



Central Pollution Control Board

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

Parivesh Bhawan, East Arjun Nagar,

Delhi – 110032

Minutes of 2nd meeting of the Expert Committee held on 25.08.2020 for ensuring compliance to Hon'ble NGT Orders dated 10.5.2019, 25.02.2020 & 01.06.2020 in O. A. No. 325/2015 in the matter of Lt. Col. Sarvadaman Singh Oberoi Vs Union of India & Ors

Second meeting of the Expert Committee was held on 25th August, 2020 through Video Conferencing (VC) with the concerned States/UTs to review action plans proposed for restoration of stagnant water bodies by the States/UTs in compliance to Hon'ble NGT orders dated 10.5.2019, 25.02.2020 & 01.06.2020 passed in O. A. No 325/2015 in the matter of Lt. Col. Sarvadaman Singh Oberoi Vs Union of India & Ors.

Action plans of 15 States viz. Chhattisgarh, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Kerala, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Punjab, Telangana, Tripura and 3 UTs Delhi, Dadra & Nagar Haveli & Daman & Diu, Lakshadweep Puducherry proposed were discussed. The list of participants is enclosed at Annexure I.

Dr. Prashant Gargava, Member Secretary, CPCB welcomed all the members of the Expert Committee and the officials from States/ UTs for participating in VC meeting and requested Sh. A. Sudhakar to initiate the proceedings. Sh. A. Sudhakar briefed that in pursuance to Hon'ble NGT directions an "Indicative Guidelines for Restoration of Stagnant Water Bodies" prepared and circulated to all the States/UTs. Also, organised a One-day Workshop for all States/UTs on 30.1.2020 for sensitization on the subject matter. Sh. A. Sudhakar also informed that restoration of water bodies is a major challenge for all the authorities specially in Urban areas to restore their "designated best use (DBU)".

Thereafter, Sh. J. C. Babu briefed about the Hon'ble NGT orders dated 10.5.2019, 25.02.2020 & 01.06.2020. Thereafter, he requested the representatives of States/UTs to make a brief power point presentation covering aspects such as (i) no. of stagnant water bodies identified, (ii) custodian of water bodies, (iii) status on geo-tagging, (iv) break-up on the designated best use of water bodies, (v) break-up regarding water bodies complying to outdoor bathing or designated best use criteria, (vii) Prioritised water bodies requiring restoration, (viii) proposed action plans for restoration of stagnant water bodies in the State/UT with agency responsible for implementation of action plans, (ix) budget requirement, time required for implementation of action plans and other relevant information.

Based on the presentations made by the States/UTs, State-wise salient features of the presentations and the suggestion made by the Expert Committee are detailed below:-

1. Gujarat: - Representative of Narmada, Water Resources, Water Supply & Kalpsar Department, Government of Gujarat informed that Water Resources Department, Gujarat is the Nodal Agency. Stagnant water bodies have been identified under Water Resource Dept. (4413), Revenue Dept. (12182), Urban Development Dept. (1939) and Panchayat Dept. (25604 water bodies) in Gujarat. Geo-tagging of all water bodies expected to be completed by Oct, 31,2020. About 400 samples were collected, only from water bodies those notified in the year 2006 and the collected samples given to GPCB for further analysis. Based on the field visits and physical assessment of water bodies, most of the water bodies are found to be polluted. Water Quality Assessment will be completed in association with GPCB by Dec 31, 2020. Action plan for restoration of prioritized Water bodies shall be prepared by 15th January 2021 and will be submitted to CPCB. Concerned departments shall execute the action plans for restoration of water bodies by December 2021. Under Repair, Renovation and Restoration of Water Bodies (RRR) scheme of PMKSY program of Government of India, 61 minor irrigation projects with estimated cost of Rs. 102 Crore are sectioned for drought prone Saurashtra region, which is centrally assisted 60% by GOI share and rest 40% is from state budget. Scheme is presently in progress and 2490 farmers are provided facilities till November, 2019.

Suggestion of the Committee: - Nature of water bodies and major causes of pollution to be assessed. Apart from physical verification, Gujarat State should also carryout physico-chemical and biological monitoring. Water quality and compliance status should also be provided. DBU of all water bodies to be stated. Assessment should be taken for extinct water bodies and their catchment areas. Action Plans to be finalised to control sources of pollution and based on the detailed assessment of existing water bodies.

