Revised Action Plan
for
Restoration of Water Bodies of Jammu & Kashmir

(Ref:-** Hon'ble NGT Orders dated **10/05/2019, 25/02/20, 01/06/20 in OA 325 / 2015)

Government of Jammu and Kashmir
Jammu

INDEX

Revised Action Plan for restoration of Water Bodies of Jammu and Kashmir

S. No.	Description	Page No.
1)	Introduction	1 to 2
2)	Hon'ble National Green Tribunal (NGT) Directions	3 to 5
3)	Status of Water Bodies, Identification, Prioritization and Action Plan for restoration	5 to 6
4)	Types of Water Bodies	6 to 9
5)	a) Administrative Control of Water Bodies b) inventorization and collection of information on Water Bodies c) allocation of Unique Identification Number, and d) priority Status of Water Bodies	9 to 12
6)	Major problems and threats to Water Bodies in J&K	13 to 16
7)	Action Plan for restoration of prioritized Water Bodies	17 to 21
	Annexure – A (2 Pages) **Annexure – B** (55 Pages) **Annexure – C** (25 Pages) **Annexure – D** (2 Pages) **Annexure – E-1** to **E-12** (41Pages) **Annexure – F** (11 Pages) **Annexure – G** (49 Pages) **Annexure – H-1** to **H-147** (165 Pages) **Annexure – I** (7 Pages)	

Revised Action Plan for Restoration of Water Bodies of Jammu and Kashmir

Ref:- i) Hon'ble NGT Orders dated 10/05/19, 25/02/20 and 01/06/20 in OA 325 / 2015

ii) CPCB communication No. F.No. A-14011/325/2020-WQM-I/13359 dt. 06/03/2020

Introduction :-

Water is known as the elixir of life and no known life form can exist without water on this planet. Fresh water exists in different forms such as rainfall, river water, ground water, ponds and lakes etc., and about **2.7** percent of the total water available on the earth is present as fresh water, of which about **75.2** percent lies frozen in polar regions, another **22.6** percent is present as ground water and the rest is available in lakes, rivers, atmosphere, moisture, soil and vegetation.

Fortunately, Jammu and Kashmir, being part of complex Himalayan mountainous region is bestowed with plenty of water resources, which are present in form of rivers, glaciers, lakes etc. but it is gradually progressing towards water scarcity due to ever increasing population pressure, rapid urbanization, and over exploitation etc.

"A water body can be defined as a structure, where water from ice melt, streams, springs, rain or drainage water from residential areas, is accumulated or water is stored by diversion from a stream, *nala* or river".

The issue of identification, protection and restoration of this natural resource is very important, as the water bodies are an integral part of fresh water resources. Traditionally, these water

bodies play an important role in supply of water for drinking, domestic needs, agriculture and other economic purposes, besides maintaining ecological flow of rivers and recharging the ground water. Through ages, these water bodies, either natural or man made, such as lakes, ponds, tanks etc., have been a major source of minor irrigation and have sustained the Indian agriculture.

In urban areas also, these water bodies play an important role as a source of drinking water, absorption of flood / rain water and act as a conduit for ground water recharge, besides, playing a significant role in prevention of soil erosion, harvesting of rain water and maintaining microclimate of the area.

Water bodies are even religiously quite significant. Some of the lakes such as **Pushkar** in Rajasthan, **Mansar-Surinsar** lakes in Jammu, **Sheshnag** lake in Kashmir are also renowned for their religious importance and sacred nature.

Lake Sheshnag, Kashmir

2. **Hon'ble National Green Tribunal (NGT) Directions :-**

(i) Hon'ble Tribunal order dt. **10/05/2019** in OA **325 / 2015** (**MA 26 / 2019**) titled as **Lt. Col. Sarvadaman Singh Oberoi V/s Union of India & Ors** considering the importance of identification, protection and restoration of water bodies (lakes and ponds), directed all the States and Union Territories to review the existing framework of restoration of all the water bodies by preparing an appropriate action plan within a period of three months i.e. by **August 2019**.

