***Table 2*** *= 100*

- *Calculated Total Score* ***(Z)*** *=* ***X*** *X* ***Weightage of BOD*** *+* ***Y*** *X* ***Weightage of FC*** *i.e., 20 X 0.7 + 100 X 0.3 = 44.*

- *Compare 100 value with the* ***Z'*** *values given in* ***Table 3*** *to decide on the Category of the Monitoring Location. In this case, monitoring location is Category-III i.e., Moderately Polluted'*

E.g.(4): *At a particular monitoring location, the average value of BOD and the FC values are observed as 45 mg/l and 400 MPN/100 ml respectively. Then, the total score is calculated as*

- *X is the BOD Score corresponding to the average BOD value of 45 mg/l as per* ***Table 1*** *= 80*

- *Y is the FC Score corresponding to the average FC value of 400 MPN/100 ml as per* ***Table 2*** *= 20*

- *Calculated Total Score* ***(Z)*** *=* ***X*** ***X*** ***Weightage of BOD + Y X Weightage of FC*** *i.e., 80 X0.7 + 20 X 0.3 = 62.*

- *Compare 100 value with the* ***Z'*** *values given in* ***Table 3*** *to decide on the Category of the Monitoring Location. In this case, monitoring location is 'Category-II i.e., Severely Polluted'*

E.g (5): *At a particular monitoring location, the average values of BOD and the FC values are observed as 24 mg/l and 200000 MPN/100 ml respectively. Then, the total score is calculated as*

- *X is the BOD Score corresponding to the mean BOD value of 24 mg/l as per* ***Table 1*** *= 60*

- *Y is the FC Score corresponding to the average FC value of 200000 MPN/100 ml as per* ***Table 2*** *= 80*

- *Calculated Total Score* ***(Z)*** *=* ***X*** *X Weightage* ***of BOD*** *(70 %) + Y X* ***Weightage of FC*** *(30 %) i.e.,60 X 0.7 + 80 X 0.3 = 42 + 24= 66.*

- *Compare 90 value with the* ***Z'*** *values given in* ***Table 3*** *to decide on the Category of the Monitoring Location. In this case, monitoring location is Category-II i.e., 'Severely Polluted',*

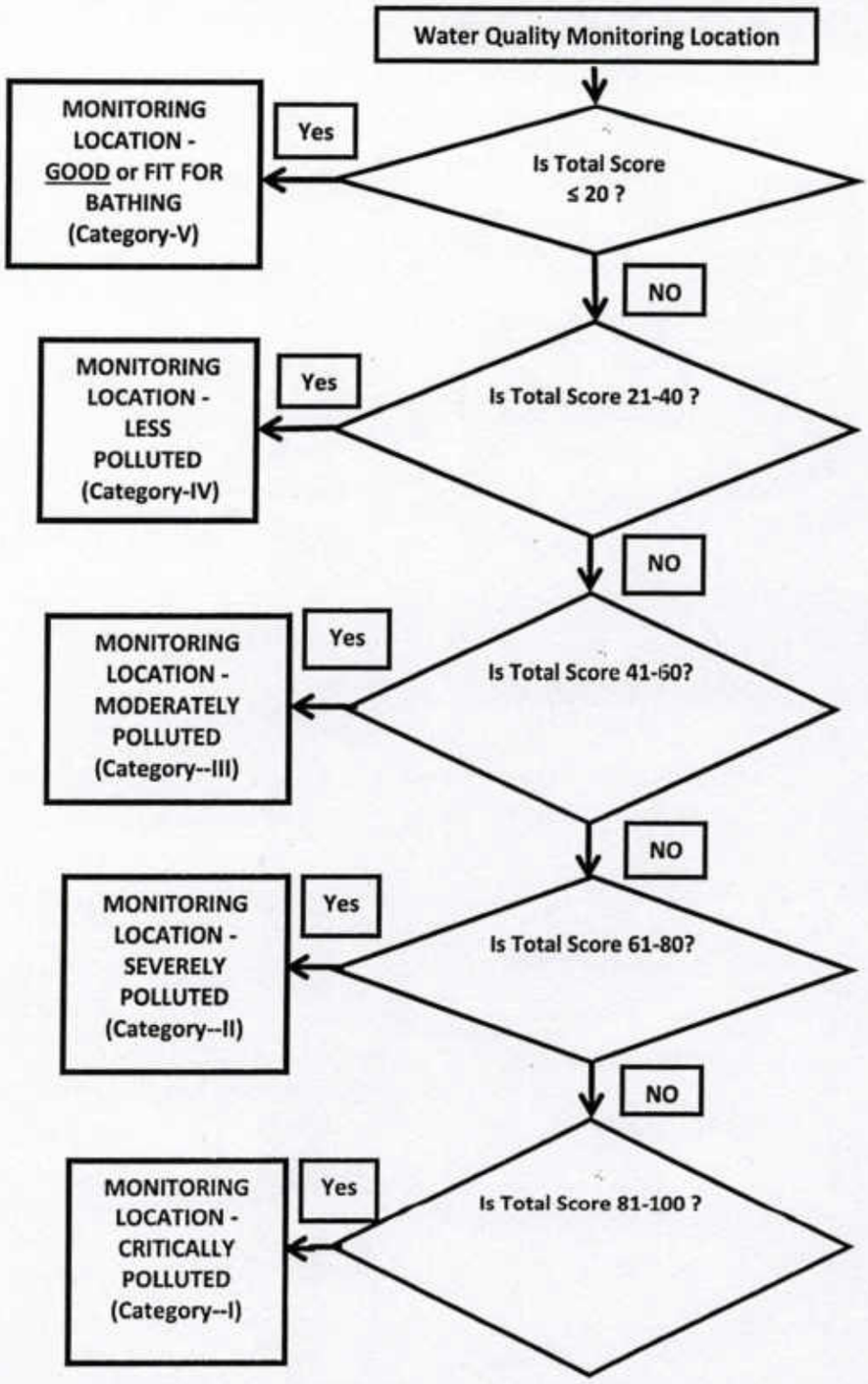

Figure 4. Flow Chart Showing Criteria for Categorization of River Monitoring Location

ANNEXURE-VII

Central Pollution Control Board
(Ministry of Environment, Forest & Climate Change, Govt. of India)
Parivesh Bhawan, East Arjun Nagar,
Delhi – 110032

F No- legal/NGT/582/19/193 Date: 28.08.2019/193

OFFICE ORDER

Constitution of Expert Committee for ensuring compliance to Hon'ble NGT, PB New Delhi order dated 10.5.2019 in M.A. No 26/2019 in O.A. No. 325/2015 in the matter of Lt. Col. Sarvadaman Singh Oberoi Vs UOI & Ors

In pursuance to Hon'ble NGT order dated 10.5.2019 in O. A. No 325 of 2015, Central Pollution Control Board (CPCB) is hereby constituting an Expert Committee with following members:

1.	**Member Secretary, CPCB**	**Chairman of the Committee**
2.	Representative of MoEF&CC*	MoEF&CC
3.	Representative of MoJS*	MoJS
4.	Representative of MoHUA*	MoHUA
5.	Prof. A. K. Gosain, IIT, Delhi	Member
6.	Prof. C. R. Babu, Emeritus Professor, Delhi University	Member
7.	Ms. Divya Sinha, AD, UPC Division, CPCB	Member
8.	DH-WQM-I Division	Member Convener

Not below the rank of Director

The terms of Reference (ToR) of the Expert Committee shall be as follows: -

1. Finalization of indicative guidelines for restoration of water bodies prepared by CPCB;
2. Finalization of check-list for examining the proposed action plans for restoration of water bodies by States/UTs;
3. Random scrutiny of action plans for restoration of polluted water bodies proposed by the State Government/Union Territory (UT) Administration in compliance to the Hon'ble NGT order dated 10.5.2019;
4. The Chairman of the Committee may invite an expert from any reputed organization/ individual officials as special invitees for the meetings of the committee for seeking views/ suggestions/ review of action plans, as and when required;
5. Duration of the committee is only for two months and

Contd..2/

TA/DA and Honorarium for external members as applicable shall be paid for attending the meeting of Expert Committee by CPCB from the provision of NGT EC Fund as per entitlement/ as per prevailing rules of Government of India.

This issues with the approval of 'Competent Authority, Central Board'.

(A. Sudhakar)
DH, WQM-I Division

To:

All the Concerned officials

Copy to:

1. PS to CCB : for information of 'CCB', please
2. PS to MS : for information of 'MS', please
3. LO (UT), CPCB : for information and record, please
4. I/c F & A : for information, please

(A. Sudhakar)

ANNEXURE-VIII

Central Pollution Control Board
(Ministry of Environment, Forest & Climate Change, Govt. of India)
Parivesh Bhawan, East Arjun Nagar,
Delhi – 110032
****

I[st] meeting of Expert Committee for ensuring compliance to Hon'ble National Green Tribunal, Principal Bench, New Delhi order dated 10.5.2019 in M.A. No 26/2019 in O.A. No. 325/2015 in the matter of Lt. Col. Sarvadaman Singh Oberoi Vs UOI & Ors

First meeting of the Expert Committee constituted by CPCB vide office order dated 28.08.2019 was held on 16.09.2019 under the Chairmanship of 'Member Secretary, CPCB' in CPCB Delhi. Concerned officials or members of the Expert Committee nominated by Ministry of Environment, Forest and Climate Change (MoEF&CC), Ministry of Jal Shakti (MoJS) and Ministry of Housing and Urban Affairs (MoHUA) did not attend first meeting of this Expert Committee. List of participants attended the meeting is attached at **Annexure-I.** During the meeting, copies of Indicative Guidelines for Restoration of Water Bodies and draft checklist for review of action plans for restoration of water bodies were circulated to the members present in the meeting

Dr. Prashant Gargava, Member Secretary, CPCB welcomed all the members and requested WQM-I Division to make a brief presentation about Hon'ble NGT order dated 10.5.2019 in O. A. No 325/2015 and initiatives taken by CPCB for ensuring compliance. Sh. J. C. Babu, AD, WQM-I apprised the Committee about Hon'ble NGT orders, actions initiated and actions proposed in compliance to Hon'ble NGT order dated 10.5.2019.