2. Haryana: - Haryana Pond & Waste Water Management Authority informed that Haryana has constituted Haryana Pond & Waste Water Management Authority. So far authority has identified and got uploaded the data of all the 16662 Ponds (572 Urban + 16090 Rural) on PDMS (Ponds Data Management System) i.e., 16090 Ponds under Gram Panchayats, 572 under Municipalities. All the identified ponds have been assigned Unique IDs and also Geo-Tagged. Assessment of Water Quality of Ponds or Lakes in association with HSPCB has been under taken. Polluted & Overflowing Ponds selected in consultation with HSPCB. Action Plan for F.Y. 2020-21 prepared and submitted 18 Polluted Ponds were taken for their restoration during F.Y. 2019-20. The Model drawings based on the 11 components were prepared for all the 18 Model Ponds and issued by the Pond Authority to the PR-PW (i.e. The Executing Department). Restoration of 18 ponds expected to be completed by March 2021. Water quality of 100 ponds being checked and is pending with HSPCB. 626 ponds restoration have already been completed by IWRD, PR-PW & ULBD under different schemes. 584 ponds restoration is under progress by IWRD, PR-PW & ULBD under different schemes. 2267 ponds are Yet-To-Start by IWRD, PR-PW & ULBD under different schemes. Constructed Wetland Technology has been adopted for treatment of Waste Water, for all the Model Ponds.

Suggestion of the Committee: - Pond Data Management Software needs to be examined so that it can be replicated by the other States/UTs. Pond information system should be in public domain. Case studies also be uploaded in Haryana Pond & Waste Water Management Authority website. Assessment to be made by CPCB for replication of 18 model ponds restored in Haryana State. Encroachments of ponds to be taken up by Haryana Pond & Waste Water Management Authority.

3. Himachal Pradesh: - Representative of H.P. Pollution Control Board informed that a Committee has already been constituted to oversee the work. 6 stagnant water bodies were identified in the State for restoration under NRCP. Geo-tagged but UIN not provided till date. Designated best use of water bodies and water quality of 6 stagnant water bodies provided. Gap analysis also carried out for 6 identified water bodies for restoration. Activities proposed under submitted action plans includes (i) Inventorisation of industries/hotels in the catchment, regulation implementation, (ii) Organization of Swachhata Campaign near the lake and surrounding villages and urban areas, (iii) Preparation & Distribution of IEC material on the importance of lakes, (iv) Sensitization workshops/meetings for tourists and others with district Administration, (v) Entrance Gates, Cafeteria and shops, Toilet Block, urban element, Benches, Signages, railing, Dustbins, Beautification of lake area, paths, parking, viewpoints, landscaping plants, Renovation of existing rain shelter, retaining walls on lake side, Gabion wall with woven create wire in lake, proposed timelines for completion is Financial Year 2020-2021.

Suggestion of the Committee: - Identification and inventorisation of all water bodies to be done scientifically. UIN for water bodies to be provided. Water quality of all the stagnant water bodies in the State to be conducted by HPPCB. Wetland Authority to be constituted by the State. All point sources and non-point sources causing pollution in lakes or ponds to be assessed by the State. Action to be taken by HPPCB for ensuring compliance to Hon'ble NGT orders.

4. Jammu & Kashmir: - Member Secretary, J & K Pollution Control Board informed that a committee has been constituted to oversee the work by the J & K UT Government vide order No. 213-FST of 2019 dt. 12/07/2019. 2815 no. of stagnant waterbodies have been identified and prioritized. Custodian Departments of Water Bodies are Forest Department (Ponds-32, Lakes-160), Wildlife (Ponds-8, Lakes-47), Soil & Water Conservation Department (Ponds-912, Lakes-3), Revenue/DC/AGRI (Ponds-1182, Lakes-1), Jammu MC (Ponds-61, Lakes-0), DERS/Revenue (Ponds-184, Lakes-225), Priority –I Stagnant Water Bodies identified are 222 i.e., (Ponds-13, Lakes-209), Available Budget for restoration of stagnant water bodies is Rs. 503.24 Cr and funds required is of Rs.37.23 Cr.

Suggestion of the Committee: - Apart from physical verification, the State should also carryout chemical and bio-chemical monitoring. Water quality data and compliance status should be provided. DBU of all water bodies to be indicated. Detailed action plan indicating sources of pollution, water quality of all identified water bodies including implementing agencies and definite timelines be submitted to CPCB and other aspects as per Hon'ble NGT orders. J & K already involved in restoration of Dal Lake in J & K State. Case study be documented and report also be submitted to CPCB.

