Millennium Post– 8th July -2024

CLIMATE CHANGE TO WORSEN DEPLETION

North India lost 450 cubic km of groundwater in 2 decades: Study

PRESS TRUST OF INDIA

NEW DELHI: About 450 cubic kilometres of groundwater was lost in northern India during 2002-2021 and climate change will further accelerate its depletion in the years to come, according to a new study.

This is about 37 times the quantity of water the Indira Sagar dam — India's largest reservoir — can hold at full capacity, lead author Vimal Mishra, Vikram Sarabhai Chair Professor of Civil Engineering and Earth Sciences at IIT Gandhinagar, said.

Using on-site observations, satellite data and models, researchers found that across north India, rainfall in the monsoon season (June to September) has reduced by 8.5 per cent during 1951-2021. Winters in the region have become warmer by 0.3 degrees Celsius over the same period, they found.

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The team, comprising researchers from the National Geophysical Research Institute (NGRI) in Hyderabad, said lesser rainfall during the monsoons and warming of winters will increase irrigation water demand and reduce groundwater recharge, further stressing the already depleting groundwater resource in north India.

While a drier monsoon leads to more reliance on groundwater to sustain crops during rainfall-deficit periods, warmer winters result in relatively drier soils, again requiring more irrigation — something the researchers observed during the unusually warm winter of 2022, the fifth warmest for India since the India Meteorological Department started records in 1901.

"The accelerating trend of depleting groundwater is expected to continue as the planet warms because even though climate change causes more rainfall, most of it is projected to occur in the form of extreme events, which does not support groundwater replenishment," Mishra told PTI.

The shortage of rainfall in the monsoons followed by warming winters, both driven by climate change, is projected to cause a "substantial decline" by about 6-12 per cent in groundwater recharge. The study's manuscript, accepted for publishing in the journal Earth's Future, was shared exclusively with PTI.

"For groundwater to get recharged, we need low-intensity rainfall spread over more days," Mishra explained. Changes in groundwater levels are known to be largely dependent on rainfall received during summer monsoons and Continued on P4

Hindustan Times– 8th July -2024

Yamuna's ammonia levels on the rise after rains upstream

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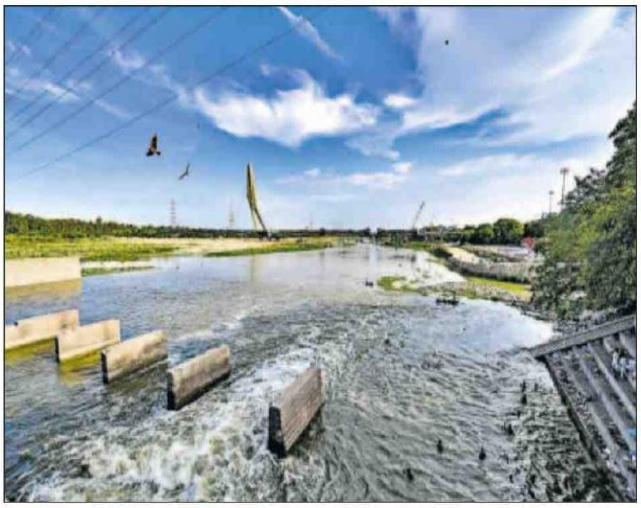
NEW DELHI: Heavy rainfall over the past week has led to a spike in ammonia levels in Yamuna waters over the past three days, according to testing data from Wazirabad. The Delhi Jal Board (DJB) cited this increase to a slush of industrial waste from upstream Haryana, which has flowed in as the river swelled.

Officials said that initial monsoon spells routinely carry the industrial waste that accumulates in the drains of Haryana. Ammonia levels between 2 and 3 parts per million (ppm) were observed over the past three to four days, they said, far higher than the lppm normally seen.

A senior DJB official said that the ammonia level reached over 3ppm on Thursday, following the first increased water flow. "Pollutants are getting diluted progressively and the level is currently at around 1.3ppm," the official, not wanting to be named, said.

DJB can treat up to 0.9 ppm of ammonia level in raw water, but beyond such a high level, neutralisation of ammonia with chlorine gas regularly leads to toxic chloramine compounds.