Sh. J. C. Babu also presented salient features of 'Indicative Guidelines for Restoration of Water Bodies' prepared & circulated already by CPCB to all States/UTs to facilitate preparation of action plans for restoration of water bodies in compliance to Hon'ble NGT order in the afore-said matter apart from key features of action plans submitted by 6 States/ UTs Viz., Chhattisgarh, Haryana, Jammu & Kashmir, Meghalaya, Tamil Nadu and Tripura.

Sh. A. Sudhakar informed the Committee that action plans for restoration of polluted river stretches are covered in O. A. No 673/2018 in the matter of News item published in 'THE

HINDU' titled "More river stretches are now critically polluted: CPCB" wherein all States and Union Territories were directed to prepare and submit action plans for bringing all the polluted river stretches fit for bathing purposes (i.e. BOD < 3 mg/L and FC < 500 MPN/100 ml). He also informed that in compliance to Hon'ble NGT order dated 10.05.2019, CPCB has prepared and circulated indicative guidelines for restoration of water bodies to all the States and UTs.

Prof. A. K. Gosain and Prof. C. R. Babu were of the view that the indicative guidelines for restoration of water bodies should be separate for stagnant water bodies like Lakes and Ponds. Prof. C. R. Babu emphasized that the guidelines should be viable, practical as well as implementable by all the concerned States/UTs. He also suggested that important definitions to be included at the end of the indicative guidelines prepared by CPCB.

Prof. A. K. Gosain suggested that in order to understand historical features of catchment area of water bodies and to facilitate in finalizing action plans for restoration of water bodies, satellite imageries issued once in 10 years by State Remote Sensing Departments also be referred to integrate data relating to water bodies which require restoration.

Prof. C. R. Babu suggested to refer (i) Parliamentary Standing Committee report titled 'Repair, Renovation and Restoration of Water Bodies'; (ii) guidelines for National Lake Conservation Plan issued in May 2008, and (iii) National Plan for Conservation of Aquatic Ecosystem (NPCA) issued by MoEF&CC in November, 2016.

Upon deliberations following recommendations/suggestion were made by the Expert Committee: -

(i) Indicative guidelines for restoration of water bodies shall be revised for stagnant water bodies only.

(ii) Applicability of the guidelines shall be indicated in clear terms.

(iii) Checklist shall be prepared and included as a part of indicative guidelines to facilitate States/ UTs for preparation of action plans for restoration of stagnant water bodies.

(iv) Procedure for prioritization of all water bodies on the basis of level of degradation shall be defined.

(v) Revised guidelines (after deleting the aspects relating to rejuvenation of polluted river stretches) shall be circulated to all the members of Expert Committee for providing comments/ views/ suggestions, within a week.

(vi) Comments on draft check-list circulated by CPCB during the meeting for scrutiny of action plans proposed by States/UTs will be obtained from the Expert Committee members in a week from the date of issuance of the minutes.

(vii) Hon'ble NGT shall also be apprised on the issues and CPCB may seek additional time of minimum 6 months by the States/UTs for preparation & submission of action plans for reviewing by CPCB.

Meeting ended with vote of thanks to the Chair.

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Annexure – I

I[st] meeting of Expert Committee for Ensuring Compliance to Hon'ble National Green Tribunal, Principal Bench, New Delhi Order dated 10.5.2019 in M.A. No 26/2019 in O.A. No. 325/2015 in the matter of Lt. Col. Sarvadaman Singh Oberoi Vs UOI & Ors

List of Participants

1. Dr. Prashant Gargava, Member Secretary, CPCB - Chairman
2. Representative of MoEF&CC - Absent
3. Representative of MoJS - Absent
4. Representative of MoHUA - Absent
   (Sh. V. K. Chourasia, Joint Director, CPHEEO)
5. Prof. A. K. Gosain, IIT, Delhi - Member
6. Prof. C. R. Babu, Emeritus Professor, Delhi University - Member
7. Ms. Divya Sinha, AD, UPC Division, CPCB - Member
8. Sh. A. Sudhakar, Scientist E, CPCB - Member Convener
9. Sh. J. C. Babu, Scientist E, WQM-I, CPCB
10. Dr. Deepali Agarwal, RA, WQM-I, CPCB
11. Ms. Deepty Goyal, SRF, WQM-I, CPCB

Annexure IX

Water Quality of Lakes, Ponds and Tanks Monitored in the Year 2018

S N	State Name	Station Name	Type Water Body	Dissolved oxygen (mg/l)		B.O.D. (mg/l)		Faecal Coli form (MPN/100ml)		Remarks Complying (C) Non-complying (NC)
				min	max	min	max	min	max	
Primary Water Quality Criteria				>5 mg/l		<3 mg/l		<500 MPN/100ml		
1.	ANDHRA PRADESH	KONDAKARLA-AAVA LAKE, PARAWADA PHARMA CITY, VISHAKHAPATNAM	LAKE	5.5	7.0	1.2	1.5	15	39	C
2.	ANDHRA PRADESH	PULICATE LAKE , NELLORE DIST	LAKE	5.2	7.4	1.6	7.1	2	4	NC
3.	ASSAM	DALONI BEEL NEAR JOGIGHOPA	LAKE	5.1	7.9	0.8	2.1	2	360	C
4.	ASSAM	DEEPAR BEEL AT BORAGAON NEAR IASST, GUWAHATI	LAKE	3.8	13.1	2.6	14.8	2	910	NC
5.	ASSAM	MER BEEL AT MADHABPUR	LAKE	0.5	8.9	3.2	62.0	2	2700	NC
6.	ASSAM	BASKANDI POND INSIDE THE BASKANDI MADRASA, BASKANDI	POND	3.1	5.6	2.3	5.0	2	730	NC
7.	ASSAM	BISHNU PUSKAR PUKHURI OF HAYAGRIB MADHAB TEMPLE, HAJO	POND	4.7	11.0	3.9	14.0	2	1500	NC
8.	ASSAM	BOR BEEL AT JAKAI	POND	3.0	7.4	2.1	10.0	2	3500	NC
9.	ASSAM	BORPUKHURI AT SONARI	POND	4.9	8.5	1.6	4.0	2	720	NC
10.	ASSAM	BORPUKHURI, NAZIRA	POND	4.3	7.2	1.3	3.1	2	360	NC
11.	ASSAM	BOTODRIVA SATRA POND, NAGAON	POND	3.8	9.0	4.6	9.0	2	910	NC
12.	ASSAM	CHAND DUBI BEEL, CHAND DUBI	POND	4.6	10.6	1.4	4.5	2	910	NC
13.	ASSAM	DIGHALI PUKHURI, GUWAHATI	POND	4.6	14.5	3.2	28.2	2	3500	NC
14.	ASSAM	ELANGABEEL SYSTEM POND (CONNECTED TO R. KOLANG)	POND	1.6	6.0	3.8	18.0	300	2800	NC
15.	ASSAM	GALA BEEL AT DERGAON	POND	5.5	9.5	1.0	2.6	2	2000	NC
16.	ASSAM	GANGA PUKHURI, NALBARI (GORDON SCHOOL)	POND	0.0	10.0	1.5	7.0	2	1500	NC
17.	ASSAM	GAURISAGAR TANK, GAURISAGAR	POND	4.8	8.2	0.9	3.6	2	730	NC
18.	ASSAM	GOPHUR TANK, GOPHUR	POND	7.0	9.0	3.0	12.4	2	2800	NC
19.	ASSAM	HORDAI PUKHURI, CHARAIDEW	POND	5.5	8.1	1.8	3.4	2	910	NC
20.	ASSAM	JAIPAL PUKHURI, SIPAJHAR	POND	6.5	8.6	3.2	8.0	2	730	NC
21.	ASSAM	JORPUKHURI AT UZANBAZAR (UGRATALA TEMPLE)	POND	3.2	8.4	2.8	23.5	360	240000	NC
22.	ASSAM	MAHAMAYA MANDIR PUKHURI	POND	2.0	6.2	1.3	2.4	2	1500	NC
23.	ASSAM	NETAI PUKHURI AT NETAI PUKHURI	POND	2.5	6.5	1.3	2.8	600	910	NC
24.	ASSAM	PADUMPUKHURI, TEZPUR	POND	6.8	8.4	3.4	17.5	2	910	NC
25.	ASSAM	POND WATER FROM RAMKRISHNA MISSION AT HAILAKANDI	POND	4.0	4.2	2.6	4.1	2	1500	NC
26.	ASSAM	RAJADINIA PUKHURI AT ABHAYAPURI	POND	4.8	5.6	1.1	2.8	2	2100	NC
27.	ASSAM	RAJAPUKHURI AT GAURIPUR	POND	4.8	7.0	1.2	4.0	2	1500	NC
28.	ASSAM	RAJMAW PUKHURI, JORHAT	POND	5.3	7.8	1.4	5.9	2	910	NC
29.	ASSAM	SARAN BEEL	POND	1.8	10.0	1.8	6.0	2	2000	NC
30.	ASSAM	SIVASAGAR TANK (BORPUKHURI) NEAR SIVADOL	POND	4.0	7.8	1.2	4.2	2	360	NC
31.	ASSAM	SUBHAGYA KUNDA POND KAMAKHYA TEMPLE, GUWAHATI	POND	4.5	11.0	2.8	16.0	2	21000	NC
32.	ASSAM	GOYSAGAR TANK, SIBSAGAR	TANK	5.0	8.3	0.9	3.2	2	730	NC
33.	BIHAR	KAWAR LAKE, BEGUSARAI	LAKE	8.2	14.8	2.4	2.8	4000	11000	NC
34.	BIHAR	MOTI JHEEL AT MOTIHARII	LAKE	7.9	12.7	2.1	2.9	4000	7900	NC
35.	BIHAR	SIKANDRAPUR, MUZAFFARPUR	LAKE	5.7	10.5	1.8	2.8	3100	7900	NC
36.	BIHAR	SURAJ KUND AT GAYA	POND	6.4	10.2	2.2	2.9	1700	11000	NC
37.	BIHAR	TIGHI TALAB AT GAYA	POND	5.6	10.4	2.5	2.9	2100	21000	NC
38.	CHANDIGARH	SUKHNA LAKE, CHANDIGARH	LAKE	4.8	9.9	1.0	4.0	2	4500	NC
39.	CHHATTISGARH	HITKASA TAILING DAM, RAJHARA, CHHATISGARH.(DALLI RAJHARA IRON ORE MINES, DALLI RAJHARA)	LAKE	6.0	6.8					C
40.	CHHATTISGARH	NEHRU NAGAR TALAB, BHILAI, CHHATISGARH.	POND	0.7	7.2					NC
41.	DELHI	BHALSWA LAKE, DELHI	LAKE			36.0	36.0	49	49	NC
42.	DELHI	LAKE NEAR IIT FLYOVER, DELHI	LAKE	7.4	20.0	11.0	11.0	400	4900	NC
43.	DELHI	SANJAY LAKE, DELHI	LAKE	16.4	16.4	17.0	17.0	170	170	NC
44.	DELHI	SULTANPUR LAKE, DELHI	LAKE	3.9	3.9	0.0	0.0	2400	2400	NC
45.	GOA	ANJUNEM LAKE	LAKE	4.9	8.2	0.3	1.7	7	540	NC
46.	GOA	CARAMBOLIM LAKE	LAKE	3.2	7.3	0.0	3.9	200	2300	NC
47.	GOA	CURTORIM LAKE	LAKE	4.0	6.8	0.8	4.9	450	7900	NC
48.	GOA	MAYEM LAKE, BICHOLIM	LAKE	5.7	9.8	0.0	4.8	450	17000	NC
49.	GOA	RAIA LAKE	LAKE	4.8	11.2	0.8	4.8	200	7900	NC
50.	GOA	RUMDER LAKE	LAKE	1.9	10.5	0.3	9.7	200	13000	NC
51.	GOA	SAIPEM LAKE	LAKE	0.9	8.0	1.1	6.0	24000	54000	NC
52.	GOA	SALAULIM LAKE AT SALAULIM - SANGUEM	LAKE	6.0	8.6	0.6	2.3	0	23	C
53.	GUJARAT	AJWAH LAKE AT SRI SAYAJI SABVAR, BARODA	LAKE	7.0	9.1	0.3	0.8	2	11	C
54.	GUJARAT	ANKLESHWAR RESERVOIR AT GIDC ANKLESHWAR AT VALIA ROAD	LAKE	5.9	7.8	0.3	1.3	11	22	C
55.	GUJARAT	BINDUSAROVAR, SIDDHPUR (DIST.PATAN)	LAKE	3.8	8.7	2.1	19.0	4	17	NC
56.	GUJARAT	CHANDOLA LAKE AT AHMEDABAD	LAKE	3.3	9.1	8.0	39.0	21	68	NC
57.	GUJARAT	GOMTI LAKE, OPP, RANCHODAJI TEMPLE,	LAKE	3.1	5.8	0.6	3.8	4	46	NC

