Business Standard- 06- April-2023

Monitoring dam safety

Decommissioning should be a policy option

Even after the enactment of the Dam Safety Act in 2021, the threat to the life, property, and livelihood of millions of people from dam-related perils remains unabated. This is clear from the latest report of the Parliamentary Standing Committee on Water, which points out though 234 large dams are 100-300 years old, none has been decommissioned. In fact, retiring a dam has seldom been deemed an option in India even if the structure turns highly hazardous — as is the case with the nearly 130-year-old Mullaperiyar dam, which is not being replaced with a new one despite having been declared unsafe by the Kerala government. Decommissioning vulnerable dams is now common practice to avert dam-related disasters in developed countries, notably in Europe and the US. India, too, should follow suit, paying heed to the parliamentary panel's sane counsel in this regard.

With more than 5,740 large dams and countless other barrages, India is now placed third in the world, next to China and the US, in terms of the number of functional dams. The disquieting part, however, is that nearly 20 per cent of them have outlived their rated life span of 50 years. Besides, most of these old dams were constructed with locally available material and in accordance with the water flows and risk factors prevailing at that point of time. The situation has since undergone a dramatic change because of a further development of the water-use infrastructure and global warming-induced uncertainties of the volume of water flows. Risk factors like flash floods, landslides, and increased sedimentation are much more pronounced now than in the past. Little surprise, therefore, that the country has witnessed more than 40 major dam failures in recent decades. The latest major calamity was in February 2021 in Chamoli district, Uttarakhand, where one dam was swept away by gushing water from a dislodged glacier and another one, on the downstream, was partly damaged, resulting in 140 deaths, apart from damage to property, infrastructure, and crops. The biggest ever disaster was, perhaps, the caving in of the Machchu Dam in Gujarat on August 11, 1979, which annihilated the densely populated industrial town of Morbi and many of its neighbouring villages.

It is, therefore, imperative to evolve a mechanism, as recommended by the parliamentary panel, to precisely estimate the potential life span of dams and decommission the over-aged ones to minimise the risk of their crashing down. Oddly enough, the jal shakti ministry conceded before this parliamentary committee that it did not have any methodology to assess the viable lifetime of dams. Routine maintenance work is done on the basis of the health evaluation of the structure. This is a grave lacuna that needs to be addressed without delay. One way of doing so could be to follow the US system of risk appraisal through a web-based integrated risk management model — called Dam Safety Analysis Tool — using variables from dam bursts in the past. It generates a fairly reliable prognosis of downstream risks of dam failures. The other, and preferable, possibility could be to develop an indigenous system for this purpose, using the expertise available in scientific institutions like the Indian Institutes of Technology. Such hi-tech models for monitoring dam safety would be of great help in pre-empting, and preventing, dam-related mishaps.

Hindustan Times- 06- April-2023

Delhi's water extraction rate better, says report

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NEW DELHI: The Capital extracted 0.36 billion cubic metres (bcm) of groundwater in 2021-2022 but recharged 0.37 bcm during the same year, making it an extraction rate of 98.16%, an improvement from 2020-21 when the extraction rate was 101.4% (more extracted than recharged), the Central Ground Water Board's (CGWB) latest assessment showed.

The data, released recently, as part of the board's "Dynamic Groundwater Resources of India, 2022" report, also showed that compared to 2020-21, the number of "safe" tehsils in Delhi has gone up from three to four, while the number of "overexploited" tehsils has dropped from 17 to 15. The state, overall, is still "critical" in terms of groundwater extraction, the report said.

In 2020-21, 0.32 bcm was recharged during the year, out of which 0.29 bcm was extractable. Approximately 0.29 bcm was extracted, with an overall extraction rate of 101.4% assessed by the CGWB. An extraction rate indicates how much water was recharged in comparison to being extracted. If the rate is over 100%, it indicates that more groundwater was extracted than it was recharged.

