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Clean Ganga mission signs pact with Mississippi river initiative

EXPRESS NEWS SERVICE

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THE NATIONAL Mission for Clean Ganga (NMCG), which implements Centre's flagship Namami Gange scheme, has signed a Memorandum of Common Purpose (MoCP) with the Mississippi River Cities and Towns Initiative (MRCTI), which represents 124 cities/towns situated along the banks of the Mississippi River, the United States.

In a statement, the Jal Shakti Ministry said the MoCP was signed by G Asok Kumar, DG, NMCG, and Mayor Mitch Reynolds of La Crosse (Wisconsin), Mayor Errick Simmons of Greenville (Mississippi), Mayor LaToya Cantrell of New Orleans (Louisiana), and Colin Wellemkamp (executive director, MRCTI) on behalf of USA's MRCTI, in the presence of senior officials from US State Department, UNEP, National Institute of Urban Affairs (NIUA) and Rotary International.

The NMCG has signed the MoCP on behalf of the River Cities Alliance (RCA). The signing ceremony took place at the Rotary Hall as part of the COP28, currently underway in Dubai, the statement said.

The Hindu - 09-December-2023

A city under water

Over December 3-4, Cyclone Michaung lingered about 100 km off the coast of Chennai for about 16 hours. It caused torrential rains that pummelled the city, bringing life to an abrupt halt. **K. Lakshmi** reports on the woes of the people and the urgent need for the beleaguered coastal metropolis to be prepared for such disasters

n the gloomy morning of December 4, B. Jagadesan, 26, a resident of Pulianthope, a densely populated area in north Chennai in Tamil Nadu, grew increasingly alarmed. As sheets of rain pummelled the city, the water level in his neighbourhood rose rapidly. By noon, it had reached his waist, he recalls. And by the evening, Pulianthope looked like an island. "There was water up to the chest in some parts. And it was up to the neck in Pattalam (an adjoining area)," he says.

The next morning, there was an eerie calm af-

The next morning, there was an eerie calm after the storm. Cyclone Michaung, which had caused torrential rains from the night of December 3, had moved northwards. Jagadesan and his friends stepped out of their houses and waded through the murky water to reach Choolai, about 15 km away to have assential products.

1.5 km away, to buy essential products.

"What was shocking was that half-a-litre milk packets that were brought in rickshaws to our area by some dealers cost ₹70 a packet, and then ₹100 the next day, three times the normal price," he says. They had no choice but to buy the milk.

When Jagadesan and his friends surveyed parts of Pulianthope on that day and the next,

the sun shone weakly in a dull grey sky.
But the water had not receded. And there was still no help in sight. Jagadesan blames the faulty storm water drains and is upset with the State government. "No authority or elected representative has come to help us." he says.

to help us," he says.

The people of Chennai are no strangers to waterlogged roads during the north-east monsoon every year. But the rains of December 3-4 wreaked widespread havoc in the city. Chennai's Nungambakkam and Meenambakkam observatories recorded a staggering 46.8 cm of rain and 43.8 cm of rain, respectively, between December 3 and December 4 night.

3 and December 4 night.

The floods triggered by the cyclone claimed the lives of 17 people, left thousands stranded in water-logged areas, affected daily supplies, and uprooted numerous trees. The airport was shut for a day, trains were cancelled, and educational institutions were closed from December 4 to 8.

While the cyclone posed a daunting challenge for the authorities and the city's strained infrastructure, it revived harrowing memories of a similar deluge in December 2015 for the residents.

In Andhra Pradesh, the severe cyclonic storm weakened into a cyclonic storm before making a landfall at Kavali close to Bapatla. It claimed three lives and left a trail of destruction behind, mostly damaging acres and acres of crops.

When localities turned into islands

On December 4, K. Perumal, 50, and his family, who live in Kolathur in the north-western region of Chennai, were short of drinking water.

"We had very little water in our overhead tank. There was no electricity, so it could not be refilled. None of us took a bath for three days. We also drank very little water as we didn't want to use the bathroom. We went in search of packaged drinking water the next day. There were long queues outside the shops. After hours of riding around the neighbourhood and wading through waterlogged streets, I got a 20-litre bubble top water dispenser for ₹100 when it is usually sold for ₹30," says Perumal, a bank employee.

