



Dr KK Aggarwal
5th September 1958 - 17th May 2021

HCFI Round Table on Environment “Consensus Statement on Eco-restoration of Lakes/Ponds/Water Bodies”

4TH, 11TH AND 18TH JULY, 2021 (12 NOON-1 PM)

KEY POINTS FROM THE DISCUSSION

- ⇒ There are four major sources of pollutants in lakes/ponds/water bodies: domestic sewage, industrial effluents, accidental release of chemicals (point sources) and throwing of all kinds of debris, including all kinds of solid, hazardous and bio-medical wastes.
- ⇒ There are other non-point sources, such as agricultural run-off, natural/man-made calamities and other human/animal activities which are not being managed properly, like non-availability of sanitation services in the surrounding areas.
- ⇒ Restoration and conservation of lakes/ponds/water bodies include:
 - Prevention of pollution from point sources by intercepting/diverting/treating the pollution loads entering the lakes/ponds/water bodies.
 - Prevention of pollution from non-point sources by providing low-cost sanitation.
 - *In situ* measures of lake cleaning such as cleaning of lake/pond/water body, de-silting of the water body/ponds/lakes, de-weeding, bioremediation, aeration, bio-manipulation, withdrawal of anoxic hypolimnion, utilization of treated wastewater, constructed wetland approach or any other successfully tested eco-technologies, etc., depending on site conditions.
- Catchment area treatment, including afforestation, storm water drainage, silt traps, etc.
- Strengthening of bund, lake fencing, shoreline development, etc.
- Lake front eco-development including public interface.
- The Cogent facilitating activities: public awareness and public participation, capacity building, training and research in the area of lakes/ponds/water bodies conservation.
- ⇒ The PWD, Village Panchayat, Horticulture Department, Irrigation Department, District Administration and other stakeholders need to be involved in the project. Synergy of all departments/stakeholders involved is very essential.
- ⇒ The aim of ecological restoration needs to be defined which may be fully restoring the components and processes of a damaged site or ecosystem to a previous historical state, to a contemporary standard, or towards a desired future condition. Therefore, appropriate goals to be set up as a critical step in the development of an effective restoration project.

- High priority restoration needs to be identified based on available and survey information on restoration priorities including Coarse and Fine Restoration Plans.

PROPOSED RECOMMENDATIONS/SUGGESTIONS FOR ECO-RESTORATION OF LAKES/PONDS/WATER BODIES

- Identification/Delineating of catchment area and zone of influence of lake/pond/water body.
- Removal of sludge/silt from the water holding area of the lake/pond/water body and deepen it for holding maximum water.
- Removal of all encroachment/waste material dumped around the lake/pond/water body.
- Creation of strong bund/fencing to make the lake/pond/water body safer and clean.
- Trapping of rain water/treated wastewater to rejuvenate the lake/pond/water body.
- The treatment of wastewater may be done through constructed wetland, which has a very low maintenance and very low energy requirements.
- Creation of enhanced capacity of the lake/pond/water body to hold monsoon flows.
- Restoration and reconnection of the larger catchment to the lake/pond/water body to increase collection of storm water.
- Checking of water quality so that it meets the standards prescribed by the Water Quality Assessment Authority, Government of India.
- Creation of bathing Ghats in an environmental-friendly manner, wherever appropriate.
- Creation of ecologically designed easy-to-maintain landscapes like chairs, sitting boards, canopy, kiosks, etc., with eco-friendly products for public use.
- Logistical tips on items like permissions, safety and project timing to be included in the implementation plan.
- For successful restoration projects, consider future maintenance requirements, monitoring and responsible stakeholder.
- Put in place management regimes that are sustainable for the long-term by involving the community and other key stakeholders, particularly, PWD, Village Panchayat, Horticulture Department, Irrigation Department, District Administration as synergy of all departments involved is very essential.
- Actively involve the community and educate them with:
 - the objective of the project and its benefits.
 - the process of trapping and treating wastewater inlets.
 - the need to prevent further inlets from going directly into the water body.
 - use of water resources and landscape area of lake/pond/water body and their maintenance issues.

Based on presentations by Mr Anand Malligavad (Lake expert from Bangalore), Dr RN Jindal (Ex-Director, MoEF&CC GOI), Dr M Dwarakanath (Ex-MS, Puducherry Pollution Control Committee-PPCC), Prof. Meenakshi Dhote (School of Planning and Architecture) and Mr RS Tyagi (Ex-Member, Drainage - Delhi Jal Board)

Participants: Mr Vivek Kumar, Dr Anil Kumar, Mr Anand Malligavad, Dr M Dwarakanath, Dr SK Gupta, Mr Ankit Sethi, Dr Dipankar Saha, Mr Raghav Khemka, Mr Mukul Chand, Mr Varun Singh, Mr MR Chauhan, Dr SK Tyagi, Mr Pradeep Khandelwal, Mr Neeraj Tyagi, Mr Sanjiv Kumar, Mr Ashu Dhingra, Mr RN Jindal, Mr RS Tyagi, Mr Vikas Singhal, Mr RS Verma, Ms Meenakshi Dhote, Ms Ira Gupta, Dr S Sharma



Spore-forming Probiotics Promising for Symptoms of Functional GI Disorders

A new randomized trial conducted in Belgium has shown that spore-forming probiotics appear to be safe and effective for treating symptoms of functional dyspepsia. An intention-to-treat analysis that included 55 patients with functional dyspepsia revealed that a greater proportion of the patients who received probiotics attained a clinical response at 8 weeks in comparison with patients who received placebo (48% vs. 20%, respectively). Additionally, probiotics were well-tolerated. A similar proportion of patients in the two study groups reported adverse events like gastritis, flu-like symptoms or skin infections. There were no serious treatment-related adverse events. The findings are published in *The Lancet Gastroenterology and Hepatology*.

(Source: Medpage Today)

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1. Wounds 2019;31(3):85-90. Epub 2019 January 31. 2. J Dermatol 2004 Jul;31(7):529-34. 3. J Antimicrob Chemother 2017; 72: 2093-2101. 4. Int Wound J. 2019;16:674-683.