S N	State Name	Station Name	Type Water Body	Dissolved oxygen (mg/l)		B.O.D. (mg/l)		Faecal Coli Form (MPN/100ml)		Remarks Complying (C) Non-complying (NC)
				min	max	min	max	min	max	
Primary Water Quality Criteria				>5 mg/l		<3 mg/l		<500 MPN/100ml		
		DAKOR, KHEDA								
58.	GUJARAT	HAMISAR TALAV, BHUJ	LAKE	2.1	5.2	1.2	8.9	6	9	NC
59.	GUJARAT	KANKORIA LAKE AT AHMEDABAD, NR. BALVATIKA,	LAKE	3.7	9.6	13.0	43.0	21	45	NC
60.	GUJARAT	KUWADAVA LAKE, VILL. KUWADAVA, DIST. RAJKOT.	LAKE	4.5	7.2	2.0	32.5	2	14	NC
61.	GUJARAT	LAKHOTA TALAV, JAMNAGAR	LAKE	4.6	6.6	4.5	11.0	2	10	NC
62.	GUJARAT	MACHHU-II DAM, RAFLESHWAR, MORBI, RAJKOT	LAKE	3.3	6.8	0.3	60.0	2	2	NC
63.	GUJARAT	MALAV TALAV, DHOLKA	LAKE	1.7	9.0	12.0	36.0	2	40	NC
64.	GUJARAT	MOONSAR LAKE OF VIRAMGAM	LAKE	1.1	9.6	20.0	80.0	13	63	NC
65.	GUJARAT	MOTICHER LAKE NEAR KAKARPAR ATOMIC POWER STATION, DIST. SURAT.	LAKE	6.8	7.5	0.5	1.1	3	27	C
66.	GUJARAT	NALSAROVAR LAKE (SANAND), DIST.AHMEDABAD	LAKE	1.9	9.2	5.0	93.0	5	14	NC
67.	GUJARAT	NARSIMEHTA TALAV- JUNAGADH	LAKE	0.0	13.6	2.6	790.0	2	4	NC
68.	GUJARAT	RANJITNAGAR TALAV (HALOL), PANCHMAHALS	LAKE							C
69.	GUJARAT	SAHASTRLING SAROVAR – PATAN	LAKE							C
70.	GUJARAT	SURSAGAR LAKE AT BARODA,	LAKE	2.7	5.8	0.2	11.2	12	540	NC
71.	GUJARAT	VHERAIMATA TALAV AT ANAND	LAKE	2.1	8.5	0.4	7.2	12	46	NC
72.	GUJARAT	DHUDHIA TALAV AT NAVSARI, DIST. NAVSARI	POND	6.1	7.4	1.1	2.1	2	48	C
73.	GUJARAT	OLPAD, VILLAGE POND:OLPAD, SURAT	POND	6.0	7.1	1.1	2.3	9	84	C
74.	GUJARAT	DHAROI DAM, DIST. MEHSANA.	RERSERVOIR	5.3	8.5	1.1	2.0	2	2	C
75.	GUJARAT	THOL TANK (KALOL) (DIST. MEHASANA)	TANK	2.4	9.8	5.0	166.0	4	45	C
76.	HARYANA	BRAHMSAROVAR LAKE AT KURUKSHETRA	LAKE	6.8	9.0	0.8	5.5	800	2200	NC
77.	HARYANA	KAUSSHALAYA LAKE, PINJORE, PANCHKULA	LAKE	4.8	4.8	0.8	5.0	800	900	NC
78.	HARYANA	SOHNA LAKE	LAKE	6.3	6.3	6.0	6.0			NC
79.	HIMACHAL PRADESH	GOBINDSAGAR LAKE AT BILASPUR	LAKE	8.1	11.5	0.2	0.6	26	120	C
80.	HIMACHAL PRADESH	KHAZIAR LAKE	LAKE	5.8	6.2	1.8	6.0	4	22	NC
81.	HIMACHAL PRADESH	PONGDAM LAKE AT PONG VILLAGE,	LAKE	6.9	8.9	0.1	0.5	2	6	C
82.	HIMACHAL PRADESH	RENUKA LAKE , 35 KM FROM PATNA SAHIB NORTH	LAKE	5.5	8.2	0.6	2.2	21	34	C
83.	HIMACHAL PRADESH	RIWALSAR LAKE	LAKE	6.0	10.9	0.7	6.0	58	220	NC
84.	JAMMU & KASHMIR	(MANSAR LAKE AT MID POINT(MANSAR LAKE)	LAKE	7.5	8.2	1.0	2.5			C
85.	JAMMU & KASHMIR	(MANSAR LAKE AT MID POINT(SURINSAR LAKE), J&K	LAKE	4.5	8.8	3.6	7.0			NC
86.	JAMMU & KASHMIR	DAL LAKE AT ABIKARPORA	LAKE	2.0	10.5	1.0	2.8			NC
87.	JAMMU & KASHMIR	DAL LAKE AT CHAIRCHINARI	LAKE	6.1	10.1	2.0	2.6			C
88.	JAMMU & KASHMIR	DAL LAKE AT DALGATE	LAKE	2.0	6.0	1.7	5.0			NC
89.	JAMMU & KASHMIR	DAL LAKE AT DHOBIGHAT	LAKE	4.0	11.0	2.4	5.4			NC
90.	JAMMU & KASHMIR	DAL LAKE AT ENTRY POINT OF TALIBAL NALLAH	LAKE	5.0	9.2	1.5	3.6			NC
91.	JAMMU & KASHMIR	DAL LAKE AT HABAK	LAKE	4.0	11.3	4.5	9.9			NC
92.	JAMMU & KASHMIR	DAL LAKE AT HAZRATBAL	LAKE	3.0	10.0	2.5	9.0			NC
93.	JAMMU & KASHMIR	DAL LAKE AT NIGEEN, WATER INTAKE PT OF POKHRIBAL WATER TREATMENT PLANT	LAKE	5.4	8.9	2.0	3.7			NC
94.	JAMMU & KASHMIR	DAL LAKE AT NISHAT, WATER INTAKE POINT OF NISHAT WATER TREATMENT PLANT	LAKE	3.9	8.5	1.9	4.7			NC
95.	JAMMU & KASHMIR	DAL LAKE AT SONALANK	LAKE	5.0	11.5	1.4	2.8			C
96.	JAMMU & KASHMIR	DAL LAKE AT SRINAGAR	LAKE	3.4	8.3	1.5	4.2			NC
97.	JAMMU & KASHMIR	DAL LAKE NEAR NISHAT LAM	LAKE	4.0	8.8	1.9	8.0			NC
98.	JAMMU & KASHMIR	MANSAR LAKE POINT OF DISCHARGE OF WASTE WATER FROM DIFFERENT ESTABLISHMENTS NEAR NAG TEMPLE	LAKE	4.9	7.9	1.3	4.8			NC
99.	JAMMU & KASHMIR	SURINSAR LAKE POINT OF DISCHARGE OF WASTE WATER FROM DIFFERENT ESTABLISHMENTS	LAKE	4.1	8.5	3.4	8.0	0	0	NC
100.	JAMMU & KASHMIR	WULAR LAKE AT ENTRY PT OF ERIN NALLAH	LAKE	4.6	8.8	3.0	7.5			NC
101.	JAMMU &	WULAR LAKE AT NINGLI NALLAH	LAKE	6.5	11.8	0.8	5.1			NC