In many areas, the lack of power supply and disruption of Internet services compounded woes. Anita Gupta, an entrepreneur who lives in MKB Nagar in north Chennai, says she and her family could not communicate with anyone as their phone batteries had died. "To make matters



Before the rains this time, the Chief Minister had called for road levelling and repair work. This was not done. Our roads are all damaged.

SNEHA V. Resident Pallikaranai

worse, there were swarms of mosquitoes. We used camphor to ward them off," she says.

Anita's family had been complaining for some time about silted storm water drains and mounds of garbage, but the Greater Chennai Corporation (GCC), the civic body, did not respond, she says.

Given the grim situation, Tamil Nadu Chief Minister M.K. Stalin wrote to Prime Minister Narendra Modi on December 5, seeking ₹5,060 crore as interim relief. The State government appointed teams of bureaucrats to coordinate relief operations with elected representatives. The GCC set up 162 relief centres and distributed food to 37.64 lakh people. The Union government released its share of ₹450 crore to the Tamil Nadu State Disaster Relief Fund and another ₹500 crore for a flood mitigation project for Chennai.

As areas across the city, such as Pallikaranai, Varadharajapuram, Pulianthope, Vyasarpadi, Korukkupet, Ambattur, Koyambedu, and Korattur, were badly affected, teams of the Indian Army and the National Disaster Response Force swung into action to rescue residents by boat. The GCC also coordinated rescue efforts and sent 240 boats to water-logged areas. The Indian Air Force along with the State government air-dropped relief material in eight locations each in south and north Chennai on December 6.

Despite these efforts, the situation was "chaotic," says Sneha V., 40, who lives in the Purvankata Township in Pallikaranai area. "It was not so bad in 2015," she says. "Before the rains this time, the Chief Minister had called for road levelling and repairs, which were not done. Our roads are all damaged. We demand accountability from contractors for this."

In Velachery, which is home to several malls and upscale stores, the breach of the Velachery and Adambakkam lakes led to severe flooding, say residents. They were forced to wade through ankle-deep rainwater mixed with sewage.

Residents of Puzhal in north Chennai say several localities remain under 4 feet of water (over 1 metre). Benni Charles, 64, a resident of the area, says, "Flooding in Puzhal and Manali took place when a huge amount of water was discharged from the Red Hills reservoir. I don't remember areas being under water for such a long period of time, at least since the 1980s."

The name of the cyclone – Michaung – was proposed by Myanmar and signifies resilience and hope. And there have been many tales of hope amid all the gloom. With the government absent in some places, it was volunteers who came forward to help senior citizens, pregnant woman, stranded families, and animals.

Mehrunissa Tariq, 35, a marketing professional who lives in Pannaiyur in south Chennai and who is pregnant, says her house, which is close to an embankment, was surrounded by water.



Tamil Nadu Disaster Response Force personnel help a woman. R. RAVINDRAN



File No.T-74074/10/2019-WSE DTE

She says the government had arranged for her family to be evacuated. But even before that, strangers evacuated her by boat. "My family and friends got some people to help us and they waded through 4 feet of water just to evacuate us," she says. "People can be so kind."

Making landfall

When it became clear that Cylone Michaung would make landfall in Andhra Pradesh, the State government opened 9,000 shelter camps and shifted thousands of people by December 4 evening. The cyclone finally made landfall close to a small village called Perali, about 12 km to the south of Bapatla town in Bapatla district. By then it had devastated areas in the districts of Nellore, Tirupati, Guntur, Bapatla, East Godavari, and West Godavari. The temple town of Tirupati remained cut off for almost two days, as the Kalangi river flowed over the Kolkata-Chennai national highway near Sullurupeta. Thousands of pilgrims were stranded.

Farmers and some fisherfolk have borne the brunt of the storm. Appanna, a farmer who owns 2 acres of land near Narsapuram in West Godavari, had sown paddy in August, hoping to harvest it in December. He invested around ₹50,000 per acre and was hoping to make about ₹3 lakh. But the rain inundated his fields. "I don't know the extent of damage as the crop has been flattened and is under a sheet of water. I don't think I will get back what I had invested," he says.

