Telangana Today- 13- November-2022

TS initiatives recharge groundwater levels

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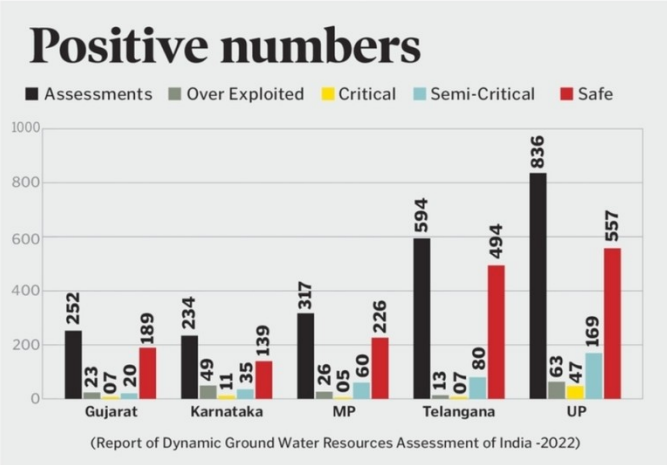

The State government's flagship initiatives, Mission Kakatiya and Mission Bhagiratha, have once again come in for appreciation by Central agencies. These initiatives, along with other interventions taken up by the Telangana government have aided in increasing groundwater recharge and reduction in groundwater extraction, the agencies said.

According to the Dynamic Ground Water Resource Assessment Report 2022 released by union Minister of Jal Shakti Gajendra Singh Shekhawat on Wednesday, the annual Ground Water Recharge in Telangana has increased from 16.63 to 21.11 billion cubic meters (BCM). In simple terms, the groundwater table increased by about 4.4 meters when compared to 2020. The assessment was carried out jointly by the Central Ground Water Board (CGWB) and State governments.

As compared to the 2020 assessment, the total Annual Ground Water Recharge of the State increased from 16.63 bcm to 21.11bcm. This is mainly due increase in recharge from 'Other sources'. Further, the Annual Extractable Ground Water Resources have increased from 15.03 bcm to 19.09 bcm, the report said. More importantly, the interventions taken up by the State government have also aided in decreasing the overall Stage of Ground Water Extraction from 53.32% to 41.6%. (SEE PAGE 2)

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"This can be attributed to government interventions like water conservation activities under Mission Kakatiya, improvement in surface water irrigation and drinking water supply under Mission Bhagiratha etc," the report said.

The total Annual Groundwater recharge of Telangana has been assessed as 21.27 bcm and the Annual extractable Ground Water resource as 19.25bcm. The Annual Ground Water Extraction is 8.0 bcm and Stage of Ground Water Extraction is 41.6%, which is the lowest compared with other States, including Gujarat, Karnataka, MP and UP.

As part of the assessment study, 594 mandals (units) were assessed. Of these, 13 units (just 2%) have been categorised as 'Over Exploited', while seven units (1%) as 'Critical', 80 units as 'Semi-Critical' and 494 units (83%) as 'Safe'. There is no 'Saline' category of assessment unit in the State. Across the country, 7,089 units (Blocks/ Districts/ Mandals/ Talukas/Firkas) were assessed. Of these, 1,006 (14%) have been categorised as 'Over-Exploited', 260 units (4%) have been categorised as 'Critical', 885 units (12%) have been categorised as 'Semi-Critical' and 4,780 units (67%) have been categorised as 'Safe'.

The Times of India- 13- November-2022

Condition of Yamuna inside Delhi worsens, finds DPCC

Data Shows Improved Slightly In Sept, But Deteriorated In Oct

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New Delhi: The condition of Yamuna has continued to worsen in Delhi, according to a report by Delhi Pollution Control Committee (DPCC).

Earlier in September, the river's health had improved marginally.

However, by the time the Yamuna reaches the end of the city, the dissolved oxygen (DO), which depicts the presence of life in the river, becomes nil and the faecal coliform (FC) — a marker of the presence of untreated sewage — sees an exponential rise.

According to the report, at Asgarpur — the confluence and two drains — Tughlakabad and Shahdara — the FC has reached 6,10,000 against 6,00,000 units last month. This depicts the presence of a high volume of untreated sewage.

The permissible value of FC is 2,500 most probable number (MPN)/100ml, while 500 units are desirable. The DO should be 5mg/l or more.