(ii) Hon'ble Tribunal in order dt. **25/02/2020**, further directed to furnish information as per CPCB guidelines and format circulated, by all the States / UTs by **31/03/2020**, failing which state will be liable to pay compensation at the rate of Rs. **1.00** lakh per month till information is furnished. Further, directing the commencement of the works by **01/04/2020** and conclusion by **31/03/2021** in this regard.

The Hon'ble Tribunal also suggested the following activities for the submission of information :-

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 Dept./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 Dept./SPCB/ PCC.*
5.	*Execution of approved action plans.*	*State Environment Dept./SPCB /PCC under the overall supervision of Principal Secretary, Environment Department.*

(iii) Hon'ble Tribunal vide directions dt. **01/06/2020**, having regard to the situation arising due to Covid-19 and states seeking further time on account of pandemic, extended the time for the states to complete action in terms of order dated **25/02/20** by **31/07/20**, for submission to the CPCB. The CPCB has circulated format seeking information on number of **identified water bodies**, **location details**, **water quality status**, **compliance status** w.r.t. designated best use, **identified water bodies which require restoration**, **prioritization of water bodies requiring restoration**, **detailed action plans for restoration of identified polluted water bodies** in light of the indicative guidelines circulated by CPCB to all the States/UTs.

Further, directions have also been issued on enhancing the capacity of the existing ponds / water bodies, creation of water harvesting structures in the sub-watersheds to the extent possible, apart from setting up of additional water bodies/water harvesting structures wherever viable, utilizing available funds including under MGNREGA etc, including :-

(a) The District Magistrate may as far as possible hold a meeting of all the stakeholders for the purpose as per the District Environment Plan or Watershed Plan within one month from today.

(b) The District Magistrate may also ensure that as far as possible at least one pond / water body must be restored in every village, apart from creation of new pond / water body.

*(c) Action taken in this regard may be compiled at state level and reports furnished to the Chief Secretaries of the states by the concerned District Magistrates by **31/08/2020**.*

3. **Status of Water Bodies, Identification, Prioritization and Action Plan for restoration**:-

3 (a) The government of J&K issued order No. **213-FST** of **2019** dt. **12/07/2019,** constituted a committee for preparation of Action Plan for restoration of water bodies in the state in compliance to Hon'ble NGT directions dt. **10/05/2019** in OA **325 / 2015** in the matter of Lt. Col. Sarvadaman Singh Oberoi V/s Union of India & Ors, comprising :-

(i)	Chairman, State Pollution Control Board, J&K	Chairman
(ii)	Chief Wildlife Warden, J&K	Member
(iii)	Director, Soil and Water Conservation, J&K	Member
(iv)	Director, Environment, Ecology and Remote Sensing, J&K	Member
(v)	Additional Principal Chief Conservator of Forests / CEO, CAMPA, J&K	Member

The copy of government order is enclosed as **Annexure-A**

3 (b) The Action Plan prepared by the committee for restoration of water bodies was submitted to the CPCB by Government of J&K dt. **22/08/2019** in compliance to Hon'ble Tribunal's directions.

3 (c) **Revision of Action Plan for restoration of Water Bodies**:- The revision of Action Plan has been taken up by the Committee and series of meetings have been held in this regard. The matter was taken up with different stake holders including all the Dy. Commissioners and other authorities controlling different water bodies for submission of information as per CPCB prescribed formats, so that action plans is revised as per Hon'ble NGT directions.