At the same time, the report said that in 2021-22, the annual recharge went up to 0.41 bcm, out of which 0.37 was available for annual extraction. Around 0.36 bcm was utilised, meaning the extraction rate was only around 98.16%.

"The increase in the groundwater extraction can be attributed to refinement in the database extraction data, with around 12,000 private tube wells registered with the Delhi Jal Board (DJB) also being incorporated in our estimation. It is also based on refinement in piped water supply, which the DJB has increased in many areas of Delhi. This led to an increase in recharge due to return seepages," the report said.

Out of the 34 assessment units (tehsils) for 2021-22, 15 units (44.12 %) were categorised as "overexploited", seven units (20.59 %) were in the "critical" category, eight units (23.53 %) were "semi-critical", and four (11.76 %) were "safe". In 2020-21, 17 units were "overexploited", seven were "critical" range, seven were "semi-critical", and three were "safe".

Out of the four safe tehsils, one was in central Delhi, two were in northwest Delhi, and one was part of nazul land (under the government for non-agricultural purposes).

For groundwater readings, safe zones are those where the ratio of recharge to extraction is 70%, meaning for every 1 litre of groundwater recharge, 0.7 litre is extracted.

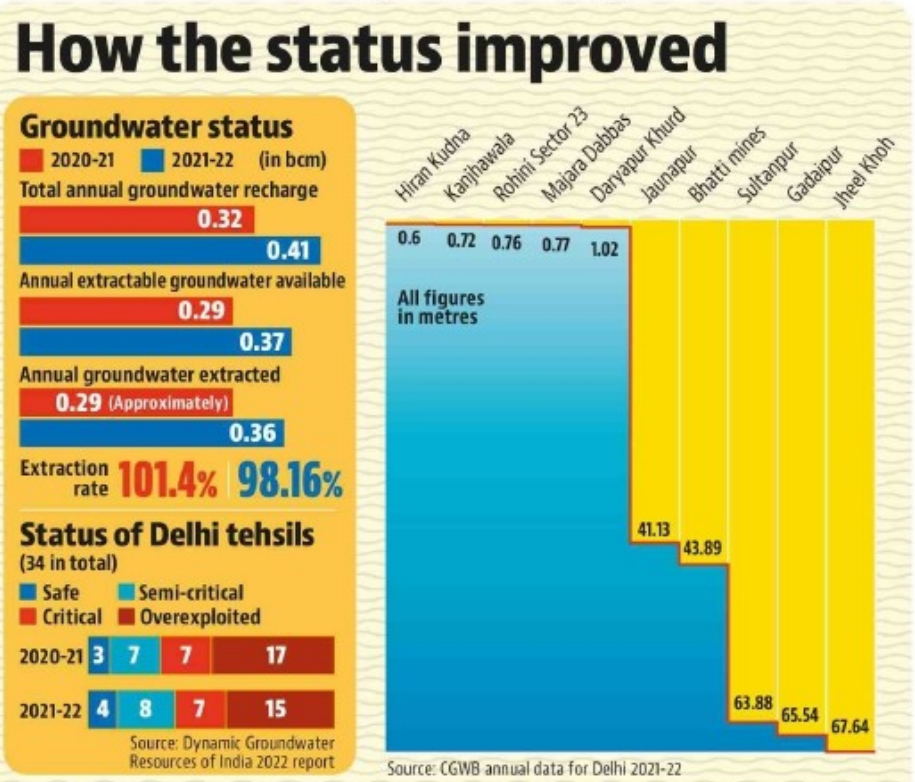
This can translate to an increase of up to 2 metres each year. In semi-critical zones and critical zones, the ratio is 70-90% and 90-100%, respectively, indicating a limited recharge of 0.5-1 metre each year.

In overexploited zones, the ratio is over 100%, meaning the extraction is greater than the recharge and the groundwater table is only going deeper.

A CGWB official when contacted, said a combination of factors has helped Delhi improve.