The Yamuna at Wazirabad on Sunday. SANCHIT KHANNA/HT PHOTO

Reports of the DJB show that the water utility supplied 938 MGD (million gallons a day) water against a target of 1,000 MGD on July 4, as the production was impacted at both Chandrawal and Wazirabad water treatment plants due to high ammonia levels. On July 5, the water supply level dipped further, to 934 MGD, and recovered to 972 MGD on July 6. High ammonia levels are indicators of industrial waste and dyes in raw water.

DJB officials said that the pollutants, such as dyes, chlorides and ammonia-based chemicals, flow from the Panipat industrial dye drain. "We can treat other impurities, but not ammonia beyond 0.9 ppm. With the drains flowing at full capacity due to rainfall in upstream states, pollutants accumulated at the base of drains get flushed out. The situation is now slowly heading towards normalcy," the official cited above said.

Besides Panipat, DJB also cited the intermixing of industrial waste in Sonepat, where two canals carrying freshwater and industrial water run parallel to each other, separated by a sand wall of a few inches.

Haryana has maintained that there are no leaking pollution sources in its industrial areas.

On July 5, HT reported that images of dead fish floating in the Yamuna surfaced over the last few days, which is an indicator of low BOD (biological oxygen demand) and DO (dissolved oxygen). Locals said dead fish began showing up along the river floodplain almost a fortnight ago, with the situation improving in the last few days.

Faiyaz Khudsar, scientist in charge of DDA's biodiversity parks programme, said a drop in oxygen in the river generally occurs when the river receives a large quantity of sewage and effluents. "For dissolved oxygen to improve, a lot of water needs to be released from Hathanikund, which washes away pollutants. After rains began last week, the DO has begun improving gradually," Khudsar said.

Amar Ujala- 8th July -2024

बढ़ने लगा यमुना का जलस्तर, दूर होगी पानी की किल्लत

जल्द ही वाटर ट्रीटमेंट प्लांट को जरूरत भर से अधिक पानी मिलेगा

अमर उजाला ब्यूरो

नई दिल्ली। यमुना का जलस्तर बढ़ने लगा है, लेकिन अभी बाढ़ का खतरा नहीं है। अच्छी बात ये है कि राजधानी में पानी की किल्लत दूर हो जाएगी। जल्द ही वाटर ट्रीटमेंट प्लांट को जरूरत भर से अधिक पानी यमुना से मिलने लगेगा।

रविवार को हथिनीकुंड बैराज से हर घंटे करीब 352 क्यूसेक पानी छोड़ा गया। शनिवार को बैराज से पहली बार यमुना में पूरे दिन करीब 9835 क्यूसेक, पश्चिमी कैनाल में 16510 क्यूसेक व पूर्वी यमुना कैनाल में 3010 क्यूसेक पानी छोड़ा गया था।

दिल्ली में मई और जून में पानी की कमी ने लोगों को खूब परेशान किया। झुलसा देने वाले गर्मी में हथिनीकुंड बैराज से दिल्ली को हर दिन करीब 610 मिलियन गैलन पानी ही मिल पाया था। इससे लोगों को पेयजल सहित दूसरी जरूरतों के लिए काफी मशक्कत करनी पड़ी थी। वहीं, यमुना में पानी कम होने व और ऑक्सीजन स्तर न होने से हजारों मछलियां भी मर गई थीं। अब पहाड़ों पर लगातार बारिश हो रही है, इसलिए हथिनीकुंड बैराज से यमुना में पानी छोड़ा जा रहा है। एक-दो दिन में दिल्ली में पर्याप्त मात्रा में यमुना में पानी दिखाई देगा।

जल प्रवाह... रविवार को सराय काले खां मेट्रो ब्रिज के पास यमुना की स्थिति। भूपिंदर सिंह

पिछले साल एक साथ तीन लाख क्यूसेक पानी छोड़ा था

10 जुलाई, 2023 को हरियाणा के हथिनीकुंड बैराज से यमुना में करीब तीन लाख क्यूसेक पानी छोड़ा गया था। इससे 12 जुलाई, 2023 को सुबह 7 बजे यमुना का जलस्तर करीब 207.18 मीटर दर्ज किया गया था और दिल्ली में बाढ़ आ गई थी।