NO PERMANENT CHANGE IN CAPITAL?

According to the analysis of water samples collected in October, the components like DO, FC, and biochemical oxygen demand (BOD) of the river were within permissible limits all the way past Wazirabad. But as soon as it traverses through the city, the river health deteriorates and pollution levels go up.

BOD is the minimum oxygen required by a water body to dissolve organic matter. For a healthy river system, it should not exceed 3 mg/l.

According to the report, in October, the FC level in the river at entry (Palla) was 1,200 MPN/100ml (against 1,000 last month), DO was 8.8 mg/l (against 5 mg/l last month) and BOD was 2.5 mg/l (against 20 mg/l last month) — all within limits.

However, the pollution level soared, right after the river reached the ISBT bridge, and the DO becomes nil, BOD crossed 50 units and fecal coliform increased to a whopping 2,40,000 units.

By the time, the river reached the city's exit point — Asgarpur — FC was 6,10,000 units against 6,00,000 units last month and 6,80,000 units in August. BOD at Asgarpur was 75 units, the same as that in September and August.

According to experts, FC is found in excreta that contaminates water through untreated sewage. The higher the level of FC, the higher the presence of the disease-causing pathogen in water.

The condition of the Yamuna had been hovering within worse pollution levels for years.

The Hindu- 13- November-2022

Recharging groundwater by water-harvesting measures

SPEAKING OF SCIENCE

D. Balasubramanian

When looking for a new home, one issue that is never forgotten is "how deep is the water table there". The water table defines the depth at which cracks and pores in rocks are saturated with water. Such water, stored in subterranean spaces, is called groundwater and the water-bearing rock strata are called aquifers.

Groundwater is a critical resource. It is the principal water source for a fourth of the world's population. India is the world's largest groundwater user; nearly 250 cubic kilometre was taken out in 2017. About 90% of this was used for irrigation, the rest went to towns and villages.

The agrarian economy of the Indo-Gangetic plains is sustained by groundwater. But there are fears that the Indo-Gangetic basin aquifer may soon be incapable of supporting so much irrigation. This is very noticeable in the States of Punjab, Haryana and Rajasthan (Joshi et al, *Journal of Hydrology*, 598 (2021)). The Green Revolution has been sustained by using tube wells. The lowering of the water table forces farmers to use high-powered submersible pumps, which has worsened the situation.

Satellite gravimetry has provided convincing evidence in support of the alarming rates of groundwater depletion. The data are reinforced with local-level water table measurements in wells. The average rate of groundwater decline in this part of India has been 1.4 cm per year in this century. Depletion is not so acute in regions where groundwater is brackish.

Raising the water table

Aquifers are recharged with water from rainfall and rivers.

Net gain: There is a net positive impact in the water table status in Saurashtra after check dams were built. AFP

Post-Independence, India saw an increase in the construction of canals for distributing water. These canals leak water, which also augments groundwater levels.

An important factor contributing to the good health of aquifers in some parts of our country is community-based movements to recharge groundwater. A good example is seen in the semi-arid regions of Saurashtra. Here, thousands of small and large check dams have been built across seasonal rivers and streams. These slow the flow of water and contribute to groundwater recharge as well as to check soil erosion. In villages, *bori bandhs* are built, which are essentially sand-filled bags placed in the path of rainwater runoffs.

Recovering slowly

Have these small-scale water harvesting measures made a difference? Studies comparing the water table status in Saurashtra with the climatically similar regions of Marathwada and Vidarbha show a net positive impact. It is heartening to note that in the last decade, these regions of Maharashtra have also started their own Managed Aquifer Recharge programmes such as the Jalyukt Shivar.

Another part of the country facing a marked decline in groundwater levels is a region overlapping Tamil Nadu and Karnataka, where the aquifers are located in crystalline bedrock. In such rocks, water is found only in cracks and fissures as the rock itself is not porous. Under these circumstances, tanks and ponds do not contribute much to groundwater recharge.

In rural areas of this region, recharge is mostly affected from rainfall and irrigation-related recycling. Interestingly, the major source of groundwater recharge in an urban area (Bengaluru) is from leaks in water distribution pipes.