S N	State Name	Station Name	Type Water Body	Dissolved oxygen (mg/l)		B.O.D. (mg/l)		Faecal Coli form (MPN/100ml)		Re...ria Complying (C) Non-complying (NC)
				min	max	min	max	min	max	
Primary Water Quality Criteria				>5 mg/l		<3 mg/l		<500 MPN/100ml		
	KASHMIR									
102.	JAMMU & KASHMIR	WULAR LAKE AT WATLAB	LAKE	6.0	8.3	0.7	5.9			NC
103.	JAMMU & KASHMIR	WULAR LAKE ATKANIBATH	LAKE	4.9	8.1	1.3	6.3			NC
104.	Jammu &Kashmir	ANCHAR AT SINDH INFLOW	LAKE	4.8	7.0	2.0	3.0			NC
105.	Jammu &Kashmir	ASHAIBAGH BRIDGE	LAKE	2.6	6.6	2.0	2.8			NC
106.	Jammu &Kashmir	AT SANGAM	LAKE	2.4	4.8	3.0	6.4			NC
107.	Jammu &Kashmir	CENTRAL SITE	LAKE	3.5	5.0	2.0	4.0			NC
108.	Jammu &Kashmir	JENAB SAHAB SOURA	LAKE	2.0	3.5	3.0	6.5			NC
109.	Jammu &Kashmir	JOGILANKER	LAKE	0.5	2.2	12.0	20.0			NC
110.	Jammu &Kashmir	NAYADYAR	LAKE	0.6	1.0	14.0	21.0			NC
111.	Jammu &Kashmir	NEAR LKIMS	LAKE	2.5	3.6	3.0	6.0			NC
112.	JHARKHAND	DIMNA LAKE, DIMNA	LAKE	7.5	8.2	0.3	0.6			C
113.	JHARKHAND	HAZARIBAGH MEETHAJHIL	LAKE	6.5	8.9	1.4	3.3	0	0	NC
114.	JHARKHAND	TOP CHANCHI LAKE	LAKE	7.4	7.6	0.7	1.0			C
115.	JHARKHAND	SHIV GANGA POND, DEOGHAR	POND	6.5	8.4	2.4	2.8			C
116.	KARNATAKA	AGARAM LAKE	LAKE	1.3	7.0	2.0	13.0	330	46000	NC
117.	KARNATAKA	AMRUTHAHALLI LAKE	LAKE	0.5	4.3	5.0	77.0	790	11000	NC
118.	KARNATAKA	ANDHRAHALLI LAKE, ANDHRAHALLI, BENGALURU	LAKE	0.8	5.8	4.0	10.0	31	17000	NC
119.	KARNATAKA	ARAKERE LAKE	LAKE	0.9	7.3	4.0	28.0	6300	460000	NC
120.	KARNATAKA	BELLANDUR LAKE	LAKE	0.0	5.1	3.0	32.0	70000	7900000	NC
121.	KARNATAKA	BHUTANALA LAKE	LAKE	5.1	10.5	0.5	26.0	220	1600	NC
122.	KARNATAKA	BUGUDANAHALLI LAKE	LAKE	5.6	7.9	3.0	4.0	330	17000	NC
123.	KARNATAKA	CHIKKABANVARA LAKE, CHIKKABANWARA, BENGALURU NORTH	LAKE	1.5	5.5	4.0	17.0	330	11000	NC
124.	KARNATAKA	DALAVAI LAKE	LAKE	0.0	4.0	10.1	23.2	1400	3100	NC
125.	KARNATAKA	DEVARAYASAMUDRA LAKE	LAKE	1.8	8.0	3.0	56.0	170	2600	NC
126.	KARNATAKA	GANGONDANA HALLI LAKE, BENGALURU NORTH	LAKE	0.4	3.2	19.0	74.0	400	21000000	NC
127.	KARNATAKA	GOTTIGERE LAKE	LAKE	2.3	5.6	4.0	10.0	840	28000	NC
128.	KARNATAKA	GOTTIGERE LAKE	LAKE	3.8	7.8	3.0	13.5	460	17000	NC
129.	KARNATAKA	HARALAKUNTE LAKE	LAKE	1.5	6.2	4.0	11.0	1400	2100000	NC
130.	KARNATAKA	HEBALLA VALLEY LAKE AT D/S ROAD BRIDGE NR. MANDYA,	LAKE	0.5	6.7	2.4	6.7	380	1200	NC
131.	KARNATAKA	HEBBAL LAKE	LAKE	0.0	6.0	4.0	25.6	1100	2700	NC
132.	KARNATAKA	HEBBAL LAKE	LAKE	4.2	8.4	3.0	5.0	1400	33000	NC
133.	KARNATAKA	HULEDANAHALLI LAKE	LAKE	2.0	6.1	4.0	5.0	490	2800	NC
134.	KARNATAKA	HULIMAVU LAKE	LAKE	2.3	7.6	4.0	20.0	2200	490000	NC
135.	KARNATAKA	JAKKUR LAKE	LAKE	4.0	8.7	4.0	15.0	400	9400	NC
136.	KARNATAKA	KACHOHALLI LAKE, KACHOHALLI, BENGALURU NORTH	LAKE	0.5	7.8	2.0	25.0	340	170000	NC
137.	KARNATAKA	KAIKONDANAHALLI LAKE	LAKE	2.8	6.5	4.0	13.0	330	17000	NC
138.	KARNATAKA	KALENA AGRAHARA LAKE	LAKE	5.4	7.1	4.0	11.0	33000	220000	NC
139.	KARNATAKA	KARIHOBANAHALLI LAKE	LAKE	0.0	4.8	18.0	38.0	47000	1100000	NC
140.	KARNATAKA	KEMPAMBUDHI LAKE	LAKE	5.5	8.3	3.0	9.0	33	84000	NC
141.	KARNATAKA	KILLA LAKE	LAKE	5.6	9.0	0.8	3.4	1800	1800	NC
142.	KARNATAKA	KUKKARAHALLI LAKE	LAKE	6.5	7.7	3.0	5.0	910	1700	NC
143.	KARNATAKA	LIMBHABUDI LAKE	LAKE	4.0	7.1	3.0	10.3	920	1400	NC
144.	KARNATAKA	MULBHAGAL LAKE	LAKE	1.2	8.9	8.0	28.0	330	33000	NC
145.	KARNATAKA	NARASAPURA LAKE	LAKE	2.8	7.3	2.0	40.0	8	11000	NC
146.	KARNATAKA	NAVALOORU LAKE	LAKE	6.1	8.1	4.7	13.8	130	900	NC
147.	KARNATAKA	PARAPPANA AGRAHARA LAKE	LAKE	2.1	5.7	3.0	22.0	7900	1100000	NC
148.	KARNATAKA	PUTTENAHALLI LAKE	LAKE	0.0	7.4	3.0	84.0	3300	49000000	NC
149.	KARNATAKA	PUTTENAHALLI LAKE (S)	LAKE	2.2	7.6	3.0	10.0	430	1700000	NC
150.	KARNATAKA	SHETTYKERE LAKE	LAKE	5.0	7.0	3.0	6.4	920	1700	NC
151.	KARNATAKA	SINGASANDRA LAKE	LAKE	1.5	10.2	3.6	79.0	460	12000	NC
152.	KARNATAKA	SOMASUNDRA PALYA LAKE	LAKE	0.0	6.7	6.0	56.0	4900	79000	NC
153.	KARNATAKA	TUBRAHALLI LAKE	LAKE	1.6	4.5	4.0	47.0	460	2100000	NC
154.	KARNATAKA	ULSOOR LAKE TRAINING CENTRE OF FISH BREEDING,	LAKE	4.1	8.8	2.0	7.0	110	220000	NC
155.	KARNATAKA	ULSOOR LAKE TRAINING CENTRE OF FISH BREEDING,	LAKE	5.0	8.7	3.0	10.0	110	270000	NC
156.	KARNATAKA	VARTHUR LAKE	LAKE	3.2	6.0	5.0	46.0	27000	490000	NC
157.	KARNATAKA	YEDIYUR LAKE	LAKE	5.0	7.8	3.0	5.0	490	12000	NC
158.	KARNATAKA	YENNEHOLE LAKE	LAKE	0.0	3.6	10.4	24.2	1700	2700	NC
159.	KARNATAKA	AIANAKERE TANK	TANK	3.0	6.8	1.5	300.0	22000	170000	NC
160.	KARNATAKA	ALLASANDRA TANK	TANK	4.4	8.0	4.0	45.0	2100	49000	NC
161.	KARNATAKA	ANGOL MI TANK	TANK	0.0	10.2	4.1	15.0	1800	1800	NC
162.	KARNATAKA	ANNAYAPPA TANK	TANK	5.8	8.4	3.0	6.0	1700	28000	NC
163.	KARNATAKA	B KALEHALLIKERE TANK	TANK	5.4	7.0	2.0	2.0	93	270	C
164.	KARNATAKA	BASAVANAHALLIKERE TANK	TANK	4.5	5.3	2.0	2.0	78	170	NC
165.	KARNATAKA	BEENNIGANAHALLI TANK	TANK	3.2	3.6	2.3	39.0	46000	260000	NC
166.	KARNATAKA	BEGUR TANK	TANK	3.4	6.8	4.0	10.0	2200	28000	NC
167.	KARNATAKA	BHATHIKERE TANK	TANK	4.2	6.2	4.0	14.0	1700	70000	NC
168.	KARNATAKA	BHEEMSANDRA TANK	TANK	0.5	6.2	3.0	66.0	310	28000	NC
169.	KARNATAKA	BYRAMANGALA TANK	TANK	0.5	6.6	4.0	26.0	790	490000	NC