5. Kerala:- Member Secretary, Kerala State Pollution Control Board informed that a Committee has been constituted to oversee the work. Primarily, 40,000 ponds were identified by Irrigation Design and Research Board (IDRB) for which Unique Identification No. has been marked. Kerala State Pollution Control Board (KSPCB), with GIS Specialization, marked the ponds in the maps of all the 14 districts of Kerala. In second phase, 15,765 ponds were identified by Irrigation Design and Research Board (IDRB) for which Unique Identification No. has been marked. Main activities proposed under action plan are Collection and maintenance of historical information relating to the water bodies, by 30.10.2020. Digital mapping of all the collected information as well as identification of designated best use, sources of pollution, assessment of water quality of all water bodies expected to be completed by 31.07.2021. Restoration of water bodies by way of De-Siltation, De-Weeding, Mechanical and biological control measures, Stabilization of earthen bunds and the drainage channels as well as silt and soil erosion control measures, Protection drainage basin including preservation of drainage channels, by 30.05.2021. Actions for removal of encroachments and blockades in water bodies spread area/ boundary/drainage channels and necessary flood control measures, by 30.05.2021. Adoption of In-situ techniques for in-situ remediation of ponds or lakes (Physical & chemical treatment). Proposed LSGD as nodal agency for restoration of water bodies. A committee comprising of the representative from local body, concerned Village Officer, representative from Irrigation Department, Haritha Keralam Mission, Agriculture Department, Overseer of Soil Conservation Department/ Directorate and representative from MGNREGS proposed to be constituted for the field survey and preparation of action plan. Secretary of local body will be the convener of the Committee. Initiatives of Kerala State for ensuring compliance subsequent to Hon'ble NGT order dated 01.06.2020. 677 out of 1833 polluted water bodies claimed to be already restored.

Suggestion of the Committee: - Water quality data of all the identified stagnant water bodies to be prepared and submitted. Water body wise sources of pollution and gap analysis to be included. Prioritisation of the water bodies to be completed based on the water quality and the designated best use of water bodies. A database management system to be developed for all the identified polluted water bodies as done by Haryana Pond & Waste Water Authority. Stagnant water bodies which have already been restored, all such details be documented and uploaded in Kerala State Website and also submitted to CPCB.

6. Odisha: - Representative of H&UD Dept. informed that few water bodies under Administrative Control of H&UD Department. Water quality for the parameter such as pH, salinity, temperature, turbidity, nutrients, organic carbon, conductivity and presence of heavy metals were analyzed. Action plans proposed for restoration of identified polluted stagnant water bodies include De-silting and purification, strengthening of earthen embankment surrounding the ponds with stone pavements and dredging. In-situ measures like biological treatment, ensuring no entry of drains wastewater or waste to the ponds or lakes. Periodic mechanical cleaning and purification of water, Maintaining of major plant and eco system. Creating pavements and stairs for better access, making rest/ activity points to boost local recreation etc., Out of a sum of Rs 2,23,00,000 (2.23 Cr.) received from H&UD Department for dredging and De-silting of Narendra Puskarini Tank under "Protection and Conservation of Water bodies" the Puri Municipality has spent Rs. 1 Cr to restore, modify and beautify the holy tank.

Suggestion of the Committee: - Identification and inventorisation of all stagnant water bodies to be done properly for the entire state by all the custodians. All the water bodies to be geo-tagged. Water body wise major cause of pollution to be identified and Water quality of all water bodies be checked for prioritisation. Action Plans to be prepared based on the water quality status of all the stagnant water bodies, for the entire state by all the concerned departments in Odisha State

7. Punjab: - Representative of Directorate of Environment & Climate Change(DECC), Govt. of Punjab informed that there are 15466 ponds in rural areas and 249 Ponds in Urban areas having area of 23,988 Acres (0.19% of TGA). 243 out of 15466 in rural areas and 2 out of 249 ponds in urban areas are having treatment facilities. 795 ponds are used for irrigation and 6001 ponds can be used for irrigation. Action Plan for restoration of ponds (having size of > 0.5 acres), submitted to CPCB on 31.03.2020 and Consolidated & Pond wise information in prescribed formats, submitted to CPCB, on 31.07.2020. Based on recommendations of the Technical Committee, 4 technological options of waste stabilisation ponds (WSP) in various combination in rural areas have been finalized recommend for wastewater treatment of villages ponds. During December,2018- January,2019, samples collected from 110 village ponds were analysed for pH, TSS, BOD and COD and PPCB to analyse water quality of 167 Village Ponds. It is proposed that 17,732 rural ponds for restoration at a total cost of Rs. 4987.58 Cr and 249 urban ponds at a total cost of Rs.3399.19 Cr. Concerned local and urban bodies are the implanting agencies. Water Regulation & Development Authority, Biodiversity Management Committee will be involved in restoration of stagnant water bodies in the State of Punjab.

Suggestion of the Committee: - Water body wise water quality status for the parameters suggested under CPCB guidelines to be carried out and compliance status based on the designated best use of water bodies to be included in action plans. Action plans should also ensure restoration of lost native bio-diversity as well as O & M of all new infrastructure.