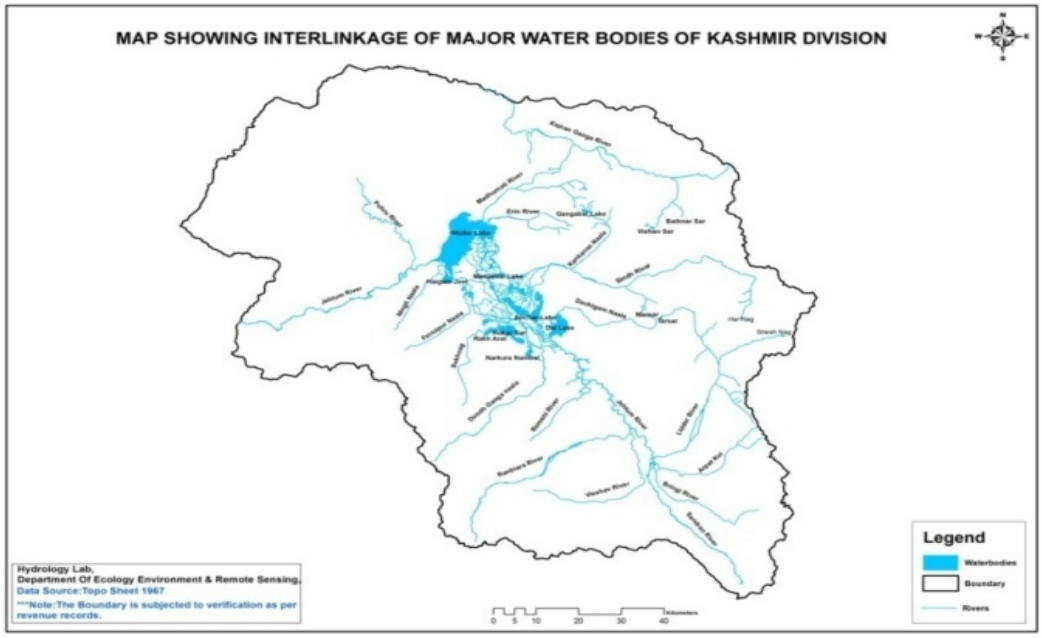
4 **Types of Water Bodies** :- J&K is blessed by Nature to have an array of lakes, wetlands etc. which not only add to the scenic beauty of the Union Territory but also play a significant role in the ecological security of this ecologically fragile Himalayan region.

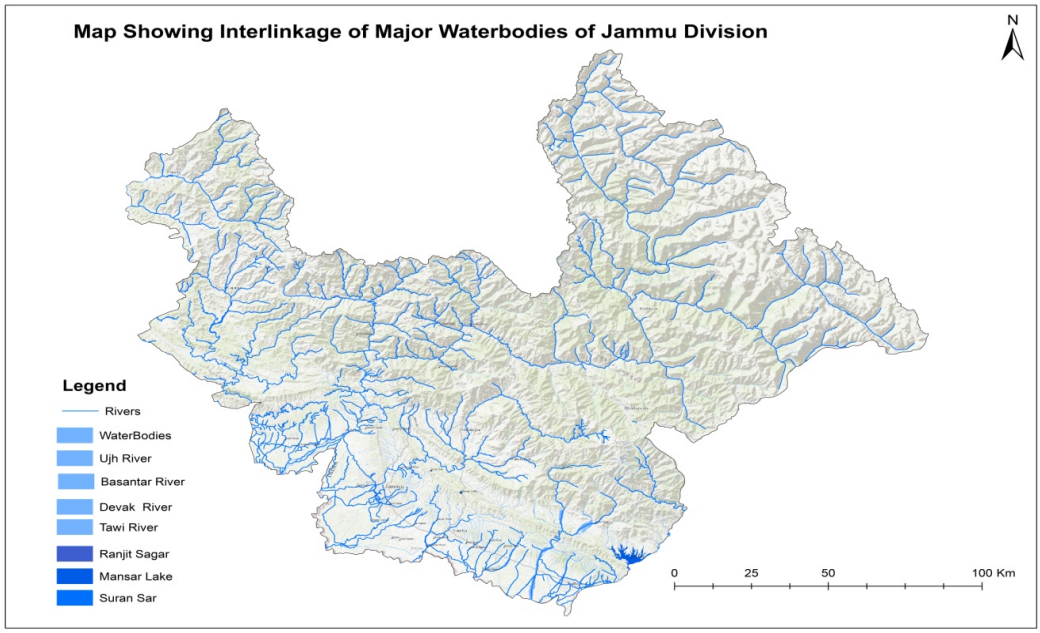
There are two broad category of Water Bodies, *viz* Lakes and Ponds.

(a) Lakes :-

(i) High Altitude lakes (like Gangabal, VishalSar, KishanSar, Sheesh Nag, Nilnag, Kauser Nag etc.)

(ii) Valley lakes (Wullar, Dal, Manasbal, Aanchar, Ahansar, Hokersar, Haigam etc.).



