The Times of India- 05- June-2022

Clean Yamuna possible in 2025? Still a long way to go

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New Delhi: In November last year, chief minister Arvind Kejriwal pledged to clean up the Yamuna by February 2025 and take a bath in the river. Since then, a few steps were taken in this direction, including allocation in the state budget for funds to restore the Najafgarh drain to its original status as the Sahibi river. However, daunting challenges remain, including high effluent load and low river water flow.

The city generates 3,491.4 million litres per day of sewage, but the sewage treatment plants only treat 2,477 MLD of this. A Delhi Pollution Control Committee report says that of the 30,000 plus industrial units in Delhi, 1,334 are water-polluting industrial units. But only discharge from 1,091 units are treated by 13 common effluent treatment plants. In addition, DPCC says of the 18 major drains in Delhi, five are untapped and flow directly into the Yamuna.

Not surprisingly, the condition of the river is almost the same as it was a few years ago.

CSE OFFICIAL SAYS

There is no natural flow in the river, thus making it almost impossible to dilute the contamination. There is no water in the Yamuna and what we see is sewage from the drains

In June 2021, the river Yamuna exited Delhi after a 22-km stretch with a biochemical oxygen demand count of 16mg/l against a norm of 1mg/l and faecal coliform count of 94,000 MPN/100ml against a safe standard of under 1. The readings had worsened in the latest analysis in May, with the river leaving the city with a BOD of 80 mg/l and FC count of 8,10,000 MPN/100ml. The dissolved oxygen level in both the years was nil, making the river virtually dead.

While Delhi government promised 100% sewerage and new STPs in the 2022-23 state budget, experts wonder if this will help when there is no water flow in the river. As Sushmita Sengupta, deputy programme manager (water), CSE, said, "Because many households in Delhi are still not connected with STPs, the faecal matter in the river is high. Moreover, there is no natural flow in the river, thus making it almost impossible to dilute the contamination. Whatever water can be procured is collected at Wazirabad and treated for drinking. So, there is no water in the Yamuna and what we see is sewage from the drains."

Sengupta pointed out how even when monsoon rain diluted the effluents, the Yamuna still "fails to achieve outdoor water standards".

Environmentalist Manoj Mishra too said there was no relationship between river and the sewer because both were separate systems. He said the treated sewage water could be an asset to be used for non-potable purposes, while the purity of the river depended on the flow. "If we rely only on STPs, then the deadline of a clean Yamuna by 2025 will move to 2050," said Mishra.

spute: The Cauvery flows through a deep and narrow gorge at Mekedatu, near Kanakapura, in Ramanagara district of Karnataka. The Karnataka government has been pursuing the project to build a reservoir to cater to the drinking irements of Bengaluru. It has allocated ₹1,000 crore in this year's Budget. • K. MURALI KUMAR

Dam over troubled waters

As Karnataka takes further steps towards the realisation of the Mekedatu dam, here is a look at the issue that has been a bone of contention between the two riparian States that have also historically fought over the sharing of Cauvery water

T. RAMAKRISHNAN

About 100 km away from the hustle and bustle of Bengaluru, the Cauvery sashays down the picturesque rocky terrain of Mekedatu. Meaning goat's leap in Kannada, Mekedatu, part of the Cauvery Wildlife Sanctuary, is hardly three km downstream of the point of confluence of the Arkavathy and the Cauvery, called Sangama. The popular tourist spot has also been at the centre of intense and heated discussion between Karnataka and Tamil Nadu, the southern States through which the Cauvery flows mostly. Of late, the former has been pursuing, with renewed interest, the project of building a reservoir to cater to the drinking water requirements of Bengaluru; it has allocated ₹1,000 crore in this year's Budget.