8. Puducherry: - Representative of Puducherry Pollution Control Committee (PPCC), Department of Science & Technology & Environment, Government of Puducherry informed that in Puducherry UT, there are 84 Tanks (under Irrigation Division of Public Works Department) and 843 Ponds under the custody of Local Administration Department. UT Level Monitoring Committee under the Chairmanship of Chief Secretary, Steering Committee as well as regional level committees to ensure compliance to the directions in the matter have been constituted. Under Neerum Oorum Program in Puducherry District and NAM Neer Program in Karaikal District (2019 onwards) in line with the Jal Shakthi Abhiyan Mission of Government of India, the Puduchery and Karaikal Collectors had launched the program in August 2019 to protect and restore the water bodies. So far, 205 ponds in Puducherry district and 153 Ponds in Karaikal district have been rejuvenated. In compliance to order dated 25.02.2020, the District Magistrate of Puducherry District and Karaikal District convened a meeting with the members of the Regional Level Committee for restoration of waterbodies on 19.08.2020 and 30.07.2020 respectively and the local bodies and other concerned agencies were informed about the order of Hon'ble NGT and strategies to be adopted for restoration and improvement of waterbodies were discussed and decided. Consolidated report of present action will be submitted by 31.08.2020 to CPCB. Public Works Department, restored 19 out of selected 41 tanks and 22 tanks presently under restoration. Municipalities and Commune Panchayats, restored 302 out of 666 total Number of Ponds selected (free from pollution) and 364 ponds under restoration. Identification and inventory of water bodies completed and all the identified water bodies have been geo-

tagged. Water quality assessment & causes of pollution are under survey and expected to be completed by 31.09.2020. Major problems associated with the ponds are silting, weeding, encroachments, No Provision of inflow or outflow control measures, Poor Embankment & Poor Watershed in Catchment. Removal of encroachments would be completed by December 2020. Report for Rejuvenation of 25 Tanks and 32 village ponds was prepared under NAFCC Scheme of MoEF&CC, Gol and it is under implementation. Works for 19 Tanks and 19 Village Ponds has been completed under the scheme. Revised proposal submitted to MoEF & CC. Desilting, bund strengthening and sluice repairs are proposed under this restoration project.

Suggestion of the Committee: -Gap analysis of Industrial effluent management to be included apart from identification of all sources of pollution while preparing action plans for restoration of water bodies keeping in view the designated best use water quality of all the water bodies.

9. Meghalaya: - Representative of Meghalaya State informed about the Wards Lake (Total Area: 23800 Sq meters or 2.38 Hectares, Altitude: 1460 meters, Maximum depth: 6 meters, Mean Depth: 3.4 meters, Volume: 80, 920 cubic meters, Shore Line: 1284 meters, Major Drains outfall into Water Body: None, Lake is fed by spring water). Lake is used for Fish Breeding by Department of Fisheries, Boating by Department of Tourism and Recreational Park by the Department of Forest and Environment. However, water from the lake is neither used for water supply nor for bathing. Swimming is strictly prohibited. Action initiated are Interception & Diversion of effluent from the two hotels near the lake is carried out via a conduit pipe to the nearby public drain which is in the downstream of the lake; The Two Hotels will be directed to install zero liquid discharge treatment method for reuse of water. Water quality analysed for Temperature (° C), pH, Dissolved Oxygen (mg/L), BOD, Faecal Coliform (MPN/100mL), Faecal Streptococci (MPN/100mL) and are observed to be within the DBU for aquaculture. Proposed action plans includes activities such as (i) Awareness Program (To be implemented by the Department of Forest and Environment), (ii) Monitoring of Water Quality Parameters (To be implemented by MSPCB) and (iii) Bio Remediation (To be implemented by the Department of Fisheries)

Suggestion of the Committee: Inventorisation of water bodies is incomplete. Geo-tagging not yet done. Water quality & causes of pollution given only for a Wards Lake. Lake samples were analyzed only for pH, DO, BOD, FC and FSC as well as parameters for aquaculture but not for all the parameters suggested under the CPCB indicative guidelines. Suggested to initiate action in line with the guidelines circulated by CPCB for identification as well as restoration of stagnant water bodies and in compliance to Hon'ble NGT orders in O. A. No 325/2015 in the matter of Lt. Col. Sarvadaman Singh Oberoi Vs Union of India & Ors.

10. Delhi: - Wetland Authority, Department of Environment, Govt. of NCT of Delhi that there are 256 water bodies (ponds/lakes) under the custody of DDA, BDO/REV. (PANCHAYAT), EDMC, SDMC, NORTH MCD, DJB, PWD, CPWD, ASI, FOREST, DELHI ARCHAEOLOGICAL DEPTT., DELHI WAKF BOARD, DUSIB, DSIIDC, JNU and IIT. Also, DBU standards applicable to 70 water bodies has been identified. Action plans for 89 stagnant water bodies already prepared. 76 out of 256 identified stagnant water bodies require restoration. Proposed action plans for restoration of water bodies includes (i) installation of STPs, (ii) Fencing/Railing/ Beautification/Boundary wall repairs, (iii) fencing

to prevent encroachment under progress, (iv) Demarcation of Land, (v) To act on Domestic waste/ Plastic waste/Municipal waste, (vi) De-siltation & de-weeding to maintain the depth of Pond, Biological & Chemical treatment of Ponds, (vii) Restoration of natural drains like Silt control measures in natural drains, (viii) outflow and outflow flood control provision, (ix) Earthen embankment around the pond, (x) Public Participation for Cleaning of surroundings, (xi) Maintaining a buffer distance, (xii) fence of at least 6' high to avoid entry of people or throwing of garbage, (xiii) greenery in development in the 1 m space including plantation of perennial plants (xiv) Training and Awareness Programme for local people, (xiv) Installation of Bench and instruction Board, (xv) Restoration of Natural drains, (xvi) Earthen embankment surrounding the pond, (xvii) Training to the staff for maintaining the water body.