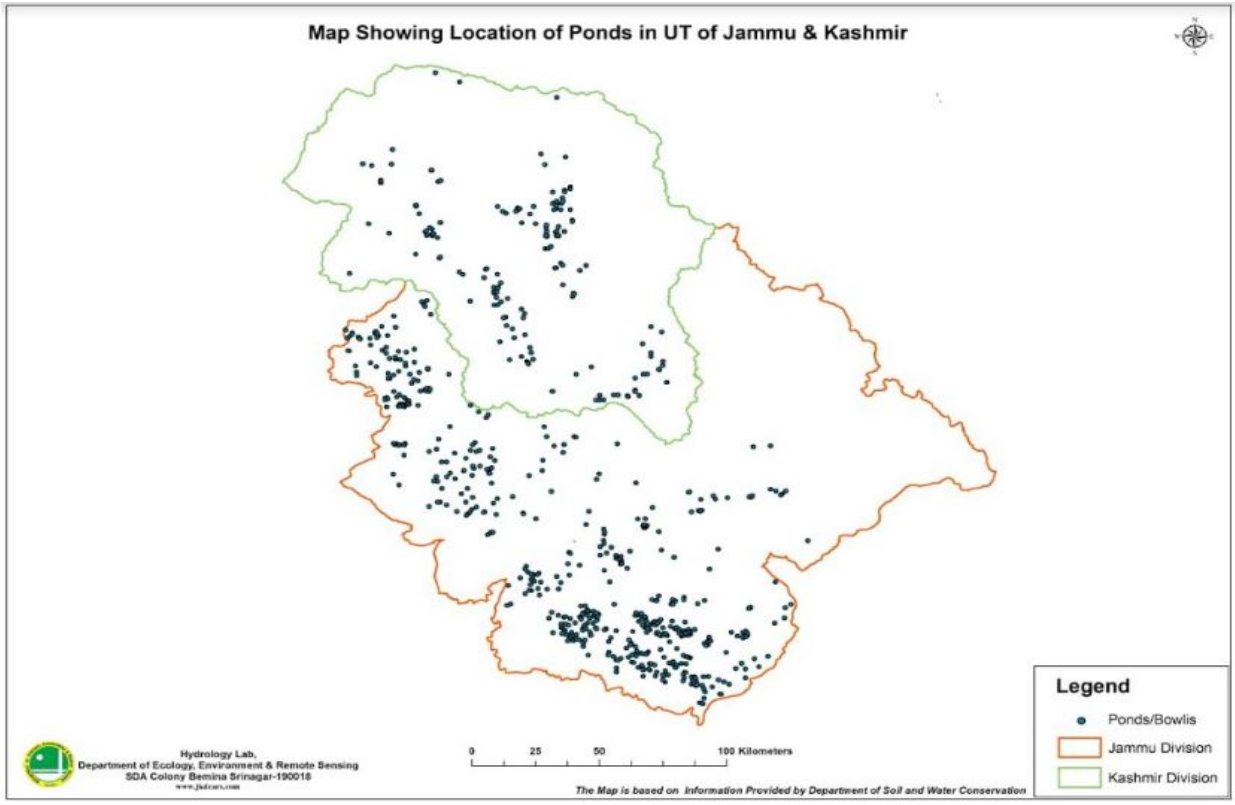


Jammu and Kashmir has many wetlands of national importance and international recognition. These water bodies are critical source of livelihood and job opportunities for a large number of populations in form of fishing, farming, tourism etc. Most of these wetlands in the region fall under Central Asian Flyway Zone (CAF) and are visited by lakhs of migratory and endangered birds during their annual migration. These wetland areas also provide safe refuge to native vegetation and wild

animals. Their protection is crucial to combat the dual impact of climate change, water scarcity and flooding.

The wetlands in the Jammu and Kashmir continue to suffer from impacts of unplanned development. The problems of siltation in **Wular**, sewage pollution in **Dal lake** and encroachments of **Gharana, Hokersar, Narkara** remained unresolved. These are the commonest threats looming on most of the wetlands in the region.

(b) Ponds – These are mostly restricted to the kandi belt of J&K, and are known by different local names.