"For 2021-22, an increase in the piped supply network helped improve the groundwater recharge. It is estimated that around 15-17% of the water from piped networks returns to the ground as seepages. The piped supply network has also been included in this assessment. We are also seeing a crackdown on illegal tubewells, with mandatory recharge structures increasing."

How the status improved



Safe zones

These are areas where the ratio of recharge to extraction is 70%, meaning for every 1 litre of groundwater recharge, 0.7 litres are extracted. In semi-critical zones and critical zones, the ratio is 70-90% and 90-100%. In overexploited zones, the ratio is over 100%, meaning the rate of extraction is greater than the recharge.

What changed in one year

The Central Ground Water Board said the increase in groundwater extraction can be attributed to data refinement, with around 12,000 private tubewells under the DJB being included in the year's estimation. The increase in recharge may also be attributed to an increased piped water supply, through seepages, rainwater harvesting etc.

The Hindu- 06- April-2023

The takeaways from the UN World Water Conference

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The World Water Conference that was convened by the United Nations (March 22-24 2023) was the first UN conference on freshwater in almost 50 years. It was held in the context of serious environmental issues – flooding, drought, a severity of climate change and a looming food crisis. The conference also marked a mid-term review of the Water Action Decade 2018-2028 (to advance the water agenda by energising existing programmes and projects, and inspiring water action to achieve the 2030 Agenda, in particular Sustainable Development Goal 6 (SDG 6), which envisages the sustainable management of water and sanitation for all.

The central outcome of the conference was the international Water Action Agenda, to which governments, multilateral institutions, businesses, and non-governmental organisations submitted over 670 commitments to address water security issues. Nearly 164 governments and 75 multilateral organisations have made commitments. While the commitments embodied in the Water Action Agenda are voluntary and, therefore, legally non-binding, the voluntary commitments are expected to inspire the collective political will, which is needed to address the many water challenges.

Poor finances, poor water services

The commitments made at the conference must be scrutinised to see whether they will yield universal, safe, affordable and equitable access to water that is consistent with SDG 6. Meeting this target by 2030 (as envisioned by the SDG) will incur capital expenditures of $114 billion per year. The World Bank estimates recurring operations and maintenance for basic water and sanitation service (WASH) costs to rise from about $4 billion to over $30 billion per year by 2030, which is far more than the capital costs for basic WASH services. The World Resources Institute (WRI) is of the view that the commitments made by the states reflected rigour, scope, and ambition but they lacked proper finance and targets that are quantifiable in nature. Investment of this range would require valuing water, which in turn requires robust water measurement and accounting. There are 'serious limitations in our knowledge about the volume, flux and quality of water in lakes, rivers, soils and aquifers. There are huge gaps in water usage data. The metering of water has triggered resistance from India to Ireland because of concerns about equitable access and affordability of water services'.

Funding from regional, national, and international sources prioritises new water infrastructure rather than on water maintenance services (World Bank study). It results in decreased service for water customers. World Bank estimates project recurring operations and maintenance service (WASH) costs to rise from about $4 billion to over $30 billion per year by 2030, which is far more than the capital costs for basic WASH services. Water does not qualify to be a global public goods as it is not considered to be an area of urgent funding as compared to climate change. The Global Environment Facility (GEF) is the only international funding mechanism that has been able to cover more than 300 watersheds and an even greater number of aquifers across the political boundaries of two or more states with its grant and concessional loan.

It remains to be seen whether the commitments made at the conference will ensure universal, safe, affordable and equitable access to water

India at the conference

India's commitments at the conference were: an investment of $240 billion in the water sector and efforts to restore groundwater level. A 2021 CAG report says that groundwater extraction in India increased from 58% to 63% between 2004-17. This has been further exacerbated by climate change resulting in intermittent rainfall, which further undermines the recharge potential.

The revised Groundwater Bill 2017 vests State groundwater boards with creating laws, managing water allocation and other relevant issues. The State boards are understaffed, and lack in expertise and prioritising socio-political conflicts over groundwater resources.