The Karnataka Cabinet on Monday (May 30) approved the resolution of the Karnataka Legislative Assembly and Council that urged the Centre to provide clearance to the Mekedatu project. The Cabinet also approved the resolution passed by both Houses that the detailed project report for the Godaveri-

website. Another project, envisaging supply of 775 MLD, is under way. But it looks like even this project may not quench the thirst of the burgeoning population of Bengaluru. According to an estimate, the population of Bengaluru, which is now 13 million, is expected to touch the 20-million mark by 2031, when the city will need 4,000 MLD of water.

People in several villagers in and around Mekedatu are also eagerly looking forward to the proposed project.

'Our water, our right'

Heeramma, a home-maker of Maralebekuppe village, about 20 km from Mekedatu, says her village gets water supply for one to two hours a day. Sitting beside a poster with the slogan, 'Namma Neeru Namma Hakku (Our water, Our right)', she believes that if the project fructifies, it will benefit villages like hers, through which the pipelines will have to be laid for Bengaluru. The slogan was the theme of the 150-km-long march of the Congress, the principal Opposition party, in support of the Mekedatu project.

Raju, a vegetable vendor and resident of Aralalu village, near Kanakapura town

tion between the two States. Originally mooted in 1948, the project underwent several changes in its scope and coverage over the years. Around the same time, Tamil Nadu came up with the Hogenakkal project. Subsequently, Mekedatu was almost forgotten after the two States were locked in an acrimonious dispute over the sharing of the Cauvery water. At one stage, the proposed project at Mekedatu was viewed only as a hydroelectric project and the National Hydro Power Corporation (NHPC), a Central government agency, had shown interest in taking it up as a package of four projects – two each in the two riparian States. According to the NHPC's plan, in addition to having a power plant of 400 MW at Mekedatu, Karnataka would have one of 345 MW at Shivasamudram. In Tamil Nadu, plants were proposed at Rasimanal (360 MW) and Hogenakkal (120 MW).

Project plan

As per the upper riparian State's plan, a ₹9,000-crore balancing reservoir has been proposed at Mekedatu, seeking to impound 67.16 thousand million cubic feet (tmc ft) of water. The project

needs of Bengaluru and neighbouring areas. It will have a 400-MW hydro-power component too.

More importantly, the proposed dam will regulate the release of the required quantum of water to Tamil Nadu on a monthly basis according to the Cauvery Water Disputes Tribunal's final award of February 2007, as modified by the Supreme Court, says the Karnataka government's pre-feasibility report of June 2019. The Tribunal emphasised, "Whenever any such hydro-power project is constructed and Cauvery water is stored in the reservoir, the pattern of downstream releases should be consistent with our order so that the irrigation requirements are not jeopardised." This position was not disturbed by the Supreme Court in its judgment of February 2018 when it reduced the share of Tamil Nadu from 192 tmc ft to 177.25 tmc ft. Besides, the one constant refrain among the proponents of the project in Karnataka is that a lot of Cauvery water drains into the sea after it reaches Tamil Nadu. The proposed reservoir would reduce the quantum of waste.

Why T.N. objects

Court," says V. Ganapathy, a Tiruchi-based water activist.

Tamil Nadu has evaluated Karnataka's record of releasing water during the first four months of the water year (June to May) as far from being satisfactory. These four months, which mark the onset of southwest monsoon too, yield much less rain for Tamil Nadu because the State falls in the rain shadow region. This is one of the major reasons for the Tribunal and the Supreme Court to have decreed that Tamil Nadu get approximately two-thirds (123.14 tmc ft) of its annual quota (177.25 tmc ft) during this period.

But the Central Water Commission's data on Cauvery water realisation at Billigundlu shows that ever since the Tribunal's final order was published in the Centre's gazette in 2013, Tamil Nadu got its due or more than its quota during the period only in four out of nine years, though its overall realisation exceeded the annual quota in six out of nine years.

It is because of the trust deficit factor that Tamil Nadu has been opposing any discussion to be taken up by the Cauvery Water Management Authority. This was a body

held on February 11, 2022. After Tamil Nadu's strong objections on a number of grounds such as the non-coverage of Mekedatu in the Authority's brief, it did not proceed further. But its chairman S.K. Haldar told *The Hindu* after the meeting that the Authority would seek legal opinion on whether it could discuss the matter or not.

