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Dry Capital thirsts for water



POTENTIAL	Additional water from Himachal Pradesh	Palla mega floodplain reservoir	Singapore NEWater model	Barter with Uttar Pradesh	Tajewala project	Three dams
	50mgd OF RAW WATER	37,800 MILLION GALLONS	70mgd POTABLE WATER	140mgd	27.5mgd POTABLE WATER	18,340 MILLION GALLONS
THE PROJECT	MoU signed with Himachal Pradesh on December 20, 2019, for usage of its unutilised share of Yamuna allocation by Delhi. Haryana requested conveyance for sending the water to Delhi through their canal system.	Palla floodplain extends around 25km of the Yamuna, north of Wazirabad. A plan to recharge the groundwater table by harvesting floodwater from the Yamuna during monsoon and increasing percolation started piloting in 2019 at a 26-acre pond near Sangarpur. I&FC plans to create a 1,000-acre recharge pond.	In 2018, Delhi proposed to undertake advanced wastewater treatment at the Coronation Pillar plant and then pump it upstream to Palla. There, the water would undergo dilution and natural purification along the river's course and finally, be treated in plants near Wazirabad, according to the plan.	Delhi sought to exchange 140mgd treated wastewater in return for freshwater from UP. A feasibility study by the UP Irrigation department found that 270 cusecs of water from Ganga could be shared from Murad Nagar regulator while the treated effluent, in exchange, could be released from Okhla.	Delhi is seeking to exchange 51 cusecs of irrigation water, allocated from Haryana as per agreements and supplied through Tajewala barrage, for drinking water.	Delhi is pursuing for early implementation of three dams — Renukaji Dam, Lakhwar Dam and Kishau Dam — upstream of Yamuna and its tributaries.
STATUS	Stuck with Upper Yamuna River Board (UYRB), as Haryana raised objections. Delhi has now approached Supreme Court.	Five rounds of pilot project near Sangarpur gave positive results, but the project has not expanded due to nods pending from central regulatory bodies.	UYRB approved the project in 2020 and Coronation Pillar STP was made functional in 2022, but there has been no further progress.	The proposal was turned down by the office of the UP (irrigation) minister in 2021, according to a DJB report.	The matter is being pursued with the Upper Yamuna River Board, and there is likely to be a resolution by 2025, according to officials.	Delhi paid ₹214.84 cr to Himachal for Renukaji dam. Delhi contributed seed money for Lakhwar and Kishau dams. It is expected to help by 2030.

City's water augmentation plans fail to take off

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NEW DELHI: Delhi continues to be a water-stressed city every summer, exacerbated by a growing population amid limited water supply from the Yamuna, but progress on multiple projects conceived over the past seven years to boost water availability continues to trickle at a slow pace, according to the Delhi Jal Board (DJB) officials.

From creating a mega subsurface reservoir on the Palla floodplains to implementing the Singapore NEWater model to reclaim highly treated wastewater to quench Delhi's thirst, several projects have failed to move beyond the pilot and planning stages.

Delhi's estimated demand for water is 1,290 million gallons per day (mgd), based on the estimate of providing at least 60 gallons of water per capita every day. The peak targeted water production, however, is 1,000mgd, which further dips in proportion with decreased Yamuna level and ammonia spikes due to industrial pollutants. Over the past week, Delhi has reported a 20-30mgd shortfall in its supply every day.

Former DJB vice-chairman and Malviya Nagar MLA Som-

nath Bharti posted on X: "as VC, of DJB I had requested LG many a times to speak to and facilitate with BJP governments of UP and Haryana to barter 140 MGD treated effluent of Okhla STP with UP and 80 MGD treated effluent of Rithala STPs with Haryana for equivalent raw water for our WTPs but it was laughed off. At present UP as well as Haryana rather than giving treated effluent for agricultural purposes give Ganga and Yamuna water to farmers... I say this with complete responsibility that all my requests were ignored and pushed Delhi to face this BJP made water crisis."

Bharti was responding to a statement by LG VK Saxena that said the reason for the severe water shortage in Delhi was poor management by the Delhi government, saying that 54% of the water produced remains unaccounted for and there are large water wastages during supply due to dilapidated pipelines.