Suggestion of the Committee: As per earlier report submitted to Hon'ble Courts, geotagged about 1000 stagnant water bodies and presently reported no. of water bodies identified as 256. There is a huge gap between existing water bodies and it appears other water bodies are in the way of extinction. Considering the water scarcity, emphasize should be given in Delhi for restoration of all stagnant water bodies by emphasizing pollution source control measures on priority.

11. Tripura: - The representative of Tripura SPCB informed that 180 number of ponds have been identified in the State. 30 out of 180 water bodies have been selected for restoration and 26 water bodies are presently under restoration. Various actions initiated by Tripura State for ensuring compliance to the Hon'ble NGT order includes (i) The State Government has already notified the Statutory Guidelines for protection and preservation of lakes, ponds and water bodies in the state; (ii) A State Level Committee as well as District Level and Subdivision wise Committees were re-constituted by the Government of Tripura for monitoring and effective implementation of the statutory Guidelines. Summary of indicative action plans have already been shared to all concerned department for effective implementation. (iii) All District Magistrates & Collectors have been directed to take necessary steps for identification of water bodies in their jurisdiction. Also, all DMs have been instructed to take necessary action in regard to the para 6 & 7 of the Hon'ble NGT Order dated 01/06/2020 in OA No. 325/2015 filed by Lt. Col. Sarvadaman Singh Oberoi vs. Union of India and Ors. (iv) A workshop organized by CPCB at Delhi on 30.01.2020 regarding restoration of water bodies was attended by the representative of Tripura State Pollution Control Board. (v) The information collected in the prescribed format relating to water bodies was sent to CPCB on 27/03/2020. (vi) The final action plan for 30 nos. of water bodies will be sent to CPCB after receiving the related information as well as finalized action plan for restoration of water bodies from concerned ULBs. Tripura State representative also apprised about the action taken for beautification & restoration of Kumartilla Lake (a lake /water body located in Agartala Municipal Corporation is a land mark and a success story to be considered). Once Kumartilla Lake, Agartala was Heavily encroached with septic tanks outlets, drains flowing into it & solid waste was being dumped. The area of the lake was 3.9233 acres. After encroachment removal, enhancement in area is 5.0070 acres. Restoration by closing all drains, removal of waste, excavation, development of walkway/jagging track all around fountain for aeration, lighting children parks, open gym etc. at a total restoration cost of Rs. 3.43 Crore.

Suggestion of the Committee: Identification and inventorisation of water bodies is incomplete and same to be done scientifically. All the water bodies to be geo-tagged. Action plans for restoration of stagnant water bodies to be made based on the detailed investigation and scientific assessment and based on the designated best use of the water bodies.

12. Maharashtra: -Representative of Maharashtra Pollution Control Board informed that Hon'ble Chief Secretary, Government of Maharashtra has directed all the local bodies to map water bodies in their jurisdiction in a meeting held on 30.08.2019. All RO/SRO collected information from respective ULB's in their jurisdiction, prepared an inventory and progress of remediation submitted in the prescribed format. *Methodology followed for identification of water bodies* using different tools include (i) Preparation of district wise grids (Khasra No./ Plot No./ Survey No. in which the water body is located), (ii) Searching of waterbody on Google map (Latitude and Longitude and all geographical), (iii) Verification of identified water bodies using MRSAC Geo-mapping, (iv) Marking of location of each lake on topo-sheet using GIS software as well as marking on Google Earth. (v) Data to be collected from 383 ULBs as per the format circulated by CPCB. In Maharashtra State, State Wetland Authority has been Constituted on 06.02.2018. As per the definition of the wetland mentioned in The Wetlands (Conservation and Management) Rules 2017, 15864 total number of wetlands have been identified in the State of Maharashtra. Preliminary brief documents received from all Districts, yet to be placed before the State Wetland Authority.

More than 350 lakes in Maharashtra state, however only those falling in territory of Urban Local bodies are considered in the study. The data has been received from 103 Urban Local Bodies for total 91 lakes/ water bodies. Most of the ULBs don't have any water body pertaining to their jurisdiction. Status is as follows:- Total ULBs in Maharashtra: 391; Data received from ULBs: 103; Number of ULBs that do not have any water body: 44 (Out of received data); Number of ULBs having water body restoration plans: 8; Number of ULBs that have already restored water bodies: 15 and Number of action plans already developed and waiting for funds: Nil .