Glimmer of hope

In the last few years, Karnataka has been knocking at the doors of various institutions of the Central government to ensure Mekedatu becomes a reality. In October 2018, the State, which had earlier submitted the feasibility report to the Central Water Commission, had a glimmer of hope, when it received "in principle" clearance from the Central Water Commission's screening committee for the preparation of a detailed project report. But the screening committee said the Authority's approval would be a pre-requisite for the consideration of the detailed project report by the Advisory Committee of the Union Ministry of Jal Shakti.

An agitated Tamil Nadu had approached the Su-

last 10-km stretch of the river, that too, during the north-east monsoon (October-December). "After all, some amount of water should go to the sea for ecological considerations."

An official of the Tamil Nadu government emphasises that there is no need for the proposed reservoir as Karnataka has created enough infrastructure to meet the needs of Bengaluru. Neither the Tribunal's final order nor the Supreme Court's judgment mentions the project or anyone having the right to hold surplus water. Also, Tamil Nadu, apart from the Krishnaraja Sagar and Kabini dams in Karnataka, has to get water from uncontrolled catchments downstream of the two dams. If a reservoir comes up at Mekedatu, which is about 4 km from the inter-State border, Karnataka will only impound and divert the flows otherwise due to the lower riparian State

You can have a drinking water-cum-hydro-power project there [at Rasimanal]. The two States can come to an understanding on how much water is to be supplied to Karnataka for Bengaluru

P.R. PANDIAN,
A FARMER LEADER FROM MANNARGUDI

ject report for the Godavari-Krishna-Pennar-Cauvery-Vaigai-Gundar project taken up

My village gets water supply for one to two hours a day. If the project fructifies, it will benefit villages like mine

HEERAMMA,
HOME-MAKER OF MARALEBEKUPPE VILLAGE, 20 KM FROM MEKEDATU

by Tamil Nadu should not be cleared until the distribution of the rightful share of all the basin States was established.

Bengaluru's expectations

"I have not shifted from my place – Yelahanka – because my area is covered under the Cauvery water supply scheme, even though it is not part of the core city," says B. Kumar, a middle-aged senior IT professional. The quality of groundwater being poor, there is a need for a project such as Mekadatu, he says. As the city is still expanding and able to draw more and more IT companies, the demand for clean water seems to be growing.

The Bangalore Water Supply and Sewerage Board supplies 1,450 million litres a day (MLD), using the Cauvery as the source, according to the information available on its

lage, near Kanakapura town, is also excited about the project, despite knowing that it remains on paper. At present, the needs of those who live in villages along the Kanakapura-Mekedatu road are met largely through groundwater. In addition, reverse osmosis plants have been put up en route, providing 25 litres of treated water at ₹5.

Besides addressing the drinking water problem, people in the region hope the project will solve several other problems. Shobha of Krishnayyanadoddi has a daughter who suffers from fluorosis caused by contaminated water. She longs for fresh water supply. Fluorosis is not just confined to that village in Karnataka.

On the other side of the Cauvery, fluoride contamination has been a major issue in Dharmapuri and Krishnagiri districts of Tamil Nadu. The Tamil Nadu government, which had implemented the first phase of the Hogenakkal Water Supply and Fluorosis Mitigation Project about 10 years ago, has proposed the next phase.

States battle it out

The Mekedatu project has always been a source of fric-

ft) of wate[illegible] which will submerge around 4,996 hectares, including about 4,800 hectares of forest and wildlife land, is expected to help Karnataka utilise an additional 4.75 tmc ft allotted by the Supreme Court in its judgment in February 2018 to meet the

has provided unpleasant experience to Tamil Nadu, leading to a serious trust deficit. "Generally, they [Karnataka] do not give our share of Cauvery water, as per the schedule drawn up by the Tribunal or the Supreme

to ensure the implementation of the Tribunal's final order and the Supreme Court's judgment of 2018 on the Mekedatu matter.