These ponds have through the ages been providing sustenance to livelihoods and have their importance in the overall development and management of water resources. They serve as storage reservoirs, especially in the monsoon-dependent areas of

Jammu region, where there exists a shorter period of rainfall and a long dry spell with very high deviation of annual rainfall. With the passage of time, such traditional rain water storage structures have generally been ignored, often remained in disuse, thus suffered from neglect. Many of these are either encroached or their catchment area is diverted or obliterated. Hence, a large number of ponds have collapsed or are in a miserable and dilapidated condition.

The small storage tanks or ponds are mostly community owned, whereas, the large storage tanks are generally constructed by the Government Departments or Local Bodies. In Jammu region, most of ponds are concentrated in Samba, Jammu, Kathua and Udampur Districts. Whereas, Kupwara and Pulwama Districts of Kashmir also have good number of Ponds.

5. (a) **Administrative Control of Water Bodies:-** The administrative control of all these lakes and ponds vests with different government agencies, local committees and some of these government agencies involved in the administrative control and management of such water bodies are :-

(i)	Forest department, J&K	All lakes / ponds with in territorial jurisdiction of boundary of Forests.
(ii)	Wild Life Protection department, J&K	All lakes / water bodies within the territorial jurisdiction of Protected Areas.
(iii)	Soil and Water Conservation department, J&K	Some Ponds that are either in rural areas / revenue areas / state lands.
(iv)	Lakes and Water Ways Development Authority (**LAWDA**)	Conserve and manage twin lakes of Dal and Nigeen.

(v)	Wular Conservation and Management Authority (**WUCMA**)	For having administrative and management control for the conservation of Wular lake.
(v)	Revenue department	The water bodies especially ponds within the jurisdiction of revenue department / Dy. Commissioners.
(vi)	Urban Local Bodies (ULBs)	The Urban Local Bodies like JMC / SMC, ULBs Jammu / Kashmir having administrative control over such water bodies.

5 (b) **Inventorization and collection of information on Water Bodies (Lakes and Ponds):-** Realizing the need of creating the first hand information on water bodies, the **Department of Environment, Ecology and Remote Sensing** J&K has published a Directory of lakes and water bodies of J&K, using Survey of India Topographical Maps on **1:50,000** scale, and latest high resolution **LISS III satellite** data by Remote Sensing and GIS, identifying a total of **150** and **415 lakes and water bodies** in Jammu / Kashmir regions respectively. (Whereas, 655 Water Bodies were identified in Ladakh region, now a separate UT).

Keeping in view the magnitude of exercise, the census of all the water bodies was not an easy task, and it required great deal of time and resources. The information available with different departments *viz.* Forest, Wildlife, Urban Local Bodies, Dy. Commissioners, Rural Development Department was requested to be provided giving geo-references, present status with reference to its pollution load, and brief action plan for its

restoration, after according priority, as per ground situation on the prescribed format issued by the CPCB.

5 (c) **Allocation of Unique Identification Number (UID):-** A Unique Identification Numbering (UIN) has been assigned to every identified water body existing in the UT. The coding scheme adopted for assigning of UIN is **"AABBCCDDDDFFFF"**

- AA – UT code (The Erstwhile State Code has been used)
- BB – District Code
- CC – Tehsil Code
- DDDDDD – SOI Code
- FFFF – WB ID

5 (d) **Priority Status of Water Bodies :-** The priority status has been accorded for all the water bodies as per ground situation and status with respect to different factors and urgency required for its restoration, given as below:-

Priority	Status of water bodies	Remarks	Lakes (No.)	Ponds (No.)
I	Water bodies facing extreme deterioration and require immediate intervention	This includes water bodies that have experienced a remarkable change in the spatial extent, due to rapid development, much deterioration of water quality, Municipal Solid Waste and other wastes dumping, damage to catchment area, feeder stream/ source etc.		