Restoration framework consists of (i) Building environment and setting up restoration team including local community, technical experts, government officials and NGOs, (ii) Preparation of Restoration plan / Detailed Project Report for individual water body. (iii) Feasibility of treatment (In-situ and ex-situ treatment options-The most feasible technologies that can be easily implemented in Indian Scenario); (iv) Phytoremediation Technology, (v) Circular Economic Floating Wetland / Floating rafter technology-Monitoring to review timely progress, effectiveness and maintenance and Identification of other associated issues which requires attention; (vi) Feasibility for Bio-diversity park in case adequate land is available in the vicinity of ponds or lakes. (vii) Machinery and the man power requirement for maintenance of restored water body. (viii) Existing provision for disposal of waste arising from the de-siltation and de-weeding activity of a pond or lake. (ix) Awareness and training requirements, (x) Any other related measures E.g., aesthetic point of view, bins for rubbish management which may be generated due to visitors. Protection of restored water bodies includes (i) Acquiring at least 1Acre or 0.5 Acre as buffer zone, (ii) fencing, (iii) control waste disposal, (iv) no discharge of untreated sewage into lake, (v) provision community toilet and waste bins, (vi) prohibition of washing activities by dohis and idol immersion, (vii) Levying of fine or Environmental

Compensation on the violators. Improvement of restored water bodies includes (i) Adoption of In-situ techniques for in-situ remediation of ponds or lake, (ii) Physical treatment approaches, (iii) Chemical treatment approaches; addition of alum, bio-culture etc. (iv) In-situ techniques by development of Ecosystem in the Moat, and (v) Biological techniques by Constructing a Healthy Food Web in the Core Lake. Proposed Lake front area development plan includes Pathways & Jogging tracks, Brick works in toe works, overlooking decks, Play equipment for children in the children play area, Parking Area, Signages, Rocks, Boating Activity, Lighting and electrical works, Irrigation & plumbing. Proposed Revenue Generating Activities from lake rejuvenation includes Boating, Space Rent for food stalls and entertainment kiosks, Advertising Space Rent, Parking – Car Parking - 2 Wheeler. Proposed Revenues from lake front development includes Entry Fee, Fees to go to theme park and rides, Costumes+ Locker Fees, Restaurant rent.

Prioritization of restoration of lakes is proposed as (i) Priority –I- Lakes that recover without any intervention, (ii) Priority-II: Lakes that can be restored close to their former condition to serve their earlier functions, and (iii) Priority-III. Lakes that cannot be restored to any agreeable degree viably

Suggestion of the Committee: - Water quality & causes or sources of pollution, Water body-wise water quality compliance status w.r.t Designated Best Use standards, time lines and the department responsible for restoration of water bodies and proposed action plans implementation should be in visible form and all the beneficiaries also be encouraged to take part in restoration of stagnant water bodies.

13. Manipur:- The representative of Manipur State informed that Manipur Pollution Control Board is monitoring the water quality of 2 lakes (Loktak and Pumlun) and 13 community ponds in the state under the National Water Quality Monitoring Programme. During the monitoring, it has been observed that the water quality at times do not meet the National Criteria of Designated Best Use for Bathing (BOD should be less than 3 mg/L). Water Resources Department, Manipur is implementing the scheme for Repair Renovation & Restoration (RRR) of water bodies for Lamphelpat (lake), Waithoupat (lake) and Irong Nalla. The 18 water bodies (including 4 lakes, Irong Nalla and 13 ponds) were identified for restoration and geotagged. Presently, 4 lakes and 1 water body under restoration. Water quality of water bodies have been analysed for pH, DO, BOD, COD and TC. Proposed action plans for restoration of selected water bodies.

Suggestion of the Committee: - Incomplete inventorisation of water bodies. Focussed only in urban areas. One of the student from Manipur has done her Ph.D on Lakes and suggested to look into the report as it is useful for the state of Manipur.

14. Telangana: - The representative of Telangana State Pollution Control Board informed that 46531 lakes has been identified (Minor Irrigation). Sanctioned programmes: 27631, No. of programmes completed:21436 and Ongoing / under process:6195. As regards identification of lakes or ponds, 235 have been identified, 235 monitoring stations, 13 water bodies complying to bathing criteria, 43 lakes complying to Class D- DBU criteria, 128 complying to Class-E Criteria and 51 lakes are dry. Also , informed that 44672 lakes are geo-tagged, geo-tagging of 1240 lakes at approval stage, 619 lakes yet to be geo-tagged. The geotagging of the remaining 619 lakes will be completed by October, 2020