In fact, on many occasions, the Authority had included Mekedatu as an item in the agenda for its meetings, including the last one

had approached the Supreme Court to restrain Karnataka from preparing the detailed project report. It had also filed a contempt petition against officials concerned. The cases are still pending with the court. The Karnataka government, in January 2019, submitted the detailed project report on the Mekedatu Balancing Reservoir-cum-Drinking Water Project to the Central Water Commission, which, in turn, forwarded it to the Authority. Five months later, the upper riparian State moved the Union Ministry of Environment, Forest and Climate Change for getting its proposal cleared for the Terms of Reference to conduct the Environmental Impact Assessment (EIA). But the Ministry's Expert Appraisal Committee, in July 2019, took the stand that in view of the inter-State issues, an "amicable solution" needed to be arrived at between the two States.

'Water is not wasted'

Mr. Ganapathy dismisses the criticism that Tamil Nadu allows a large quantum of water to drain into the sea. He says that when excess water flows, it happens only in the

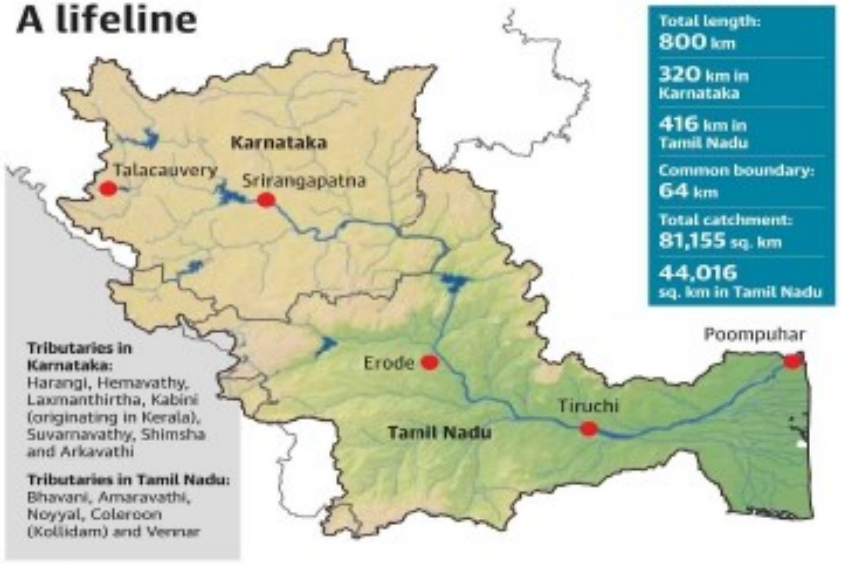
the lower riparian State.

The opposition to Mekedatu is not just from Tamil Nadu. A section of residents of Muthathi in Mandya district of Karnataka is against the project as their village will get submerged if the reservoir comes up. Four other villages – Sangama, Kongedoddi, Madavala and Bommasandra – will also go under. A senior official in the Karnataka government says the project is still at the 'conceptual stage' with many key clearances yet to be obtained from different agencies.

Alternative course

Echoing the sentiments of many others in Tamil Nadu, P.R. Pandian, a farmer leader from Mannargudi, however, concedes that Bengaluru requires more water and this can be met by reviving the reservoir project in Rasimanal. "You can have a drinking water-cum-hydro-power project there. The two States can come to an understanding on how much water is to be supplied to Karnataka for Bengaluru. But this project is possible only if all the three governments – the Centre and the governments of Tamil Nadu and Karnataka – agree," Mr. Pandian says.

