

Restoring the Riverine Ecosystem of the Ganga River Basin

Namami Gange Mission is a holistic and integrated river rejuvenation programme not just to clean River Ganga but restore its entire riverine ecosystem. Namami Gange is premised on the five important pillars of – Nirmal Ganga (unpolluted river), Aviral Ganga (unrestricted flow), Jan Ganga (People's Participation), Gyan Ganga (knowledge and research based interventions) and Arth Ganga (people-river connect through the bridge of economy).

The interventions under Namami Gange, over the past 8-9 years, have resulted in improved water quality in the main stem of River Ganga. This is borne out by increased sightings of aquatic species such as Gangetic Dolphins, Turtles, Otters etc. It is a matter of great pride that the United Nations recognized Namami Gange as one of the top 10 World Restoration Flagships during the Conference for Biological Diversity (COP 15) held at Montreal, Canada on 13th December 2022. Led by the UNEP and FAO, the World Restoration Flagships represent the first, best, or most promising examples of largescale and long-term ecosystem restoration, embodying the 10 Restoration Principles of the UN Decade. It enables the UN Decade to make ecosystem restoration tangible and inspire a global movement to scale up efforts to prevent, halt and reverse the degradation of ecosystems. The recognition of Namami Gange as a World Restoration Flagship is a defining moment for the Government of India, which has left no stone unturned to restore the pristine glory of Maa Ganga. Let us look at some of the key endeavors undertaken to achieve this historic win.

Enhancement of the Treatment Capacity of the Basin

193 sewerage infrastructure projects worth Rs 32,797 Cr. are sanctioned to create/rehabilitate a cumulative treatment capacity of 6,029 MLD and lay 5,237 km sewer network. Introduction of innovative best practices such as Hybrid Annuity Based Public Private Partnership Model and One-City-One-Operator (OCOO) model have ushered in a paradigm shift in the Indian wastewater sector. Under HAM-PPP, 40% of the capital cost is paid during construction and the remaining 60% is paid over a period of 15 years as annuities with interest on outstanding balance along with



Namami Gange was recognized as one of the world's top 10 World Restoration Flagships by the United Nations. DG, NMCG Mr. G. Asok Kumar receiving the Award at the UN

operation and maintenance expenses. OCOO model, is a one-step solution for the entire city which integrates new and existing sewerage infrastructure under HAM model and paves way for single ownership and accountability for end-to-end operations.

Close Monitoring for Industrial Pollution Abatement

Several initiatives are being rolled out to limit or reduce pollution discharge from the industries based in the Ganga Basin. Inventorization and annual inspection of Grossly Polluting Industries is conducted to ensure compliance to set standards. Since 2015, sector specific charters are released for industrial sectors such as pulp and paper, distilleries, sugar, textile, etc. Additionally, various Common Effluent Treatment Plants are also sanctioned for industrial sectors located in Jajmau, Unnao, Mathura and Gorakhpur; and they are under various stages of execution. Finally, the NMCG Solidaridad Centre of Excellence (CoE) in Kanpur, Uttar Pradesh has been established for driving sustainable transformation of the leather industry. The CoE has introduced state-of-the-art cleaner technologies and global best practices for tanneries.

Reviving the River's Natural World

The Ganga River ecosystem supports more than 25,000 floral and faunal species. The Ecological Flow Notification 2018 is a landmark decision, recognizing the right of the river over its own water. It also marks a defining moment for ensuring the Aviralta or unrestricted flow of the river.

In the last 8-9 years, Namami Gange based on the scientific Detailed Project Report of the Forest Research Institute has afforested 30,000 Ha area in the Ganga basin. For biodiversity conservation, the first-of-its-kind river biodiversity assessment has been conducted and rescue and rehabilitation centers are established along strategic locations. With CIFRI, an assessment of fishes and fisheries has been conducted to record available fish species and assess status/distribution of fishes through GIS system.