II	Water bodies facing deterioration, but could be restored close to their former condition to serve earlier functions within time period upto 5 Years	This category includes water bodies that are subject to environmental pressures due to human activities, changing land use in watershed, pollution from point and non-point sources, soil erosion, loss in inter connectivity, and solid waste dumping.		
III	Water bodies that require minimum intervention.	This includes water bodies falling within the forest boundary which are located at high altitude and require only management intervention like demarcation and catchment area treatment as there is very negligible anthropogenic pressure.		
		Total		

Further, for the check list of codified water bodies, a comprehensive list of inventory of water bodies identified, numbering **2815**, prioritised and allotted with UID with the department having administrative control and management of these Lakes and Ponds, has been prepared as per inputs provided by different stakeholders / departments, and the copy of same is enclosed as **Annexure-B.**

6. **Major Problems and threats to Water Bodies in J&K :-**

The water bodies are fragile ecosystems that are susceptible to changes, even with small changes in the composition of their biotic and abiotic factors. In recent years, there has been increasing concern over the continuing degradation of world's wetlands, particularly rivers and lakes, and Jammu and Kashmir is no exception to it. In J&K, the water bodies have come under a vicious two prolonged attack, one is in the form of overexploitation and encroachment and the other is environmental pollution, wherein both factors have complemented each other, resulting in degradation and eutrophication of the water bodies.

Some of the major environmental threats to the water bodies are :-

- Anthropogenic invasion or encroachment for various purposes like agricultural and horticultural practices around the water bodies, besides filling of marshy areas for residential / commercial / horticultural / agriculture and other developmental activities.
- Hydrological interventions.
- Pollution from leached agrochemicals, pesticides, fungicides, untreated sewage, domestic and other waste dumping.
- Weed infestation.
- Over exploitation of lake resources.
- Use for open defecation.
- Cultural activities.
- Siltation
- Climate Change.

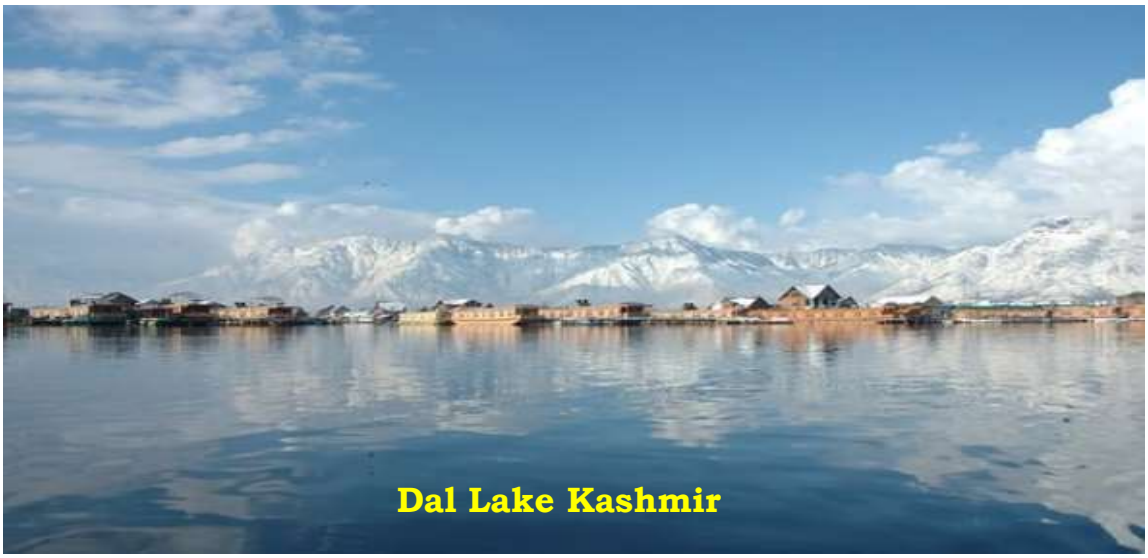
The factors listed above have resulted in :-

- Loss of area.
- Change in water regime.
- Change in water quality.
- Reduction in economic products.
- Reduction in ground water recharge potential.
- Reduction in terrestrial carbon sequestration.
- Interrupted nutrient cycling.
- Change in Land use.
- Bio-diversity depletion.
- Erosion of shoreline.