A lifeline



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A Healthy Water Footprint is Key for a Healthy Earth

What will really move the needle for the climate change agenda is to evolve a citizen's action framework that is water-centric

Column

SWATI PIRAMAL & ANUJ SHARMA

"Ours is the last generation that can take steps to avoid the worst impacts of climate change," said former United Nations secretary-general Ban Ki-moon. Another World Environment Day is passing by, and climate change-abetted disasters are growing, with experts predicting that our world is hurtling towards a tipping point from which there may be no return.

CATASTROPHE LOOMS LARGE

The alarming Arctic meltdown is seeing irreversible economic and geopolitical consequences. The California wildfires destroyed 4,397,809 acres of forest area, while Amazon fires have charred over 43,000 sq km of forest. Closer home, a severe heatwave was recorded in large parts of India last month. Floods in Assam, Uttarakhand, Bihar and Kerala continue to leave millions displaced, thousands dead and vast tracts of land affected. Chennai city officials declared in 2019 that 'Day Zero', or the day when almost no water is left, had arrived.

The deluge of disasters is only dimming the hope that people harbour of a better, safer world.

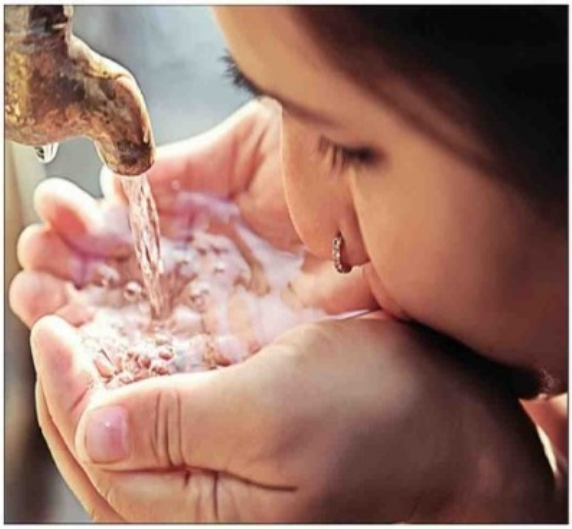
RENEWING HOPE

India is the only major country to be on track to achieve targets set out in the Paris climate agreement, according to the UN Environment Programme's Emission Gap Report. India's COP26 pledges and progress of its solar mission are commendable. The government has announced audacious plans of reducing Indian economy's emissions intensity by 45%. All states are building solar capacity and moving away from fossil fuels.

WATER MATTERS

India has 18% of the world's population but only 4% of the global freshwater resources—being an agrarian economy, it is the world's largest extractor of groundwater. This makes India one of the world's 17 'extremely water-stressed' countries. A NITI Aayog report (2018) reveals that nearly half of India's population faces extreme water stress.

For millions potable water sources pose contamination-led serious health risks and 70% of our major rivers are dying because of pollution. The government is doing what it can. The momentum to find innovative solutions out of the crisis has gathered speed through Swachh Bharat Mission and Jal Jeevan Mission. Most developed economies have an agricultural water footprint of about 70%, while India and most developing economies are well over 80%, with agriculture being the biggest water user. The potent combination of fast-changing rain patterns induced by climate change, sea ingress, water-intensive farming and depleting groundwater can push India over the edge very soon unless immediate



action at scale is taken. What then, are we, the people of India, doing about our colossal water footprint?

THE ANSWERS LIE WITH US

Efforts are underway for improving agricultural efficiency, as also for moving away from water intensive crops, but this has yet to become common practice. Similarly, reclaiming grey water for agricultural use, despite the availability of technology, is waiting to go to scale. Responsible irrigation choices using solutions like drip irrigation and demand side intervention that can influence crop selection together would help in reducing the heavy agri-water footprint.

If even 10% of agri-water usage can be saved through efficiency measures, the entire household segment can have much more. The immediate need is to bring a revolution in water-use efficiency. Israel, through tech innovation, and Australia, through focused policies, have achieved some success worth emulating.