In international law, 'states possess the authority to make voluntary commitments to address issues of global concern. These commitments are distinguished from other legal forms because they are not made pursuant to a consensus instrument to which the parties have agreed. They are generally independent of the commitments of other parties'.

Efforts to 'tackle climate change and to promote environmental sustainability have led states to make voluntary commitments to curb greenhouse gases and to take measures to promote sustainability, even in the absence of a legally non-binding instrument. The commitments of states after the Climate Conference in Denmark (December 2009), underline this. But in the case of climate change, these voluntary commitments take place within a broader context of binding agreements: the United Nations Framework Convention on Climate Change, the Kyoto Protocol, and the Paris Agreement'.

The 2023 Water Conference takes place within the context of SDG 6, and not within the context of the UN Water Convention 1997 and the United Nations Economic Commission for Europe (UNECE) Water Convention 1992, the two legally binding legal instruments on regulation of trans-boundary river water courses. But the target embodied in 6.5 of the SDG 6 focusing on 'implementation of integrated water resources management (IWRM) at all levels, including through transboundary cooperation as appropriate' is a common thread between the Water Conference and the two conventions.

Voluntary commitments are becoming an important feature in the environmental law vista, but they raise difficult issues of accountability. Commitments made by the states with different formats and with different content pose challenges in terms of monitoring compliance with each commitment. Voluntary commitments are perhaps just a necessary step in the face of inaction.

Mint- 06- April-2023

Unseasonal rains may boost hydro power supply

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Unseasonal rains in March have lifted reservoir levels, easing temperatures and boosting hydropower supply, offering some respite from the impending summer heat, even as the wet weather destroyed winter crops in their wake.

Hydropower usually comes into play in June as rains begin; however, as of 31 March, live storage at 146 reservoirs monitored by the Central Water Commission (CWC) was 76.058 billion cubic meters (BCM), which is 94% of the storage a year ago, and 118% of the average of last 10 years. Of these 146 reservoirs, 18 are hydropower projects with a total live storage capacity of 34.960 BCM.

The rise in reservoir levels will support more production and ease power demand as the temperature rises in the days ahead, analysts said. Hydropower constitutes around 11.4% of India's total installed power capacity. As of 28 February, installed hydropower capacity in the country stood at 46.85GW.

The Pong Dam on the Beas River in Himachal Pradesh,

TURN TO PAGE 6

Unseasonal rains may lift supply of hydro power

FROM PAGE 1

with a capacity of 396MW as of 31 March was 34% of the total capacity, against 29% last year and the 10-year average of 24%. The 800MW Kol Dam in Himachal Pradesh had a storage level of 79% of the live capacity. Although it is lower than last year's 91%, it is way above the 10-year average of 58%.

Similarly, the 80MW Panchet Hill project in Jharkhand had a storage of 93%, against 100% a year ago and the 10-year average of 68%.

In Maharashtra, the state with the highest number of large dams, the 300MW Mulshi dam had a storage level of 42% against 28% a year ago. The Koyna dam, with a capacity of 1,920MW, had a storage level of 57% of the capacity, compared to 60% during the same period last year and the 10-year average of 50% of the capacity. Vikram V., vice president and sector head of corporate ratings, ICRA, said: "Although most of the hydropower projects in the north and north-eastern parts of the country are dependent on the riverine ecosystem, several hydro projects in the west and south may have been supported by the recent rains."

The rains also eased power demand. In the first two weeks of March, the peak power demand met was around 205GW, which has now fallen below 190GW. According to the latest data from the Grid Controller of India, the maximum peak power demand met during the day was 187.73GW.

Peak power demand this year is expected to reach 229GW, against 211GW recorded last year.