The tenant farmers of Bapatla are in dire straits. Satyanarayana had taken 4 acres of land on rent for ₹2 lakh. "I had invested another ₹1.5 lakh for buying seeds and other materials. My entire crop is damaged," he says in tears.



The crop has been flattened on my 2 acres of land and is under water. I don't think I will get back what I had invested (₹50,000 per acre)

APPANNA

Farmer West Godavari

Primary estimations in Bapatla alone show that 70,000 hectares of standing crops have been inundated. The highest damage has been to paddy, followed by other commercial, horticultural, and vegetable crops. Farmers growing crops such as banana, chilli, tobacco, and vegetables have also been badly hit.

Paddy farmers met Ponnur MLA Kilari Venkata Roshaiah at Pachalatadiparru village and urged the government to procure the discoloured paddy and save them losses. Chief Minister Jagan Mohan Reddy has instructed officials to pay compensation and procure all the paddy, including a part of the damaged crop, through the Rythu Bharosa Kendra. The government has provided ₹2,500 for each of the families in the shelter homes. Meanwhile, the authorities in the affected districts are using high-power pumps to drain water from the fields. They have engaged earth movers to desilt the canals and drains.

A comparison with 2015

In Chennai, meanwhile, people are comparing the situation with 2015, when catastrophic floods had led to the deaths of 199 people and caused extensive damage to property. S. Balachandran, additional director general of

S. Balachandran, additional director general of meteorology, Regional Meteorological Centre, Chennai, says the cumulative rainfall between December 1 and December 5 this year was 45% more than what it was in December 2015 in Nungambakkam. The city received 58 cm of rainfall in 2023 compared to 40 cm in 2015. The cyclone stayed within a 100 km radius of the city, close to the coast for 16 hours. It also moved at a speed of 8-10 kmph. This led to widespread and heavy spells of rainfall, he says.

"The India Meteorological Department has fine-tuned its forecasts by revamping its network of radars and adding new observational infrastructure and radars. It has also improved its weather models. The network to disseminate weather information has also improved since 2015," adds Balachandran.

However, experts and meteorologists say that heavy rainfall alone cannot be the sole reason for such widespread and prolonged flooding.

Y.E.A. Raj, retired deputy director-general of meteorology, Chennai, says, "We had heavy rainfall before 2015 too. In November 25, 1976, there was 45 cm of rainfall in Nungambakkam and 35 cm in Meenambakkam. The cumulative rainfall between November 11 and November 13, 1985, was 73 cm. Chennai saw floods on both those occasions, so we cannot call these rains 'unprecedented'".

Climate Trends, a research-based consulting and capacity-building initiative, notes that the frequency and intensity of cyclones has also increased in the north Indian Ocean of late. Ocean warming has altered the sea surface temperature. This, it says, has led to heavy rainfall covering a greater distance of more than 300 km around the cyclone centre.

Following the calamity of 2015, the State government had executed various flood mitigation projects following interim reports of the advisory panel for flood mitigation and management headed by former Indian Administrative Service officer V. Thiruppugazh. However, only portions of the projects yielded results. For instance, the region around the Porur lake got flooded this time as the second phase of the flood mitigation project is still to be completed. Improvements to more channels have not been taken up yet by the Water Resources Department.

The GCC identified flood-prone zones in its City Disaster Management Perspective Plan 2023 and also undertook an integrated storm water drains project for a length of 1,069.40 km in three basins. Work is yet to be completed in some areas that were merged with Chennai in 2012. The government also began restoring 210 water bodies in Chennai. So far, 172 have been restored.

Responding to criticism about the storm water drains, J. Radhakrishnan, additional chief secretary and commissioner of GCC, says, "The storm water drains can withstand rains of roughly 10 cm spread over 48-72 hours and not incessant 50 cm of rainfall. Also, for the rainwater collected from 35,000 streets, there are only four outlets. If not for this infrastructure, 70-75% of the water across the city would not have drained."