by the I & CAD Department. Identification of designated use of water bodies through assessment of water quality criteria (As per National Restoration Goals) has been completed (Completed (best designated best use as fit for irrigation & fishing). 21,436 lakes are restored so far and remaining 6195 lakes restoration under progress and are likely to be completed within two years. Identification of the sources of pollution quantification and detailed gap analysis (Sewage Management, Industrial Effluent Management & Waste Management) has been completed through I & CAD, TSPCB, Urban Local Bodies, HMWS&SB. HMWS&SB has constructed 20 STPs to protect the lakes and plans for another 20 STPs to prevent entering of Sewage water into the lakes. Three years as it includes networking. Actions plan for sewage management submitted in OA No.673/2018 with timelines up to May, 2022 and the sewage management will cover the water bodies in urban areas. No Gap in Industrial Effluent management. A separate action plan is under implementation in the 6 lakes with legacy industrial pollution. The details of which are submitted in subsequent section. Action plan for Solid waste management- 100% Door to door collection is being practiced and the setting up of the processing facilities is under progress as per the actions indicated in OA No.606/2018. De-Siltation, De-Weeding, Mechanical and biological control measures, Stabilization of earthen bunds and the drainage channels as well as silt and soil erosion control measures, Protection drainage basin including preservation of drainage channels has been completed for 21,436 lakes and remaining 6195 lakes restoration under progress and will be completed in two years and the other regulatory activities are to be carried out on continual basis. For adoption of In-situ techniques for in-situ remediation of ponds or lakes (Physical & chemical treatment), Kokapet lake drain is taken up on pilot basis and the works are in progress and DPRs for four other drains are under progress. A pilot project rain guard / wetland construction on Kukatpally Nallah which joins Hussain Sagar Lake is taken up for a length of 300 RMT to reduce the BOD load of the water passing through it. The same is under construction. It will be completed by October, 2020. In case of 6 industrially polluted lakes, TSIIIC has given a study for assessing the pollution in the drains and the 5 lakes, The study is about to be completed. An STP will be built for treating the waste water and remediation of the lakes will be followed by the construction of the STP.

Suggestion of the Committee: - Telangana has taken measures for restoration of water bodies from irrigation point of view but emphasis also be given from biodiversity point of view. Also, all the other water bodies existing in nature also be covered for their restoration.

15. Chhattisgarh:- The representative of Urban Administration & Development, Chhattisgarh informed that in compliance of Hon'ble NGT order, UAD, vide order dated 31st December 2019, constituted an Intra Departmental Committee for preparation of action plans for restoration of water bodies. Illustrative list of water bodies has been sent to CPCB vide letter dated 10.07.2020. 1658 number of water bodies having area of 0.1 acre to 10 acres have been identified in the urban areas of Chhattisgarh under the ownership of Government (ULB Owned)-Municipality (1446), State Irrigation (54), Individual/ Group of Individual (59) and Private Body / Industry Owned (99). Designated Best Use of water bodies have been identified such as Bathing /Washing, Aqua Culture

(Fisheries), Irrigation, Use in Garden near pond / lake , Tourism and others. All the identified water bodies have been geo-tagged. He also detailed about three case studies under taken by Chhattisgarh such as (a) Restoration of Waterbodies at Raipur Pilot Project-1 -Marine Drive-Telibandha (for more than 10 Lakh Population) at a total cost of Rs.17 Crore (b) Restoration of Waterbodies at Ambikapur Pilot Project-2 (for 1-10 Lakh Population)- 1. Runjhun Pond –AMC 2. Marine Drive- AMC and (c) Restoration of Waterbodies at Kumhari Pilot Project-3 (for less than 1 Lakh Population)- Bada Talab- Kumhari. Time linse proposed for restoration of water bodies is about 6 years depending on the priority.

Suggestion of the Committee: - Committee felt that the cost of in-situ remediation appears to be on higher side and suggested to review the cost of treatment of wastewater by in-situ remediation methods. Also, suggested to document the details and to upload in Chhattisgarh State website and the document be shared with CPCB also to share with other States/UTs. Stagnant water bodies which are in rural areas also required to be identified by the State.

16. Daman, Diu and Dadra Nagar & Haveli: - The representative of Dadra Nagar Haveli and Daman & Diu informed that there are no polluted stagnant water bodies in the U.T. There is no water body (Lake / Pond) in the Diu District. In Daman District, there are 6 Nos of lakes / ponds situated which are regularly maintained by the Administration. In Dadra Nagar Haveli, there are 18 Nos of Ponds developed by the Administration for conservation of water and to recharge ground water table. Designated best use of each identified water body has been indicated during his presentation.

Suggestion of the Committee: - Committee felt that detailed assessment of water quality of each water body has to be carried out apart from identification of sources of pollution before prioritisation of each water body for restoration depending on the need. Also, sewage and waste management aspects in the catchment of each pond has to be delineated clearl by the UT..