There has been a remarkable change in the spatial extent of a number of these water bodies due to unplanned expansion and development, as a result of which large areas of many lakes / water bodies have been lost to other landuse (e.g. **Anchar, Barinambal, Rakhi-Arth, Parihaspur Nambal, Hokersar, Haigam, Narkura**), while some have either perished or are on the verge of extinction (e.g. **Rampur Talao, Marhama, Boogu, Chacla Nambal, Kokreyan**). Some have also disappeared due to natural causes like glacial action or low precipitation (e.g. **Tsoreteng, Butasar, Shiekhsar, Bod Nambal**). As such the management of water bodies has become extremely important.

Further, the water crisis is very severe in highly populated urban area and it is going to be further aggravated with massive unplanned growth, rapid urbanization and population explosion. The water bodies like lakes and ponds have met the water demands of both urban and rural population for centuries, and are now struggling for survival and even some of

these might have already been extinct due to indiscriminate exploitation and ignorance even in this Himalayan region of J&K.



The world famous Dal lake in Srinagar is a heritage site, struggling its survival despite tremendous efforts on part of Government and Judicial intervention, but the results are not encouraging. The largest fresh water lake of Asia, Wular lake has already lost its glory despite WUCMA doing its best to restore and conserve the lake since last several years.

Similarly, the ponds in Kandi belt of J&K, are also victim of growing human greed to encroach upon land, by using ponds as dumping grounds for municipal solid waste followed by encroachment especially in urban areas of Jammu.

several localities in the city like Bantalab, Rani Ka Talab, Talab Khatika, Tillo Talab have been named after these ponds. Most of these have now vanished due to apathy of concerned departments and rapid urbanization and these ponds exist only in government records as on date. The ponds in rural areas are also in pathetic condition and are seldom used due to negligence, garbage dumping and almost no management, resulting in premature death of many of these water bodies.

Relative importance of some of these water bodies especially ponds waned due to a number of reasons.

- Shifting away from community based tank system to individual beneficiary oriented ground water dependent system.
- Prolonged and continuous neglect of maintenance.
- Heavy silting of the pond bed.
- Choked up feeder channels.
- Leaking and weak bund, leaky sluices and dilapidated surplus weirs and ill maintained distribution channels.
- Encroachments in pond bund, foreshore, water spread and supply channels.
- Deforestation and denudation in the catchments areas leading to extinction of water bodies, as a whole, for housing and urbanization.
- Indiscriminate use of pond beds as dumping yards.

All these have also contributed to deterioration of the water bodies, in addition to apathy on the part of concerned departments including public.

7. **Action Plan for restoration of prioritized Water Bodies:-**

Conservation and restoration requires a systematic and comprehensive plan to study selective and representative freshwater ecosystems. Details of study should include the status of ponds or lakes, 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.

As per World Lake Vision, developed by International Lake Environment Committee (ILEC), Japan, 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:-

(i) A harmonious relationship between humans and nature is essential for the sustainable use of lakes.

(ii) A lake drainage basin is the logical starting point for planning and management actions for sustainable lake use.

(iii) A long-term, preventive approach directed to preventing the causes of lake degradation is essential.

(iv) Policy development and decision making for lake management should be based on sound science and best available information.

(v) 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.

(vi) Citizens and other stakeholders should be encouraged to participate meaningfully in identifying and resolving critical lake problems.

(vii) 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: -

7 (a) **Assessment of water quality of the selected water bodies:-** The assessment of water quality for the prioritized ponds and lakes is to be carried out as part of action plan which is proposed to be taken up on approval and sanction of Action Plan.

However, periodic the water quality monitoring of some lakes e.g. Dal-Nigeen, Anchar, Wular, Surinsar and Mansar is being regularly done by J&K Pollution Control Board and the analysis report of water quality is enclosed as **Annexure-C**.

7 (b) **Identification of sources of pollution, quantification and assessing detailed gap analysis:-**

(i) **Reconnaissance Survey** :- For all the water bodies especially priority I Lakes and Ponds, the detailed reconnaissance survey has been taken up by the respective field staff of the respective departments and the details covering all the parameters for prioritized water bodies including geo-references etc. are referred in respective action plans formats.

