

Why is it difficult to clean up the Ganga?

Tourist enjoying Boat Ride as the Sunrises near the River Ganga in Varanasi, Uttar Pradesh on February 26, 2017. | Photo Credit: [R.V. Moorthy](#)

Coursing about 2,500 km, the Ganga is the longest river within India's borders. Its basin constitutes 26% of the country's land mass (8,61,404 sq. km.) and supports 43% of India's population. Even as its basin traverses 11 States, five States are located along the river's main stem spanning Uttarakhand, Uttar Pradesh, Jharkhand, Bihar and West Bengal. Much of the river's pollution load — from chemical effluents, sewage, dead bodies, and excreta — comes from these States. In the Ganga basin, approximately 12,000 million litres per day (mld) of sewage is generated, for which there is now a treatment capacity of just 4,000 mld. Particularly, on the stretch spanning Uttar Pradesh and Uttarakhand, approximately 3,000 mld of sewage is discharged, and a treatment capacity of just 1,000 mld has been created to treat it. Though the contribution of industrial pollution, volume-wise, is about 20%, its toxic and non-biodegradable nature has a disproportionate impact. The industrial pollutants largely emanate from tanneries in Kanpur, distilleries, paper mills and sugar mills in the Kosi, Ramganga and Kali river catchments. Then there is the municipal sewage which, at about a billion litres a day, generates 80% of the pollution load. This spans a wide range, from run-off in rural settlements to carcasses floated down the river.

The BJP included the cleaning of the Ganga in its 2014 election manifesto. The Narendra Modi government earmarked 20,000 crore for the clean-up and promised that the river would be clean by 2020. Former Union Minister for Water Resources Uma Bharti said the river would be clean by 2018 but the new Minister, Nitin Gadkari, indicated that this deadline was unlikely to be met. He, however, said the river would be "noticeably clean" by March 2019.

The government has set up an empowered authority called the National Mission for Clean Ganga. This is a dedicated team of officers who are responsible for disbursing the 20,000 crore fund towards a variety of projects that involve setting up of sewage treatment plants (STPs), replacing woodfired crematoriums with electric ones or those that use fuel more efficiently, setting up biodiversity parks that will enable native species — from the Gangetic river dolphin to rare turtles — to replenish their numbers and planting trees to improve the water table in the surrounding regions and prevent soil erosion. The authorities focussed on having trash skimmers ply along the river and collecting garbage, and improving crematoria. However the big task — of installing sewage treatment plants — is grossly delayed. Barely 2,000 crore of the 20,000 crore has been spent so far. The government says this has taken time because it wanted to put in place an extremely transparent tendering process. It has also established a system called the hybrid-annuity model, used in commissioning highways, for selecting firms that will manage STPs. Under this, firms would be given nearly half the money upfront to set up a plant and the rest (with a profit margin included) at regular intervals, provided they meet certain criteria over 15 years. Sixty-three sewerage management projects are being implemented in Uttarakhand, Uttar Pradesh, Bihar, Jharkhand and West Bengal. Last week, STPs to treat 1187.33 mld were cleared for Hardwar and Varanasi in Uttar Pradesh.

The ultimate objective, for the river to be clean, would be to ensure that the coliform bacteria level, biochemical oxygen demand, pH and dissolved salts remain within the standards prescribed by the Central Pollution Control Board.

A lot will depend on how soon the STPs are commissioned. On average, they will take about a year-and-a-half to work at their optimal capacity. The tanneries, a major polluter, will have to install new systems to ensure that no discharge leaches into the river. Given that several employ

techniques that have not been tried on a large scale in Indian rivers, it is unclear how soon they will deliver results. Moreover, a clean river also implies that it maintains minimum levels — called ecological flows — across all stretches of the river. This requires management on a larger scale, including controlling the several dams along the river that bring with them their own challenges.

Jaggi Vasudev's Rally for Rivers claims they will, but this is not based on the most nuanced science

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