He says the City Disaster Management Perspective Plan mentions that there are very low-lying areas that are historic settlements close to water bodies. "Naturally, water percolates through these areas. Drains can handle normal showers. During high tide and disaster-level rains, these areas become 'receptacles'. Pallikaranai and Madipakkam could be getting flooded because of overwash (spillovers) from the Pallikaranai and Narayanapuram lakes or breaches from other areas. These can be checked once the rains subside," says Radhakrishnan.

With more flood years expected, experts say the government should adopt a systematic flood control management strategy and an integrated drainage system, improve macro drains, and retrieve spaces that have been encroached on.

M. Karmegam, former director, Centre for Water Resources, Anna University, says a chain of 16 water bodies in the Vyasarpadi belt has vanished. Lakes in Velachery and Adambakkam have only 30% of their original water spread area. Other water bodies in the Korattur, Ambattur, Retteri and Pallikaranai marshlands too have shrunk in space. "If floods are to be prevented, these water bodies must be rejuvenated and declared as protected zones," he says.

While the government prepares to tackle such disasters, citizens wonder why some areas are being neglected. J. Vivekanandan, a resident of Mullai Nagar in north Chennai, says, "Our homes were inundated but our area was ignored. When the State government deployed boats to rescue people in Velachery, why were we left out?"

With inputs from R. Aishwaryaa and Serena Josephine M. in Chennai and from the Andhra Pradesh Bureau Dainik Jagran - 09-December-2023

भूजल के स्तर में सुधार करते तालाब

ह सुखद है कि भारत के कई हिस्सों में भूजल के स्तर में सुधार हो रहा है। यह तथ्य पिछले दिनों केंद्रीय जलशक्ति मंत्री गजेंद्र सिंह शेखावत द्वारा जारी सिक्रय भूजल संसाधन मूल्यांकन रिपोर्ट, 2023 से सामने आया। यह मुल्यांकन केंद्रीय भूजल बोर्ड और राज्यों एवं केंद्र शासित प्रदेशों द्वारा संयुक्त रूप से किया गया है। इस रिपोर्ट के अनुसार देश में कुल वार्षिक भूजल पुनर्भरण 449.08 अरब घन मीटर (बीसीएम) है, जो 2022 की तुलना में 11.48 बीसीएम अधिक है। पूरे देश के लिए वार्षिक भूजल दोहन 241.34 बीसीएम है, जो कुल भराव का 59.23 प्रतिशत है। देश पर जलवायु परिवर्तन के खतरे के चलते अनियमित बरसात और नदियों के उथले होने के खतरे तो मंडरा ही रहे हैं, साथ ही बढ़ती आबादी का पेट भरने की चुनौती भी बढ़ रही है। इस चुनौती का सामना तभी किया जा सकता है, जब भूजल के गिरते स्तर को रोका जाए। भूजल के भंडार भरने का कारण तालाबों की सुधरती हालत है। आजादी के अमृतकाल के अवसर पर देश के हर जिले में 75 सरोवरों की योजना पर काम हो रहा है।

अप्रैल 2022 में प्रारंभ की गई 'मिशन अमृत सरोवर' योजना के अंतर्गत देश में कुल 10,992 स्थानों का चयन किया गया और उनमें से 83,727 स्थानों पर काम शुरू किया गया। सरकारी आंकड़े बताते हैं कि 68,258 तालाब बनकर भी तैयार हो गए हैं। इनमें सबसे ज्यादा तालाब उत्तर प्रदेश में हैं। यहां 14,613 तालाब बनकर तैयार हो गए हैं। बिहार में भी 2,717 तालाब तैयार होने को हैं। उल्लेखनीय है कि केंद्र सरकार के विभागीय पोर्टल पर इस कार्य की प्रतिदिन की प्रगति की रिपोर्ट डाली जाती है। इससे पता चलता है कि कहां कितने तालाब तैयार हो रहे हैं।