(The article was written in collaboration with Sushil Chandani who works in molecular modelling. sushilchandani@gmail.com)

The Sunday Standard- 13- November-2022

Ghaggar flooding: SC pulls up Punjab & Haryana

SHRUTI KAKKAR @New Delhi

THE Supreme Court recently pulled up the States of Punjab and Haryana for its failure to tackle the problem of overflooding of Ghaggar Basin which affects more than 25 villages every year despite its specific directions.

Previously, the bench had asked the state governments to act and take measures recommended by CWPRS, Pune and also conduct periodical meetings every four weeks with concerned stakeholders to discuss the progress on implementing the recommendations. The bench had also directed Ghaggar Standing Committee to send a report after receiving all further information from the concerned States on implementation of the recommendations every three months to the Central Water Commission and in turn the Central Water Commission.

Terming the dereliction of the states as "unfortunate", a bench of Justices MR Shah and MM Sundresh said, "It is very unfortunate that despite the aforesaid specific directions, the respective states have not responded in true spirit. Though, of course, the State of Haryana has submitted one report, which is not satisfactory at all. The State of Punjab has not even bothered to file the Status Report. This is how the concerned States are serious in tackling the problem of overflooding of Ghaggar basin. There is no respect of the Supreme Court's order so far as the States of Punjab and Haryana are concerned."

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Supreme Court

Expressing displeasure for the state's omission to abide by court's directions issued on August 17, 2022, the bench directed for presence of Chief Secretaries of both these States on November 15, 2022. The court's order came in a plea filed by Nagar Panchayat Moonak and others highlighting the problem of over-flooding in Ghaggar Basin which was causing detriment to 25 villages in Punjab and Haryana.

Haribhoomi- 13- November-2022

यूपी के 25 हजार नलों- हैंडपंपों का पानी पीने लायक नहीं

गांवों में हो रहे सर्वे से सामने आई जानकारी

अनिल के अंकुर ⏭ लखनऊ

कुछ दिनों पहले केंद्रीय सड़क परिवहन एवं राजमार्ग मंत्री नितिन गडकरी ने दिल्ली के पानी को लेकर एक टिप्पणी की थी। उन्होंने कहा था कि दिल्ली का पानी

अच्छा नहीं होता है। पानी अच्छा या बुरा होना एक मुहावरा है, जिसका इस्तेमाल इंसान की सेहत और प्रकृति की अनुकूलता के लिए इस्तेमाल किया जाता है. परन्तु उत्तर प्रदेश में एक सर्वे से खुलासा हुआ है कि यूपी के गांवों में 25 हजार से अधिक जल स्त्रोत प्रदूषित पानी दे रहे हैं। इसमें नल, हैंडपंप सहित दूसरे स्त्रोत भी शामिल हैं। इन प्रदूषित जल स्त्रोतों का पानी पीने योग्य नहीं है। फिर भी मजबूरी में लोगो प्रदूषित पानी पी रहे हैं।

जिलों में 28 लाख 15 हजार 976 सैंपलों की जांच कर चुकी हैं। इनमें से 1 लाख 11 हजार 328 जल स्त्रोतों से लिए गए पानी के नमूने जांच में प्रदूषित निकले। इनकी दोबारा प्रयोगशाला में जांच कराई गई। तब इनमें से 24 हजार 869 नमूनों में गड़बड़ मिली। विभिन्न कारणों से इन जल स्त्रोतों का पानी जहरीला या प्रदूषित था, जिसका प्रयोग पीने या खाना बनाने के लायक नहीं है। पानी के नमूनों की जांच के यह आंकड़े प्रदेश के 29 जिलों के हैं। इनमें सर्वाधिक खराब स्थिति शाहजहांपुर की मिली है। वहां लिए गए नमूनों में से 10 हजार 781 सैंपलों में गड़बड़ी मिली। मथुरा में 7 हजार 54, सीतापुर में 6 हजार 213, इटावा में 4 हजार 325 जबकि संत कबीर नगर में 3686 जल स्त्रोत प्रदूषित मिले।

जल संसाधन मंत्री का दावा

इस बारे राज्य के जल शक्ति मंत्री स्वतंत्रदेव सिंह का कहना है, सरकार गांवों में हर घर नल से जल पहुंचाने के साथ ही यह भी सुनिश्चित कर रही है कि हर व्यक्ति को स्वच्छ पेयजल मिले. इसके लिए गांव-गांव पेयजल स्त्रोतों के सैंपल लेकर महिलाएं जांच कर रही हैं.