THE IMPACT

India has 18% of world's population but only 4% of global freshwater resources – being an agrarian economy, it is the world's largest extractor of groundwater

DAILY CHOICES MATTER

Responsible food choices, water usage, energy consumption, mobility, construction, etc., can make a big difference. Our consumption can influence demand, and thus farming patterns. Adopting healthy foods that include heavy and light water user crops like wheat, rice and millets is a choice only we can make. Cotton, sugar and tobacco are other highly water-intensive crops. Thus, wise choices of fashion, food and fun will make the much-needed difference.

Simple prudent daily choices like bathing using bucket water and keeping a check on our daily water use can add up significantly to conserving water. Rejuvenation of water bodies, like Bengaluru's lake rejuvenation, and reducing plastic pollution (a major cause of water body pollution) like Sikkim showed, are other steps that can be initiated by local governments and supported by communities.

WE HAVE TO MOVE NOW

What will really move the needle for the climate change agenda is to evolve a 'citizen's action framework' that is water-centric and leverages the proven Jan Andolan approach to make for an effective strategy.

Every society must address lack of awareness along with the pervading hopelessness through mobilising mass movements, with youth essaying a key role, and continue to track progress, until change is visible. India should create a sound water-centric framework for citizen's climate action leveraging everyone's participation. The time for debate has passed. If we are to leave something to the next generation, each one of us has to take positive action to avert the impending water disaster, as if our lives depended on it. Because, now, they do.

(Swati Piramal is vice-chairperson, Piramal Group; Anuj Sharma is lead, Climate Action and Sustainability, Piramal Foundation)

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फिर गिरा यमुना में जल स्तर

दिल्ली के कई इलाकों में पानी सप्लाई पर असर पड़ेगा

■ **विस, नई दिल्ली :** शुष्क मौसम के बीच यमुना का जलस्तर एक बार फिर कम होना शुरू हो गया है। दिल्ली जल बोर्ड (डीजेबी) से मिली जानकारी के अनुसार, यमुना का जलस्तर 668.30 फीट रह गया है। जबकि इसका सामान्य स्तर 674.50 फीट है।

> लगातार सूखी गर्मी और हरियाणा से कम पानी छोड़े जाने से सामान्य से कम हुआ जल स्तर

डीजेबी के अधिकारियों ने बताया कि हरियाणा की तरफ से यमुना में पानी कम छोड़े जाने से जलस्तर में गिरावट आई है। जल स्तर में कमी आने की वजह से वजीराबाद, चंद्रावल और ओखला वॉटर ट्रीटमेंट प्लांट में पानी का उत्पादन प्रभावित हुआ है। ऐसे में 5 जून की सुबह से लेकर यमुना में पानी की स्थिति सामान्य होने तक पानी की आपूर्ति प्रभावित रहेगी। न क्षेत्रों में पानी की सप्लाई सबसे अधिक प्रभावित होगी उनमें सिविल लाइंस, हिंदूराव अस्पताल, कमला नगर, शक्ति नगर, करोल बाग, पहाड़गंज, एनडीएमसी एरिया, नया व पुराना राजेंद्र नगर, ईस्ट और वेस्ट पटेल नगर, बलजीत नगर, प्रेम नगर, इंद्रपुरी, कालकाजी, गोविंदपुरी, तुगलकाबाद, संगम विहार, आंबेडकर नगर, प्रह्लादपुर, रामलीला मैदान, दिल्ली गेट, सुभाष पार्क, मॉडल टाउन, गुलाबी बाग, पंजाबी बाग, जहांगीरपुरी, मूलचंद, साउथ एक्सटेंशन, ग्रेटर कैलाश, बुराड़ी, दिल्ली छावनी आदि शामिल हैं। वहीं दूसरी तरफ बैंक ऑफ बड़ौदा के सामने सेव्य धाम रोड, मंडौली में ऑनलाइन बूस्टर के इंटरकनेक्शन के चलते 6 जून की शाम को पानी की आपूर्ति कम प्रेशर में की जाएगी। 7 जून की सुबह तक यह दिक्कत रहेगी।