Lessons from Singapore

In 2018, launching the Coronation Pillar sewage treatment plant (STP), Delhi chief minister Arvind Kejriwal announced that Delhi would emulate Singapore's NEWater model to boost the city's water supply by 15-20%. Under the project, the govern-

ment planned to pump highly treated and purified wastewater from the STP upstream to Palla.

"This clean water was to be dumped in Yamuna at Palla. The water would undergo dilution and natural purification along the course of the river and it was to be lifted for treatment at water treatment plants near Wazirabad," a DJB official, requesting anonymity, said.

"It was finally approved in 2020 with many riders and the Coronation Pillar plant became operational in 2022, but the process to install another advanced treatment facility could not be executed," the official said. The treated wastewater from the Coronation Pillar facility, DJB's most advanced STP, is currently proposed to be sent to Bhalswa lake and the dry Jahangirpuri drain to recharge the groundwater.

UYRB officials did not respond to calls and e-mails sent by HT.

Increasing Yamuna share

Over the past five years, Delhi has been trying to increase its share of Yamuna water, by teaming up with Himachal Pradesh.

Delhi water minister Atishi on May 28, while announcing water rationalisation measures in the city, briefly touched upon the

water exchange project with Himachal Pradesh. "We have signed an MoU with Himachal Pradesh to procure an additional 50mgd of water, but the proposal is pending with UYRB," she said.

Yamuna originates from the Yamunotri glacier and flows through Himachal Pradesh, Haryana, Delhi, and Uttar Pradesh, with each getting a fixed share. The MoU between Delhi and Himachal Pradesh was signed on December 20, 2019. However, Haryana requested for conveyance of this additional water to Delhi through their canal system.

Palla mega floodplain reservoir

In 2019, chief minister Arvind Kejriwal and Union Jal Shakti minister Gajendra Shekhawat jointly launched a pilot project to create natural subsurface reservoirs on the Palla floodplains to conserve excess floodwater from Yamuna and extract this groundwater to feed the city in summer. The pilot was to be carried out on a 26-acre plot in Sangarpur near Palla before expanding it to 1,000 acres.

An assessment report by the I&FC department said that the reservoir area was submerged for 14 days in 2019, 19 days in 2020, 24 days in 2021 and 30 days in 2023. "The average water

table rise between the pre- and post-monsoon period in 2021 was 0.5-2.5m, while the rise was 0.7-2m in 2022," the report said.

However, after five rounds of the pilot near Sangarpur, the project hit a bureaucratic roadblock, officials said.

Getting neighbourly

In December 2020, a feasibility study by the UP Irrigation department found there was a possibility of exchanging 270 cusecs of raw water from Murad Nagar regulator and DJB sought to expedite it with a targeted deadline of 2026. Under the ₹6,931 crore project, Delhi wants to exchange 140mgd treated water in return for fresh water from neighbouring UP.

"We proposed to supply high quality treated wastewater which is fit for irrigation through Okhla while exchanging freshwater to the tune of 270 cusecs of water from Ganga from Murad Nagar regulator, but it got shelved at political level," the DJB official said.

A DJB status report on its water augmentation plans states that the "proposal was turned down by minister, UP Irrigation, vide a letter dated July 9, 2021."

Dams in the long term

Even as projects to increase

water availability remain stuck in the system, the city has primarily increased its water availability through the installation of borewells and tubewells. DJB currently pumps out more than 135 million gallons of water (13.5% of supply) to meet the city's demand.

Meanwhile, Delhi is pursuing an early implementation of three dams (upstream storages) on Yamuna and its tributaries, namely Renukaji Dam, Lakhwar Dam and Kishau Dam.

Delhi has paid ₹214.84 crore to Himachal Pradesh for the Renukaji Dam project and has agreed to bear 90% of the cost of the power component in the project. Delhi has also contributed seed money for Lakhwar and Kishau dams.

'Control demand'

Diwan Singh, water expert and environmental activist, said none of these proposed solutions have been able to significantly help. "Earlier, houses were two-storeyed; then we allowed them to go up to four floors, and more proposals like land-pooling are made. Where is water to feed this expanding city? We have to control the demand," he said.

Singh said that the city will now have to focus on using potable water only for drinking.