केंद्र सरकार ने वर्ष 2020 में 6,000 करोड़ रुपये के बजट से अटल भूजल संवर्धन योजना शुरू की थी। इसमें सात राज्यों के 80 जिलों के उन 229 ब्लाकों को चिह्नित किया गया था, जिनके 8,220 गांवों में पीने के पानी का गंभीर संकट पैदा हो गया था। इस साल की शुरुआत में अटल भूजल योजना की राष्ट्रीय संचालन समिति की समीक्षा बैठक में यह बात सामने आई कि ऐसे चिंताजनक हालात के बावजूद राज्यों में इस योजना की प्रगति संतोषजनक नहीं पाई गई। खासतौर पर जल संरक्षण की विभिन्न



असर दिखा रही अमृत सरोवर योजना 🏽 काइल

योजनाओं को इसमें समाहित करने में ज्यादातर राज्य रुचि नहीं दिखा रहे हैं। उन्हें इस योजना को गंभीरता से लेना चाहिए। उन्हें समझना होगा कि यदि धरती के गर्भ में जल का भंडार बढ़ रहा है तो इसका सबसे बड़ा कारण तालाबों में पानी जमा करने की योजना ही है।

अभी तक पुराने तालाबों पर ही ध्यान दिया जा रहा है। यदि देश के कुल 773 जिलों में यह योजना सफल हो गई तो लगभग एक लाख दस हजार ऐसे तालाब होंगे, जिनमें करीब 30 अरब क्यूबिक लीटर से अधिक की क्षमता का विशाल जल भंडार होगा। यदि सभी 90 हजार सरोवर सफल हुए तो हम पानी को लेकर पूरी तरह स्थानीय स्तर पर आत्मनिर्भर बन सकते हैं।

उल्लेखनीय है कि हमारे देश में औसतन 1170 मिमी पानी सालाना बरसता है। देश में कोई पांच लाख 87 हजार के आसपास गांव हैं। यदि औसत से आधा भी पानी बरसे और हर गांव में महज 1.12 हेक्टेयर जमीन पर तालाब बने हों तो देश की आबादी के लिए पूरे साल पीने और अन्य प्रयोग के लिए 3.75 अरब लीटर पानी आसानी से जमा किया जा सकता है। एक हेक्टेयर जमीन पर महज 100 मिमी बरसात होने की दशा में 10 लाख लीटर पानी एकत्र किया जा सकता है। अभी देश के अधिकांश गांवों-मजरों में पारंपरिक तालाब-जोहड़, बावड़ी और झील जैसी संरचनाएं उपलब्ध हैं। जरूरत है तो बस उन्हें करीने से सहेजने की और उसमें जमा पानी को गंदगी से बचाने की। यदि नए-पुराने, सभी तालाब लबालब होंगे तो जमीन की पर्याप्त नमी के कारण सिंचाई-जल कम लगेगा, साथ ही खेती के लिए अनिवार्य प्राकृतिक लवण आदि भी मिलते रहेंगे।

तालाब केवल इसलिए जरूरी नहीं कि वे पारंपरिक जलस्रोत हैं। तालाब न केवल पानी सहेजते हैं, बल्कि भूजल का स्तर भी बनाए रखते हैं। 1944 में गठित 'फेमिन इनक्वायरी कमीशन' ने स्पष्ट निर्देश दिए थे कि आने वाले समय में संभावित पेयजल संकट से जूझने के लिए तालाब ही कारगर होंगे। दुर्भाग्य से उस कमीशन की यह रिपोर्ट ठंडे बस्ते में डाल दी गई। आजादी के बाद पुश्तैनी तालाबों की देखरेख करना तो दूर रहा, उन्हें अनदेखा करना शुरू कर दिया गया। इसके चलते तमाम तालाबों का अस्तित्व नष्ट हो गया। चाहे कालाहांडी हो या फिर बुंदेलखंड या फिर तेलंगाना, देश के जल-संकट वाले सभी इलाकों की कहानी एक ही है। इन सभी इलाकों में एक सदी पहले तक कई-कई सौ तालाब होते थे। ये तालाब केवल लोगों की प्यास ही नहीं बुझाते थे, बल्कि इसके साथ ही वे स्थानीय अर्थव्यवस्था का मूल आधार भी होते थे। वे मछली, कमलगट्टा, सिंघाड़ा, कुम्हार के लिए चिकनी मिट्टी आदि के भी स्रोत होते थे। तालाबों का पानी कुओं का जल स्तर बनाए रखने में भी सहायक होता था।