S N	State Name	Station Name	Type Water Body	Dissolved oxygen (mg/l)		B.O.D. (mg/l)		Faecal Coli form (MPN/100ml)		Remarks Complying (C) Not complying (NC)
				min	max	min	max	min	max	
Primary Water Quality Criteria				>5 mg/l		<3 mg/l		<500 MPN/100ml		
170.	KARNATAKA	BYRASANDRA TANK	TANK	2.2	8.6	3.0	19.0	4600	49000	NC
171.	KARNATAKA	DASARAHALLI TANK	TANK	0.5	7.2	3.0	60.0	220	8400	NC
172.	KARNATAKA	DEVARAKERE TANK	TANK	4.6	7.9	3.0	6.0	330	28000	NC
173.	KARNATAKA	DHOREKERE TANK	TANK	4.6	8.3	2.0	10.0	170	48000	NC
174.	KARNATAKA	DODDAKERE TANK	TANK	5.0	7.3	3.0	5.0	330	4600	NC
175.	KARNATAKA	DODDANAKUNDI TANK	TANK	4.2	6.4	3.0	39.0	480	790000	NC
176.	KARNATAKA	GANIGARAHOSAHALLIKERE TANK	TANK	4.8	5.6	2.0	3.0	140	240	NC
177.	KARNATAKA	HAINARAKATTE TANK	TANK	4.0	5.5	2.0	3.0	94	260	NC
178.	KARNATAKA	HANUMANTHAPURAKATTE TANK	TANK	5.1	6.5	2.0	2.0	140	210	C
179.	KARNATAKA	HAVALIKERE TANK	TANK	4.6	5.0	2.0	3.0	61	260	NC
180.	KARNATAKA	HEREKERE TANK	TANK	4.2	4.9	12.3	41.0	350	1600	NC
181.	KARNATAKA	HEROHALLI TANK	TANK	0.8	8.2	2.0	17.0	330	46000	NC
182.	KARNATAKA	HESARAGHATTA TANK	TANK	4.6	8.5	3.0	8.0	480	110000	NC
183.	KARNATAKA	HULLIGE TANK	TANK	6.6	7.6	2.0	6.0	30	3600	NC
184.	KARNATAKA	HUNASINA KERE TANK	TANK	4.5	6.6	3.0	5.0	680	2200	NC
185.	KARNATAKA	HUNDIKERE (KOPPAL) TANK	TANK	6.7	7.6	3.0	8.0	26	1200	NC
186.	KARNATAKA	JOLADAKATTE TANK	TANK	4.6	5.3	2.0	3.0	68	210	NC
187.	KARNATAKA	KAACHACHALLI KOPPALUKERE TANK	TANK	3.0	4.3	3.0	4.0	240	400	NC
188.	KARNATAKA	KAKATI POND	TANK	5.1	11.0	1.3	12.7	560	1700	NC
189.	KARNATAKA	KARANJIKERE TANK	TANK	4.8	7.1	3.0	6.2	780	1700	NC
190.	KARNATAKA	KELEGERE TANK	TANK	6.9	7.3	3.3	3.9	80	900	NC
191.	KARNATAKA	KOKKANAGHATTADODDAKERE TANK	TANK	4.9	6.4	3.0	4.0	170	320	NC
192.	KARNATAKA	KONDAGGIKERE TANK	TANK	5.9	7.1	2.5	7.0	50	1700	NC
193.	KARNATAKA	KUNDUVADAKERE TANK	TANK	6.8	7.3	2.4	3.0	110	800	NC
194.	KARNATAKA	LALBAGH TANK	TANK	5.6	8.9	3.0	6.0	110	17000	NC
195.	KARNATAKA	LINGAPPANAKATTE TANK	TANK	4.6	5.0	2.0	3.0	93	120	NC
196.	KARNATAKA	MADAVARA TANK	TANK	0.5	8.5	6.0	49.0	210	580000	NC
197.	KARNATAKA	MADIWALA TANK	TANK	1.5	7.0	5.0	14.0	400	9400	NC
198.	KARNATAKA	MALATHAHALLI TANK	TANK	2.1	8.2	4.0	41.0	3100	350000	NC
199.	KARNATAKA	MATHANA KERE TANK	TANK	3.2	6.6	3.0	6.0	920	3300	NC
200.	KARNATAKA	MATTADAKERE TANK	TANK	2.0	5.4	1.5	69.0	800	60000	NC
201.	KARNATAKA	MAVENAKERE TANK	TANK	6.0	8.6	12.0	42.0	2500	18000	NC
202.	KARNATAKA	MELEKOTE TANK	TANK	1.1	8.7	3.0	62.0	940	28000	NC
203.	KARNATAKA	MYDALA TANK	TANK	0.6	8.5	3.0	4.0	330	9400	NC
204.	KARNATAKA	NAGAVARA TANK	TANK	4.0	7.4	3.0	7.0	330	17000	NC
205.	KARNATAKA	NIRASAGARAKERE TANK	TANK	7.2	7.5	2.4	3.2	50	140	NC
206.	KARNATAKA	NUGGIKERE TANK	TANK	6.6	6.9	3.5	5.3	70	350	NC
207.	KARNATAKA	PILIKULA TANK	TANK	6.2	7.7	1.0	4.0	2	17	NC
208.	KARNATAKA	SANKALAPURAKERE TANK	TANK	5.2	5.9	2.0	2.0	92	170	C
209.	KARNATAKA	SANKEY TANK	TANK	4.3	8.2	3.0	9.0	330	4800	NC
210.	KARNATAKA	SATHENAHALLIDODDAKERE TANK	TANK	4.2	5.2	2.0	2.0	110	320	NC
211.	KARNATAKA	SHANTHISAGARKERE TANK	TANK	6.9	7.4	2.4	3.0	240	1400	NC
212.	KARNATAKA	SHARANABAWESHWARA KERE TANK	TANK	4.4	8.3	7.8	16.0	1200	2500	NC
213.	KARNATAKA	SHELERAMANAHALLIKERE TANK	TANK	4.6	6.2	2.0	3.0	93	240	NC
214.	KARNATAKA	SHIVAPURA TANK	TANK	0.0	3.1	24.0	48.0	310	940000	NC
215.	KARNATAKA	SODHARAHALLIKERE TANK	TANK	5.5	6.5	2.0	3.0	78	210	C
216.	KARNATAKA	SOMESHWARAKERE TANK	TANK	6.2	6.7	4.8	13.7	225	900	NC
217.	KARNATAKA	SUDANAKERE TANK	TANK	6.8	7.6	3.2	5.0	130	550	NC
218.	KARNATAKA	UNAKALKERE TANK	TANK	6.5	7.1	4.2	5.6	170	1600	NC
219.	KARNATAKA	UTTARAHALLI DORAIKERE	TANK	0.0	6.5	4.0	96.0	210	70000	NC
220.	KARNATAKA	VEERAPURA TANK	TANK	4.0	7.2	4.0	8.0	460	31000	NC
221.	KARNATAKA	VENGAIHNAKERE	TANK	3.2	5.6	3.9	38.0	3300	700000	NC
222.	KARNATAKA	VIMANABHUTHIKERE TANK	TANK	6.5	7.3	2.4	2.6	70	900	NC
223.	KARNATAKA	YELAHANKA TANK	TANK	4.0	7.4	3.0	13.0	270	79000	NC
224.	KARNATAKA	YELLAMALLAPPA TANK	TANK	3.8	5.4	4.0	25.0	1400	460000	NC
225.	KERALA	ALAPPUZHA, KERALA	LAKE	4.5	7.9	1.0	3.7	20	8000	NC
226.	KERALA	ASHTHAMUDI LAKE AT QUILON, KERALA	LAKE	5.4	6.6	1.2	2.4	110	210	C
227.	KERALA	KAYAMKULAM, KERALA	LAKE	2.9	7.9	0.5	4.0	0	1200	NC
228.	KERALA	KODUNGALLOOR, KERALA	LAKE	4.6	7.6	0.6	6.0	200	5800	NC
229.	KERALA	LAKE VEMBANAD AT PATHIRAMANAL (ALAPPUZHA)	LAKE	5.9	7.9	1.0	3.0	20	580	NC
230.	KERALA	ORUVATHILKOTTA LAKE, KERALA	LAKE	4.0	6.2	1.0	15.0	1200	3200	NC
231.	KERALA	PARAVUR, KERALA	LAKE	5.9	7.2	1.2	2.0	79	170	C
232.	KERALA	PAZHASSI RESERVOIR (KANNUR)	LAKE	7.1	8.1	0.1	1.3	40	700	NC
233.	KERALA	PERIYAR LAKE AT THEKKADY, KERALA	LAKE	6.7	7.5	0.2	0.5	0	490	C
234.	KERALA	POOKOTE, KERALA	LAKE	5.2	8.6	0.0	1.5	0	20	C
235.	KERALA	RSVR AT BHOOTHATHANKETU	LAKE	5.8	7.7	0.5	2.0	79	4000	NC
236.	KERALA	RSVR AT EDAMALAYAR	LAKE	5.7	8.3	0.3	2.0	20	1700	NC
237.	KERALA	RSVR AT MALAMPUZHA	LAKE	7.0	9.8	0.4	3.0	0	380	C
238.	KERALA	SASTHAMCOTTA LAKE, KERALA	LAKE	6.0	6.8	1.1	2.0	40	170	C
239.	KERALA	VELLAYANI LAKE AT VANDITHADOM, THIRUVANANTHAPURAM	LAKE	5.6	6.9	1.0	1.9	580	1500	NC
240.	KERALA	VEMBANAD LAKE,KOCHI (OIL TANKER JETTY), KERALA	LAKE	4.0	6.4	1.3	3.0	100	27000	NC
241.	KERALA	MANANCHIRA POND AT KOZHEKODE	POND	3.3	9.7	0.0	2.3	0	1100	NC
242.	KERALA	POND AT (PADMANABHA) SREE PADMANABHA SWAMY TEMPLE (TVPM)	POND	5.5	6.6	0.9	2.0	200	430	C
243.	LAKSHADWEEP	POND NEAR JUMA MASJID	POND							C