(ii) **Identification of other associated issues which require attention as a part of restoration of prioritized pond or lake**:-

- Two very prestigious lakes for urgent restoration have been identified and prioritized amongst others are a) **Dal-Nigeen Lake**, and b) **Wular Lake** having administrative control and jurisdiction of **LAWDA** and **WUCMA** respectively. The detailed action plan for restoration of Dal-Nigeen has been prepared by LAWDA and the authority is working on its implementation under close supervision of Committee of Experts, appointed by the Hon'ble J&K High Court. There are many issues involved in the restoration of Dal Lake and some of these are rehabilitation of Dal dwellers to some other identified locations, demarcation of Dal boundary, deweeding, up-gradation and modernization of 6 CSTPs being operated for treatment of sewage generated by different establishments in and around Dal etc.

The ongoing management plan of Dal-Nigeen as Conservation and Management of Dal-Nigeen lake has been approved by MoEF, GoI in 2005 with a financial outlay of Rs. **298.76** Cr, the copy of same is enclosed along with prescribed format for Dal Lake.

- Similarly, the Asia's largest fresh water lake Wular is also priority water body which is being under restoration and management of an independent authority known as **WUCMA**. There are many issues with the restoration of lake and action plan has already been approved by the Government with financial assistance. Some of important issues involved in Wular Lake are rapid eutrophication, removal of Willow plantations, dredging and de-silting, where silting has taken

place due to floods, deweeding, boundary demarcation, some issues of MSW dumping identified recently.

The detailed Action Plan for Wular lake restoration 2019-2021 has been approved by Govt of J&K, for an amount of Rs. **200** lac, is enclosed along with prescribed format for Wular.

- Further, the water bodies with Wild-Life (Protection) department are within **Protected Areas** and 11 No. of lakes and 01 pond have been identified as Priority No. 1 for restoration. The department is already having approved action plan for restoration and management of these water bodies under CAMPA and other schemes with financial assistance available to the tune of Rs. **5.24** Cr and work is being executed as a routine departmental exercise.
- Regarding the ponds identified in Kandi belts of Jammu and Kashmir, **84** ponds have already been restored by the department of Soil and Water Conservation as routine department work in last 3-4 years and **147** ponds have been identified as Priority-I for restoration with action plan prepared for approval and sanction with financial implication to the tune of Rs. **12.28** Cr.

(iii) **Budgetary support** :- Out of **2815** identified water bodies (Lakes and Ponds) in J&K, **222** no. have been identified as Priority-I which requires immediate attention for restoration. In some of these water bodies restoration works are being funded under various schemes *viz* CSS, CAMPA, State Plan and other special budgetary allocations like PMDP etc. However, **209** Priority-I Lakes and Ponds require budgetary support for restoration during the financial year **2020-21** and the brief details are tabulated as below :-

S. No.	Department	Water Bodies (**Priority-I**)			Budget (Rs. in Crores)		Remarks
		Lakes	Ponds	Total	Available	Required	
1	Soil & Water Conservation	0	147	147	Nil	12.23	–
2	Wild Life	11	1	12	5.24	Nil	CAMPA/CSS
3	WUCMA (Wular)	1	0	1	200.00	Nil	Action Plan approved by JK Govt.
4	LAWDA (Dal)	1	0	1	298.00	Nil	Action Plan approved by MoEF in 2005 & work in progress
5	JMC	0	61	61	Nil	25.00	Out of 61 ponds in JMC ownership, almost all require restoration
	Total	**13**	**209**	**222**	**Rs. 503.24 Cr**	**Rs. 37.23 Cr**	

The detailed information on prescribed format of CPCB with contact details of Nodal officers of different departments having jurisdiction, control and ownership over different water bodies, is enclosed as **Annexure-D** along with prioritized water body wise details of action plan for **13** no. of Lakes and **209** no. of Ponds on prescribed format, enclosed as detailed below :-

Name of Department	*Annexures*
Wild Life Protection	Annexure-**E1** to **E12**
LAWDA	Annexure-**F**, for **Dal lake**
WUCMA	Annexure-**G,** for **Wular lake**
Soil and Water Conservation	Annexure-**H1** to **H147**
JMC	Annexure-**I**

Further, the District Magistrates of J&K have initiated the process of restoration of atleast one pond / water body in each village, apart from creation of new pond / water body etc under different schemes.

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Encl : Annexures : A to I