Other endeavors include the declaration of the Ganga riverbank and its floodplain as construction free zones,



PRAYAG – which stands for Platform for Real-time Analysis of Yamuna, Ganga and their Tributaries at NMCG office for effective monitoring



60 MLD Pahari STP in Bihar under Namami Gange Programme

collaboration with State Wetland Authorities for wetland conservation, groundwater management, desilting of kunds and ponds, construction of embankments, creation of water harvesting and storage structures, and bank protection. Concerted efforts have resulted in the significant increase of species sightings such as Gangetic Dolphins, Otters, Gharials, Hilsa and Turtles.

Strengthening People River Connect

Strengthening people river connect has been at the helm of all activities undertaken for Namami Gange, which has resulted into its transformation into a Jan Andolan. Dedicated cadres of Ganga saviors such as Ganga Praharis, Ganga Doots, Ganga Vichar Manch, Ganga Mitras, etc. are making persistent effort to mobilize grassroot level communities and raise public awareness. Several innovative public outreach activities such as Ganga Utsav, Nadi Utsav, Ganga Amantran, Ganga Run, Ganga Quest, Azadi ka Amrit Mahotsav, Mission LiFE, Ghat par Haat, Ghat par Yog, Rag Rag Main Ganga, cleanathons and plantation drives etc. are conducted to maintain the momentum.

In April 2023, a novel initiative "Ganga Bhog: Gangotri se Gangasagar Tak" was launched at Rishikesh. Organized in collaboration with HESCO and Parmarth Niketan, under the initiative Ganga Bhog or Prasadam made by women are given as offerings in the important temples along Maa Ganga. It encapsulates the 5 M concept – Maa or Ganga, Mandir, Millet, Madhu and Mitti.

Real Time Water Quality Monitoring

In April 2023, NMCG inaugurated PRAYAG or 'Platform for Real-time Analysis of Yamuna and Ganga and their Tributaries'. Eight dashboards have been set up in PRAYAG including Project Monitoring Tool: a centralized cloud-based tool to monitor real time status of all projects undertaken under Namami Gange, Ganga Tarang: Real time analysis of 64 Online Continuous Effluent Monitoring System that capture effluent data of 175 STPs and 635 Drains, River Water Quality: Manual water quality monitoring is being carried out at 97 water quality stations in 5 Ganga main stem states, District Ganga Committees Dashboard: it captures

details of the DGC 4M Monthly, Mandated, Minuted and Monitored) meetings conducted in 139 DGCs in 5 Ganga main stem states, Ganga Knowledge Centre – Portal includes information about various initiatives under Namami Gange - research and development projects, GIS Cell, pilot project and policy initiative, Ganga Museum, Ganga E-Library (Ganga Gyan Dhara-IIPA), publications and awards, capacity building (Vigyan Prasar-DST) etc. and live feed of under construction projects such as 20 MLD Jajmau CETP and 542 MLD Okhla STP.

Boosting Nature Based Sustainable Livelihood Opportunities

Arth Ganga is based on the symbiotic relationship between nature-society and aims to strengthen the people-river connect. It strives to improve the quality of life of people in Ganga Basin by boosting local economy and generating livelihood opportunities. Six key verticals are identified - Zero Budget Natural Farming; Monetization of Reuse of Sludge & Wastewater; Livelihood Generation Opportunities; Culture Heritage & Tourism; Public Participation and Institutional Building.

While it is still in the initial stages, select milestones achieved include – Collaborations with Ministry of Agriculture and Farmers' Welfare, Art of Living, Patanjali, etc. for promotion of natural farming; collaboration with Sahakar Bharati for setting up "Sahakar Ganga Grams"; Ranching of 81 lakh IMC, 8,000 Mahseer and 90,000 Hilsa in Ganga River; Release of National Framework for Safe Reuse of Treated Water; MoUs with Ministry of Power, Ministry of Railway, Ministry of Agriculture and Farmers' Welfare for promotion of reuse of treated wastewater; Commissioning of 20 MLD Mathura Tertiary Treatment Plant for supply of treated wastewater to IOCL's Mathura Refinery; JALAJ Livelihood Model (biodiversity sensitive tourism-based boat safaris) launched at 36 (out of 75) locations; Promotion of Ghat Mein Haat for marketing of local produce; Regular Ganga Aartis organized at several ghats; Niche capacity building training programmes conducted in collaboration with partner organizations like National Institute of Urban Affairs, Indian Institution of Public Administration and Centre for Science and Environment.