S N	State Name	Station Name	Type Water Body	Dissolved oxygen (mg/l)		B.O.D. (mg/l)		Faecal Coli form (MPN/100ml)		Re... Compl...(C) Non-complying (NC)
				min	max	min	max	min	max	
Primary Water Quality Criteria				>5 mg/l		<3 mg/l		<500 MPN/100ml		
244.	MADHYA PRADESH	BILAWALI TALAB AT INDORE	LAKE	4.9	8.2	1.2	2.6	2	2	NC
245.	MADHYA PRADESH	CHORAL DAM NEAR INDORE	LAKE	6.5	7.6	1.0	2.0	2	2	C
246.	MADHYA PRADESH	GOVINDGARH LAKE	LAKE	6.3	7.7	0.8	1.8	2	6	C
247.	MADHYA PRADESH	JANUNIA TALAB NEAR W/S	LAKE	2.2	8.4	2.1	2.8	2	350	NC
248.	MADHYA PRADESH	KALISINDH RESERVOIR AT SARANGPUR, RAJGARH	LAKE	6.9	8.0	1.2	2.1	2	2	C
249.	MADHYA PRADESH	KERWA DAM NEAR REST HOUSE, BPL	LAKE	6.7	8.9	0.7	10.0	2	2	C
250.	MADHYA PRADESH	KHANDARI RESERVOIR WATER OFF TAKE POINT	LAKE	6.8	8.4	0.7	1.8	2	10	C
251.	MADHYA PRADESH	LOWER LAKE AT BHOPAL OUTLET M.P.	LAKE	6.0	8.7	3.0	6.8	110	920	NC
252.	MADHYA PRADESH	MADHAV LAKE, SHIVPURI	LAKE	5.1	8.0	1.5	2.8	2	10	C
253.	MADHYA PRADESH	MULTAI TANK LAKE AT VILLA. KHARI ON BETUL-AMRAVATI ROAD M.P(.RIVER TAPTI NEAR AMARAWATI, ROAD BRIDGE AT VILLAGE KHEDA)	LAKE	7.8	343.0	1.4	4.3	2	2	NC
254.	MADHYA PRADESH	NAGCHUN TALAB AT KHANDWA	LAKE	4.6	7.8	0.8	2.6	2	2	NC
255.	MADHYA PRADESH	SHAHPURA LAKE AT WEIR NEAR AYUSHMAN HOSPITAL, BHOPAL	LAKE	4.2	7.8	2.5	14.0	2	430	NC
256.	MADHYA PRADESH	SIRPUR TALAB AT INDORE	LAKE	5.3	7.8	1.2	2.8	2	2	C
257.	MADHYA PRADESH	UPPER LAKE AT BAIRAGARH CLUB	LAKE	6.5	9.2	1.0	2.9	2	920	NC
258.	MADHYA PRADESH	UPPER LAKE AT BHOPAL (INTAKE POINT)	LAKE	6.4	9.5	1.1	5.2	2	170	NC
259.	MADHYA PRADESH	UPPER LAKE AT KARBALA CLUB	LAKE	6.4	8.9	1.4	20.0	2	350	NC
260.	MADHYA PRADESH	UPPER LAKE AT YATCH CLUB	LAKE	6.1	8.4	1.3	2.9	2	280	C
261.	MADHYA PRADESH	YASHWANT SAGAR AT INDORE	LAKE	5.2	8.0	1.0	2.0	2	2	C
262.	MADHYA PRADESH	BAGDOON TALAB PITHAMPUR SANJAY JALASHAY PITHAMPUR	POND	5.0	8.2	1.2	2.3	2	2	C
263.	MADHYA PRADESH	DAL SAGAR TALAB, DIST SEONI	POND	6.2	9.5	1.8	4.8	2	70	NC
264.	MADHYA PRADESH	GOKALPUR TALAB, DIST JABALPUR	POND	5.6	7.3	1.8	6.6	2	1600	NC
265.	MADHYA PRADESH	HANUMANTAL JABALPUR	POND	6.1	7.7	2.4	6.0	2	430	NC
266.	MADHYA PRADESH	MITHA TALAB, DEWAS	POND	6.2	6.9	3.0	5.4	6	3400	NC
267.	MADHYA PRADESH	MOTI TALAB AT BALAGHAT	POND	5.5	7.4	1.7	3.9	2	130	NC
268.	MADHYA PRADESH	PIPLIYA PALA TALAB, INDORE	POND	4.1	7.9	1.4	2.9	2	2	NC
269.	MADHYA PRADESH	POND WATER AT LAKODA	POND	6.8	7.2	2.0	2.4	4	21	C
270.	MADHYA PRADESH	RANI TALAB, REWA	POND	6.7	8.4	0.9	1.9	2	4	C
271.	MADHYA PRADESH	RANITAL TALAB, JABALPUR	POND	3.5	6.9	1.8	20.0	2	1600	NC
272.	MADHYA PRADESH	RIHAND RESRVOIR, SINGRAULI	POND	7.0	8.1	1.2	1.9	0	2	C
273.	MADHYA PRADESH	SITAPAT TALAB DHAR	POND	6.5	8.2	1.0	1.6	2	2	C
274.	MADHYA PRADESH	PERIAT TANK NEAR WSS INTAKE POINT JABALPUR	TANK	6.7	7.8	1.2	1.9	2	15	C
275.	MANIPUR	LOKTAK LAKE AT KARANG ISLAND	LAKE	4.3	10.1	0.3	5.4			NC
276.	MANIPUR	LOKTAK LAKE AT SENDRA	LAKE	5.7	10.1	1.6	7.3			NC
277.	MANIPUR	LOKTAK LAKE AT BISHNUPUR	LAKE	3.2	9.7	0.1	5.8			NC
278.	MANIPUR	LOKTAK LAKE AT THANA	LAKE	4.6	9.1	1.2	5.2			NC
279.	MANIPUR	PUMLEN LAKE AT TOKPACHING	LAKE	2.2	7.5	0.9	7.4			NC
280.	MANIPUR	CHANAM PUKHURI	POND	5.9	17.4	2.4	6.3			NC
281.	MANIPUR	HIRANMEI PUKHURI AT THOUBAL	POND	3.8	8.9	1.6	5.3			NC
282.	MANIPUR	LAMJAO PUKHURI AT ACHOUBA	POND	7.2	10.3	1.3	5.5			NC
283.	MANIPUR	LANGMEIDONG PUKHURI AT THOUBAL	POND	6.4	9.9	0.7	6.8			NC
284.	MANIPUR	LILONG PUKHURI	POND	5.8	11.8	1.3	6.4			NC
285.	MANIPUR	NINGTHEM PUKHURI	POND	4.1	14.5	0.4	8.2			NC
286.	MANIPUR	POND AT KAKWA BAZAR	POND	5.5	7.1	2.6	5.4			NC
287.	MANIPUR	POND AT KONGBA BAZAR	POND	3.0	34.0	0.3	19.6			NC
288.	MANIPUR	POND AT LALAMBUNG	POND	3.6	7.7	1.3	3.2			NC
289.	MANIPUR	POND AT MAIBAM LOKPACHING	POND	6.3	7.6	2.8	5.8			NC