यदि देश में खेती-किसानी को बचाना है, अपनी आबादी का पेट भरने के लिए विदेश से अन्न मंगवा कर विदेशी मुद्रा के व्यय से बचना है और शहरों की ओर पलायन रोकना है तो जरूरी है कि स्थानीय स्तर तालाबों की ओर लौटा जाए। खेतों की सिंचाई के लिए भूजल की जगह तालाबों के इस्तेमाल को बढ़ावा दिया जाए और तालाबों के सहेजने के लिए सरकारी विभागों के बजाय स्थानीय समाज को शामिल किया जाए।

(लेखक पर्यावरण मामलों के जानकार हैं) response@jagran.com Navbharat Times - 09-December-2023

यमुना के पानी से ऑक्सिजन 'गायब'

बाढ़ के बाद पानी कुछ साफ होने की थी उम्मीद, लेकिन नहीं हुआ

विशेष संवाददाता, नई दिल्ली

बीते कई वर्षों से यमुना की सफाई के लिए कई दावे हुए, लेकिन नवंबर आते-आते बहाव की कमी के साथ यमुना में प्रदूषण का स्तर भी बहुत अधिक बढ़ जाता है। इस साल जुलाई में बाढ़ आने के बाद एक्सपर्ट ने कहा था कि शायद यमुना सर्दियों में थोड़ी साफ रह सकती है, लेकिन ऐसा नहीं हुआ। दिल्ली प्रदूषण कंट्रोल कमिटी(डीपीसीसी) की नवंबर की रिपोर्ट के अनुसार अब भी यमुना में ज्यादातर जगहों पर पानी में ऑक्सजन नहीं है। एक मात्र राहत की

यमुना में ज्यादातर जगहों पर ऑक्सिजन नहीं है: रिपोर्ट बात यही है कि बीओडी (बायोलॉजिकल ऑक्सजन डिमांड) का स्तर थोड़ा कम हुआ है।

भारतीय मानकों के अनुसार इसका स्तर नदी

में तीन एमजी प्रति लीटर या इससे कम होना चाहिए। इस रिपोर्ट के अनुसार आगरा कनाल (ओखला बैराज पर) इस समय यमुना में बहाव नहीं है। इसलिए नवंबर में यहां से पानी के सैंपल भी नहीं लिए जा सके। एक्सपर्ट के अनुसार इस साल भले यमुना में रेकॉर्ड बारिश हुई हो, लेकिन अगस्त और सितंबर में कम बारिश होने की वजह से नदी का बहाव समय से पहले ही कम होता चला गया। इसी वजह से यमना एक बार फिर पानी की कमी से इस स्थिति में पहुंच गई है। वहीं, यमना में झाग की बढती समस्या को देखते हुए इस साल सितंबर से डीपीसीसी ने यमुना के पानी में फास्फेट और सर्फेक्टेंट की जांच भी शुरू कर दी है। सितंबर से अब तक यमना नदी में हर जगह इसकी मौजदगी मिली है। डिटर्जेंट इसका बडा सोर्स है।





यमुना क्यों नहीं हो पा रही साफ?

इस बार बाढ़ झेलने वाली यमुना में प्रदूषण की कमी नहीं हो पा रही। इसकी सबसे बड़ी वजह है कि यमुना

में गिरने वाला बिना ट्रीट किया हुआ सीवर का पानी है। इससे न सिर्फ यमुना दूषित होती है, बल्कि उसका पानी भी बेहद खराब हो जाता है। हालांकि यमुना में गिरने वाले सीवेज को ट्रीट करने के लिए कई सीवेज ट्रीटमेंट प्लांट बनाए गए हैं, लेकिन इसके बावजूद अब तक यमुना में 30 फीसदी सीवेज का पानी बिना ट्रीट किए ही गिरता है। यमुना में गिरने वाले 100 फीसदी सीवेज को ट्रीट करने के लिए ट्रीटमेंट प्लांट बन रहे हैं, लेकिन इनमें से अधिकतर का कार्य तय वक्त से पीछे चल रहा है।