17. Mizoram: - Irrigation and Water Resources Department is responsible authority for restoration of stagnant water bodies. There are 14 no. of stagnant water bodies, UIN completed. Information has been submitted as per the format circulated by CPCB. Action plan will be prepared and submitted after assessment of water quality of all identified stagnant water bodies.

Suggestion of the Committee: - Detailed inventory of stagnant water bodies to be carried out by the State apart from detailed assessment of water quality of each water body, compliance status of each water body with regard to the designated best use, prioritisation of stagnant water bodies for restoration and the proposed action plans based on the detailed assessment with regard to control measures for various sources of pollution.

18. Nagaland: - The representative of Nagaland informed that there are 421 wetlands, 01 natural lake, 1 man made reservoir, 3 natural ponds, 04 man made ponds. Two water bodies namely Padampukhuri, Raj Pukhuri has been identified for restoration. Water quality of the two water bodies has been carriedout for the parameters such as pH,

Temperature, Turbidity, BOD, COD DO, Total Alkalinity, TDS, EC. Only proposed additional measures such as dewatering, aeration, training and public participation at a total cost of Rs.16 lakhs each for restoration of two identified water bodies.

Suggestion of the Committee: - Detailed inventory of stagnant water bodies to be carried out by the State apart from detailed assessment of water quality of each water body as per guidelines issued by CPCB, compliance status of each water body with regard to the designated best use, prioritisation of stagnant water bodies for restoration and the proposed action plans based on the detailed assessment with regard to control measures for various sources of pollution to be prepared and submitted.

Prof.A.K.Gosain and Prof. C.R Babu, Emeritus Professor, University of Delhi were of the view that (i) the States/UTs have to take up the work very seriously and proper inventory of all the stagnant water bodies must be carried out with the help of the available technology or sources (Remote sensing and existing survey map of India) (ii) All possible sources of pollution in stagnant water bodies to be identified, (iii) water quality of all water bodies to be carried out for the relevant parameters depending on the designated best use, (iv) required infrastructure as a part of restoration of stagnant water bodies to be decided depending on the availability of funds and necessity (alternative technologies can be adopted in place of conventional STPs wherever feasible), (v) artificial water bodies created due to mining activities should also be restored and included in the Action Plans, (vi) Existing water bodies may be restored and protected, (vii) Proper sensitization and community participation is equally important for sustenance of water bodies. (viii) After creation of requisite infrastructure, O & M of such infrastructure also be taken care of.

Sh. Rohit Kakkar, Deputy Advisor (CPHEEO), MoHUA shared that in rural areas proper septage management should be done to prevent the stagnant water from eutrophication. He insisted that in case of waterbodies, non-point sources must be taken as seriously and insisted that all States/UTs to work on grey water management.

Sh. Sundeep, Director, MoEF&CC suggested that all States/UTs to examine the water quality data being submitted in action plans carefully as this data will be used as a baseline data before initiation of the work of restoration.

Shri J.C.Babu, Sc 'E', WQM-I Division informed that as per the information received, few States are submitting information Department-wise. Compilation of such information would be difficult. Information has to be compiled by all the concerned State/UT and only compiled information has to be submitted as a whole for the State/UT as per the format circulated by CPCB. Therefore, he urged all the States/UTs to designate a 'single agency' as a nodal agency to ensure restoration of all stagnant water bodies in the respective State/UT in consultation with all the concerned departments. Such a nodal agency also may co-ordinate with the respective State Pollution Control Board (SPCB) in the State and Pollution Control Committee (PCC) in the UT for ensuring timely compliance to Hon'ble NGT directions in the matter.

Meeting ended with vote of thanks to the Chair.

List of Participants

1. Dr. Prashant Gargava, Member Secretary, CPCB and Chairman of the Committee
2. Sh. C.R Babu, Emeritus Professor, University of Delhi, (Member, Expert Committee)
3. Sh.A.K Gosain, Professor, IIT, Delhi, (Member, Expert Committee)
4. Sh.Rohit Kakkar ,Deputy Advisor (CPHEEO),Representative of MoHUA (Member, Expert Committee)
5. Sh. Sundeep Singh, (Representative of MoEF& CC) (Member, Expert Committee)
6. Sh. A. Sudhakar, DH, WQM-I, CPCB
7. Smt. Divya Sinha, DH, UPC Division, CPCB
8. Sh. J. Chandra Babu, Scientist 'E', CPCB
- 10.Ms. Deepty Goyal, SRF, CPCB
11. Ms. Deepa Kumari, JRF, CPCB

Officials of States –

1. Chhattisgarh
2. Delhi
3. Daman & Diu
4. Gujarat
5. Haryana
6. Himachal Pradesh
7. Jammu & Kashmir
8. Kerala
9. Lakshadweep
10. Maharashtra
11. Manipur
12. Meghalaya
13. Mizoram
14. Nagaland
15. Odisha
16. Puducherry
17. Punjab
18. Telangana
19. Tripura