S N	State Name	Station Name	Type Water Body	Dissolved oxygen (mg/l)		B.O.D. (mg/l)		Faecal Coli form (MPN/100ml)		Remarks Complying (C) Non-complying (NC)
				min	max	min	max	min	max	
Primary Water Quality Criteria				>5 mg/l		<3 mg/l		<500 MPN/100ml		
290.	MANIPUR	POND AT MOIDANGPOK	POND	5.3	14.4	0.4	7.3			NC
291.	MANIPUR	POND AT NGAIRANGBAM	POND	6.0	14.6	0.8	8.7			NC
292.	MANIPUR	PUKHRI AT LANGMEIDONG	POND	6.3	10.3	0.7	6.3			NC
293.	MEGHALAYA	TASEK LAKE AT SONGSAK (NAPHAK),	LAKE	6.3	7.5	1.4	2.0	24	36	C
294.	MEGHALAYA	THADLASKEIN LAKE, JOWAI	LAKE	6.2	8.2	1.4	2.2	14	24	C
295.	MEGHALAYA	UMIAM LAKE AT BARAPANI	LAKE	5.0	9.3	3.6	7.0	1400	2300	NC
296.	MEGHALAYA	UMIAM LAKE AT MIDDLE POINT	LAKE	4.6	11.5	4.0	8.6	1100	2300	NC
297.	MEGHALAYA	UMIAM LAKE AT OUTFALL OF UMIAM RIVER INTO LAKE	LAKE	3.0	7.7	4.6	10.0	2000	2700	NC
298.	MEGHALAYA	UMIAM LAKE ATNEAR UNITED CHRISTIAN COLLEGE	LAKE	3.0	6.2	4.2	7.8	1300	2200	NC
299.	MEGHALAYA	WARD'S LAKE AT SHILLONG	LAKE	6.2	9.0	4.0	6.0	790	1700	NC
300.	NAGALAND	BANGLA FISHERY, DIMAPUR	LAKE	2.6	7.8	2.0	4.8			NC
301.	NAGALAND	PUDUMPUKHURI, DIMAPUR	LAKE	2.5	7.4	2.4	8.8			NC
302.	Odisha	ANSHUPA AT BISHNUPUR	LAKE	3.4	9.4	0.5	4.4	20	2400	NC
303.	Odisha	ANSHUPA AT SARANDAGARH	LAKE	4.8	11.0	0.8	4.8	20	3500	NC
304.	Odisha	ANSHUPA AT SUBARANAPUR	LAKE	6.3	9.4	0.6	4.3	20	2400	NC
305.	Odisha	ANSHUPA LAKE KADALIBARI	LAKE	5.4	10.0	1.0	3.9	20	3500	NC
306.	Odisha	CHILKA AT RAMBHA	LAKE	6.2	11.0	0.3	2.0	2	2200	NC
307.	Odisha	CHILKA LAKE AT SATAPADA (RAMSAR SITE)	LAKE	5.1	8.1	1.0	2.7	2	9200	NC
308.	Odisha	TAMPADA LAKE AT CHHATRAPUR	LAKE	4.5	12.5	4.4	16.9	20	3300	NC
309.	Odisha	BINDUSAGAR (RELIGIOUS POND OF BHUBANESWAR CITY) (NORTH) (LINGRAJ TEMPLE)	POND	3.5	7.7	1.0	4.9	130	160000	NC
310.	Odisha	INDRADYUMNA TANK (RILIGIOUS POND OF PURI CITY)	POND	3.3	9.8	3.2	7.0	78	16000	NC
311.	Odisha	JAGANNATH SAGAR POND OF JEYPORE	POND	6.5	7.6	0.7	2.8	20	2500	NC
312.	Odisha	MARKANDA POKHARI (RILIGIOUS POND OF PURI CITY)	POND	4.7	18.3	3.6	8.1	2	16000	NC
313.	Odisha	NARENDRA POKHARI (RILIGIOUS POND OF PURI CITY)	POND	5.0	13.4	3.8	9.5	2	16000	NC
314.	Odisha	PARVATI SAGAR (RILIGIOUS POND OF PURI CITY)	POND	4.8	14.8	3.1	17.8	20	16000	NC
315.	Odisha	RANIGUDA POND	POND	2.3	16.2	2.5	18.1	20	16000	NC
316.	Odisha	SWETAGANGA (RILIGIOUS POND OF PURI CITY)	POND	1.6	12.9	4.1	16.4	330	16000	NC
317.	PUDUCHERRY	BAHOUR LAKE	LAKE	5.5	8.9	0.0	3.0	27	80	C
318.	PUDUCHERRY	OUSTERI LAKE	LAKE	8.0	66.0	0.0	3.0	22	22	C
319.	PUNJAB	HARIKE LAKE AT HARIKE VILLAGE, PUNJAB	LAKE	6.3	7.6	1.6	3.0	230	2200	NC
320.	PUNJAB	HARIKE LAKE D/S FROM CANAL, PUNJAB	LAKE	6.3	7.8	1.6	3.0	230	2100	NC
321.	PUNJAB	RANJIT SAGAR RESERVOIR, PUNJAB	LAKE	7.8	8.3	0.0	0.0	33	79	C
322.	RAJASTHAN	JAISAMAND LAKE, SALUMBER, UDAIPUR, POINT NO. 1, RAJASTHAN	LAKE	6.6	7.8	0.6	2.4	9	23	C
323.	RAJASTHAN	JAISAMAND LAKE, SALUMBER, UDAIPUR, POINT NO. 2, RAJASTHAN	LAKE	6.6	7.6	1.1	2.5	11	20	C
324.	RAJASTHAN	JET SAGAR LAKE, BUNDI, RAJASTHAN	LAKE	2.7	5.4	0.9	3.7	7	64	NC
325.	RAJASTHAN	RAJSAMAND LAKE , RAJSAMAND- POINT NO. 1, RAJSAMAND, RAJASTHAN	LAKE	3.2	5.7	0.6	3.3	7	20	NC
326.	RAJASTHAN	SILISERH LAKE, ALWAR, RAJASTHAN	LAKE	5.4	7.3	1.1	3.1	4	14	NC
327.	RAJASTHAN	FATEH SAGAR LAKE AT UDAIPUR INTAKE POINT OF PHED, RAJASTHAN	LAKE	6.2	7.2	0.9	3.3	11	20	NC
328.	RAJASTHAN	GAPE- SAGAR LAKE, DUNGARPUR, RAJASTHAN	LAKE	4.2	5.4	0.9	4.4	7	21	NC
329.	RAJASTHAN	JALMAHAL, JAIPUR, RAJASTHAN	LAKE	1.8	7.2	3.2	28.0	21	75	NC
330.	RAJASTHAN	KAYALANA JHEEL JODHPUR, RAJASTHAN	LAKE	5.3	9.2	0.6	2.7	4	11	C
331.	RAJASTHAN	LODHA TALAB, BANSWARA- DUNGARPUR ROAD, BANSWARA, RAJASTHAN	LAKE	3.2	5.7	1.1	3.7	14	28	NC
332.	RAJASTHAN	NAKKI LAKE, MT. ABU, RAJASTHAN	LAKE	4.6	336.0	0.2	2.8	4	14	NC
333.	RAJASTHAN	PICHOLA LAKE AT UDAIPUR (WATER INTAKE POINT), RAJASTHAN	LAKE	6.0	7.2	0.6	2.3	9	372	C
334.	RAJASTHAN	PUSHKAR LAKE, RAJASTHAN	LAKE	2.3	5.7	1.5	9.6	7	20	NC
335.	RAJASTHAN	RAJSAMAND LAKE , RAJSAMAND- POINT NO. 2, RAJSAMAND, RAJASTHAN	LAKE	3.3	5.7	0.7	3.2	7	14	NC
336.	RAJASTHAN	UDAISAGAR LAKE AT UDAIPUR (INTAKE PT.) RAJASTHAN	LAKE	5.4	6.1	1.7	4.0	14	28	NC
337.	RAJASTHAN	BADI KA TALAB, UDAIPUR	POND	6.2	7.2	0.8	2.1	4	14	C
338.	TAMIL NADU	KODAI KANAL LAKE, TAMILNADU	LAKE	6.5	7.4	2.1	6.1	33	79	NC
339.	TAMIL NADU	POONDI LAKE AT THIRUVALLUR, TAMILNADU	LAKE	3.1	7.4	2.0	36.0	2	460	NC
340.	TAMIL NADU	PORUR LAKE AT THIRUVALLUR, TAMILNADU	LAKE	4.3	7.8	2.0	17.0	2	340	NC
341.	TAMIL NADU	PULICATE LAKE AT THIRUVALLUR, TAMILNADU	LAKE	2.9	7.0	2.0	20.0	2	110	NC
342.	TAMIL NADU	REDD HILLS AT THIRUVALLUR, TAMILNADU	LAKE	4.2	7.6	2.0	10.0	2	210	NC
343.	TAMIL NADU	UDHAGAMADALEM LAKE (OOTY), TAMILNADU	LAKE	2.0	6.6	1.6	13.2	110	2200	NC
344.	TAMIL NADU	VEERANAM LAKE AT CUDDALORE,	LAKE	3.9	7.9	0.9	6.9	34	1100	NC

S N	State Name	Station Name	Type Water Body	Dissolved oxygen (mg/l)		B.O.D. (mg/l)		Faecal Coli form (MPN/100ml)		Remarks Complying (C) Non-complying (NC)
				min	max	min	max	min	max	
Primary Water Quality Criteria				>5 mg/l		<3 mg/l		<500 MPN/100ml		
		TAMILNADU								
345.	TAMIL NADU	YERCAUD LAKE, SALEM, TAMILNADU	LAKE	6.2	8.6	0.8	8.1	78	630	NC
346.	TELANGANA	BANJARA LAKE, BANJARA HILLS, RANGA REDDY	LAKE	0.0	1.0	12.0	60.0	2	800	NC
347.	TELANGANA	FOX SAGAR, JEEDIMETLA, RANGA REDDY	LAKE	0.9	4.1	6.0	16.0	2	320	NC
348.	TELANGANA	HASMATHPET LAKE, HASMATHPET, RANGA REDDY	LAKE	0.0	1.0	14.0	20.0	2	800	NC
349.	TELANGANA	HIMAYAT SAGAR LAKE , R.R.DIST.	LAKE	5.0	6.6	1.0	3.0	2	30	C
350.	TELANGANA	HUSSAIN SAGAR LAKE, BUDAMERU	LAKE	0.1	2.2	10.0	22.0	20	480	NC
351.	TELANGANA	LAKE KAMUNI (SHAMSHABAD LAKE)	LAKE	0.0	5.5	9.0	23.0	2	220	NC
352.	TELANGANA	LANGARHOUSE LAKE, HYDERABAD	LAKE	0.1	1.1	10.0	39.0	2	800	NC
353.	TELANGANA	LAXMINARAYANA CHERUVU AT EDULABAD, RANGAREDDY	LAKE	2.3	5.4	6.0	18.0	2	180	NC
354.	TELANGANA	MIRALAM LAKE NEAR ZOO PARK, RANGAREDDY	LAKE	0.0	3.9	6.0	20.0	2	220	NC
355.	TELANGANA	NEKNAMPUR LAKE	LAKE	0.0	0.5	15.0	40.0	2	420	NC
356.	TELANGANA	NOOR MD. KUNTA, KATTEDAN, RANGAREDDY	LAKE	0.0	0.1	24.0	45.0	20	800	NC
357.	TELANGANA	RAMAPPA LAKE, WARANGAL	LAKE	5.1	6.8	2.0	3.0	2	25	C
358.	TELANGANA	SAFILGUDA LAKE, RANGA REDDY	LAKE	0.0	2.3	10.0	20.0	2	800	NC
359.	TELANGANA	SAROORNAGAR , RANGA REDDY DIST.	LAKE	0.0	0.1	14.0	28.0	40	420	NC
360.	TELANGANA	SHAMEERPET LAKE, SHAMEERPET, RANGA REDDY	LAKE	3.9	6.0	2.0	8.0	2	120	NC
361.	TELANGANA	UMDA SAGAR LAKE, SHAMSHABAD	LAKE	2.0	44.1	1.0	16.0	2	96	NC
362.	TELANGANA	AMBER CHERUVU, KUKATPALLY, RANGA REDDY	POND	0.0	2.0	12.0	32.0	2	800	NC
363.	TELANGANA	ASANI KUNTA, KAJIPALLY, MEDAK	POND	0.0	0.1	99.0	278.0	4	100	NC
364.	TELANGANA	BHADRAKALI CHERUVU, BHADRAKALI TEMPLE, WARANGAL	POND	3.8	5.8	2.0	3.0	2	23	NC
365.	TELANGANA	DURGAM CHERUVU	POND	1.0	3.9	4.0	18.0	2	220	NC
366.	TELANGANA	KAPRA CHERUVU, KAPRA, RANGA REDDY	POND	1.9	4.0	6.0	12.0	2	420	NC
367.	TELANGANA	NALLA CHERUVU, RANGAREDDY	POND	0.1	0.1	20.0	22.0	30	60	NC
368.	TELANGANA	PEDDA CHERUVU	POND	0.0	1.0	11.0	29.0	2	520	NC
369.	TELANGANA	PEDDA CHERUVU (NACHARAM CHERUVU)	POND	0.0	1.0	20.0	30.0	2	800	NC
370.	TELANGANA	PRAGATHINAGAR CHERUVU, KUKATPALLY, RANGA REDDY	POND	0.0	1.9	14.0	38.0	2	480	NC
371.	TELANGANA	RANGADHAMUNI CHERUVU, RANGA REDDY	POND	0.0	2.6	8.0	20.0	10	480	NC
372.	TELANGANA	SAI CHERUVU, NEAR TANNERY INDUSTRIES, DESAIPET, WARANGAL	POND	0.0	4.2	28.0	286.0	2	480	NC
373.	TELANGANA	AMEENPUR CHERUVU, AMEENPUR (V & M) SANGAREDDY DISTRICT	TANK	6.2	7.4	6.0	13.0	6	10	NC
374.	TELANGANA	BIBINAGAR TANK	TANK	4.9	6.8	3.0	60.0	5	125	NC
375.	TELANGANA	CHINNA WADDEPALLY TANK, WARANGAL	TANK	2.0	5.0	8.0	22.0	2	100	NC
376.	TELANGANA	CHITKUL TANK, CHITKUL (V) PATANCHERU (M) SANGAREDDY DISTRICT	TANK	5.6	6.8	4.0	13.0	3	6	NC
377.	TELANGANA	DHARMASAGAR TANK NEAR WARANGAL	TANK	5.2	6.0	2.0	3.0	2	24	C
378.	TELANGANA	GADDAPOTHARAM CHERUVU, GADDAPOTHARAM VILLAGE, JINNARAM MANDAL, SANGAREDDY DIST	TANK	2.5	8.5	18.0	30.0	4	10	NC
379.	TELANGANA	GANDIGUDEM TANK , MEDAK DISTRICT	TANK	4.8	7.9	16.0	24.0	6	250	NC
380.	TELANGANA	IBRAHIM CHERUVU, RAJENDRA NAGAR	TANK	0.0	0.1	19.0	32.0	11	240	NC
381.	TELANGANA	ISNAPUR TANK, ISNAPUR (V) PATANCHERU 9M) SANGAREDDY DISTRICT	TANK	2.5	6.5	3.0	88.0	2	12	NC
382.	TELANGANA	JOGULAMBA TEMPLE, GADWAL	TANK	3.2	6.2	2.0	24.0	9	80	NC
383.	TELANGANA	KAJIPALLY TANK, KAJIPALLY, MEDAK	TANK	5.0	5.8	12.0	14.0			NC
384.	TELANGANA	KISTAIPALLY TANK, KAZIPET, WARANGAL	TANK	5.7	8.5	7.0	18.0	2	5	NC
385.	TELANGANA	KISTAREDDYPET TANK , MEDAK DIST.	TANK	3.2	6.4	10.0	30.0	2	100	NC
386.	TELANGANA	KOMATI CHERUVU, SIDDIPET TOWN, SIDIPET DISTRICT	TANK	6.5	8.6	4.0	9.0	2	62	NC
387.	TELANGANA	KONERU, KONDAGATTU TEMPLE, JAGITIYAL	TANK	0.1	4.6	3.0	140.0	2	220	NC
388.	TELANGANA	KOTI CHERUVU, HANAMKONDA, WARANGAL	TANK	1.6	5.4	6.0	26.0	2	43	NC
389.	TELANGANA	LAKADARAM CHERUVU, LAKADARAM (V) PATANCHERU (M) SANGAREDDY DISTRICT	TANK	4.2	6.2	3.2	5.0	2	3	NC
390.	TELANGANA	MAHABOOBSAGAR TANK SANGAREDDY (V & M) SANGAREDDY DISTRICT	TANK	6.5	6.9	5.0	12.0	2	12	C
391.	TELANGANA	MALLAPUR TANK	TANK	0.0	0.1	22.0	41.0	55	800	NC
392.	TELANGANA	MALLEPALLY TANK MALLEPALLY (V) KONDAPUR (M) SANGAREDDY DISTRICT	TANK	6.1	7.6	4.8	14.0	2	6	NC
393.	TELANGANA	MUCHARLA NAGARAM CHERUVU, WARANGAL	TANK	2.6	4.7	10.0	18.0	2	94	NC
394.	TELANGANA	MULLAKATWA CHERUVU, JI TECH CITY, MADHAPUR,	TANK	0.0	4.3	14.0	57.0	2	420	NC
395.	TELANGANA	MUTHANGI TANK, MUTHANGI (V), PATANCHERU (M) SANGAREDDY DISTRICT	TANK	5.2	7.1	4.0	10.0	2	60	NC
396.	TELANGANA	PREMAJIPET TANK, KATTEDAN, RANGAREDDY	TANK	0.0	1.7	16.0	40.0	2	540	NC

S N	State Name	Station Name	Type Water Body	Dissolved oxygen (mg/l)		B.O.D. (mg/l)		Faecal Coli form (MPN/100ml)		Remarks Complying (C) Non-complying (NC)
				min	max	min	max	min	max	
Primary Water Quality Criteria				>5 mg/l		<3 mg/l		<500 MPN/100ml		
397.	TELANGANA	RANGASAMUDRAM, WARANGAL	TANK	2.1	4.6	8.0	16.0	2	52	NC
398.	TELANGANA	RAYAM CHERUVU, BONTHAPALLY VILLAGE, JINNARAM MANDAL, SANGAREDDY DISTRICT	TANK	4.4	7.0	5.0	88.0	2	32	NC
399.	TELANGANA	RUDRARAM TANK, RUDRARAM (V)PATANCHERU (M) SANGAREDDY DISTRICT	TANK	3.2	7.4	7.0	14.0	2	65	NC
400.	TELANGANA	SAKI TANK, PATANCHERU, RANGA REDDY	TANK	4.1	7.2	3.0	8.0	2	100	NC
401.	TELANGANA	VEMULAWADA TEMPLE KONERU, KARIMNAGAR	TANK	0.1	1.8	12.0	190.0	2	27	NC
402.	TELANGANA	WADDEPALLY TANK, KAZIPET, WARANGAL	TANK	4.5	6.2	3.0	80.0	2	25	NC
403.	TELANGANA	YADADRI TEMPLE, YADADRI, BORE WELL/ KONERU	TANK	4.2	4.2	4.0	4.0	7	7	NC
404.	TELANGANA	YERDANOOR TANK, YERDANOOR (V) SANGAREDDY DISTRICT	TANK	6.6	7.9	4.0	11.8	2	4	NC
405.	TRIPURA	DHAMBUR LAKE, DHALAI	LAKE	6.1	7.9	0.2	0.8	94	170	C
406.	TRIPURA	DIMASAGAR LAKE, NORTH GATE	LAKE	7.3	8.4	0.7	2.4	130	280	C
407.	TRIPURA	LAXMI NARAYAN BARI PALACE COMPOUND, TRIPURA	LAKE	6.3	8.5	0.2	1.0	110	150	C
408.	TRIPURA	MBB COLLEGE LAKE	LAKE	7.1	7.8	0.8	2.0	110	150	C
409.	TRIPURA	RUDRASAGAR, SONUMURA, TRIPURA	LAKE	5.9	8.3	0.6	2.9	110	170	C
410.	TRIPURA	BRAMAKUNDA POND, WEST TRIPURA	POND	5.2	7.4	0.2	0.9	110	170	C
411.	TRIPURA	CHATURDASH DEBATA BARI POND	POND	7.1	7.9	0.5	2.0	110	170	C
412.	TRIPURA	DURGABARI POND	POND	6.2	7.0	0.5	2.6	120	240	C
413.	TRIPURA	JAGANNATH DIGHI, SOUTH TRIPURA	POND	6.7	8.9	0.2	1.2	110	170	C
414.	TRIPURA	KALYANSAGAR AT MATARBARI, SOUTH TRIPURA	POND	6.5	8.9	0.4	1.2	140	240	C
415.	TRIPURA	KATAL DIGHI POND	POND	6.6	7.3	0.4	2.0	150	220	C
416.	TRIPURA	LALBAHADUR DIGHI POND	POND	5.5	7.3	0.6	2.7	120	170	C
417.	TRIPURA	MAHADEB DIGHI, SOUTH TRIPURA	POND	6.9	8.6	0.2	1.1	110	170	C
418.	TRIPURA	RADHANAGAR POND	POND	7.6	8.8	0.8	3.8	130	280	NC
419.	TRIPURA	SHIPAHIJALA POND, WEST TRIPURA	POND	5.1	6.9	0.2	0.7	110	170	C
420.	UTTAR PRADESH	RAMGARH LAKE, U.P.	LAKE	8.0	9.0	3.7	5.0	2100	6300	NC
421.	UTTAR PRADESH	SAMARPUR JHEEL, RAEBARELI	LAKE	5.8	7.2	4.0	5.0	5100	6900	NC
422.	UTTAR PRADESH	LAXMI POND, JHANSI	POND	0.0	2.5	45.0	87.5	700	12000	NC
423.	UTTAR PRADESH	MAAHIL POND, URAI TEHSIL, JALAUN	POND	0.0	0.0	9.5	96.0	1100	15000	NC
424.	UTTARAKHAND	BHEEMTAL LAKE	LAKE	6.8	7.8	1.2	1.6			C
425.	UTTARAKHAND	NAINI LAKE AT NAINITAL (WATER INTAKE POINT)	LAKE	6.6	7.8	1.2	1.8			C
426.	WEST BENGAL	BELBONI LAKE NEAR BARJORA, BANKURA	LAKE	5.4	8.4	1.5	2.8	1100	9000	NC
427.	WEST BENGAL	HANUMAN GHAT ON DUDHPUKUR AT TARAKESHWAR, HOOGHLY	LAKE	6.5	25.0	1.5	44.2	13000	130000	NC
428.	WEST BENGAL	HATISHALA GHAT ON DUDHPUKUR AT TARAKESHWAR, HOOGHLY	LAKE	4.8	18.6	3.1	21.6	23000	140000	NC
429.	WEST BENGAL	KOCHBIHAR LAKE (SAGAR DIGHI), COOCHBEHAR	LAKE	6.2	8.6	1.4	3.6	2600	9000	NC
430.	WEST BENGAL	MAINH GHAT ON DUDHPUKUR AT TARAKESHWAR, HOOGHLY	LAKE	5.5	24.3	3.0	40.2	30000	220000	NC
431.	WEST BENGAL	MIRIKH LAKE, DARJEELING	LAKE	6.2	7.2	2.4	3.6	2200	8000	NC
432.	WEST BENGAL	RABINDRASAROVAR NATIONAL LAKE, CALCUTTA, WEST BENGAL	LAKE	8.1	14.2	1.7	6.1	700	130000	NC
433.	WEST BENGAL	SAHEBBANDH AT PURULIA	LAKE	4.1	9.7	2.5	3.8	3000	11000	NC
434.	WEST BENGAL	SINCHAL LAKE FOR DARJEELING	LAKE	7.2	8.8	0.8	1.9	90	340	C
435.	WEST BENGAL	WATER RESERVIOR AT DELO LAKE, DARJELLING	LAKE	7.1	8.6	0.6	2.8	110	340	C