Rajasthan Patrika- 06- April-2023

देश के 60 फीसदी ग्रामीण घरों में नल से आ रहा जल

पत्रिका ब्यूरो
patrika.com

नई दिल्ली. जल जीवन मिशन के तहत देश के 19.43 करोड़ में से 11.66 करोड़ (60 प्रतिशत) ग्रामीण परिवारों को नल से स्वच्छ पेयजल उपलब्ध हो रहा है। भारत में 1.55 लाख से अधिक गांवों को अब हर घर जल पहुंच रहा है। केंद्रीय जलशक्ति मंत्री गजेंद्र सिंह शेखावत ने ट्वीट करके यह जानकारी साझा की। प्रधानमंत्री नरेंद्र मोदी ने भी शेखावत के ट्वीट को रिट्वीट करते हुए जल जीवन मिशन की प्रशंसा की और इसे उत्कृष्ट उपलब्धि बताया।

चालू वर्ष में जनवरी से मार्च 2023 तक प्रतिदिन औसत रूप से 86,894 नए नल जल कनेक्शन प्रदान किए गए हैं। दरअसल, जब प्रधानमंत्री नरेंद्र मोदी ने 15 अगस्त, 2019 को जल जीवन मिशन की घोषणा की थी, तब देश के 19.43 करोड़ ग्रामीण परिवारों में से केवल 3.23 करोड़ परिवारों के पास नल का पानी उपलब्ध था।

इन राज्यों में शत प्रतिशत कवरेज

गुजरात, तेलंगाना, गोवा, हरियाणा व पंजाब और 3 केंद्र शासित प्रदेशों अंडमान और निकोबार द्वीप समूह, दमन दीव एवं दादरा नगर हवेली व पुडुचेरी ने शत-प्रतिशत कवरेज हासिल कर ली है।

जितने अमेरिका में लोग, उससे ज्यादा तक पहुंचाया जल

जल जीवन मिशन के तहत 3 वर्षों में 40 करोड़ से अधिक लोगों के साथ 8.42 करोड़ से अधिक ग्रामीण परिवार (आईएमआईएस स्रोत के अनुसार 4.95 व्यक्ति प्रति ग्रामीण परिवार) कार्यक्रम के तहत लाभान्वित हुए हैं। यह संख्या अमेरिका की 33.1 करोड़ जनसंख्या से अधिक है और यह ब्राजील की 21 करोड़ व नाइजीरिया की 20 करोड़ जनसंख्या से लगभग दोगुनी है।

Dainik Jagran- 06- April-2023

अमृत काल के संकल्पों में ऊर्जा भर रहा मिशन अमृत सरोवर: मोदी

नई दिल्ली, प्रेट्र : मिशन अमृत सरोवर के तहत पिछले 11 माह में करीब 40 हजार जलाशय विकसित करने की उपलब्धि की प्रधानमंत्री नरेन्द्र मोदी ने सराहना की है। मोदी ने बुधवार को कहा कि इस दिशा में जिस तेजी से काम किया जा रहा है, वह अमृत काल में हमारे संकल्पों में नई ऊर्जा का संचार कर रहा है। वह जल शक्ति मंत्री गजेंद्र सिंह शेखावत के ट्वीट पर प्रतिक्रिया व्यक्त कर रहे थे।

सरकार के मुताबिक, पिछले 11 महीनों में मिशन के तहत करीब 40 हजार जलाशयों को विकसित करके योजना का लगभग 80 प्रतिशत लक्ष्य प्राप्त कर लिया गया है। एक ट्वीट में जल शक्ति मंत्री शेखावत ने कहा कि मिशन अमृत सरोवर अपने लक्ष्य को प्राप्त करने की दिशा में बढ़ रहा है।

15 अगस्त, 2023 तक 50 हजार अमृत सरोवरों के निर्माण का लक्ष्य है। स्वतंत्रता के 75वें वर्ष से 100वें वर्ष तक की 25 वर्षों की अवधि को प्रधानमंत्री ने अमृत काल का नाम दिया है। प्रधानमंत्री मोदी द्वारा पिछले वर्ष 24 अप्रैल को शुरू किए गए इस मिशन का उद्देश्य 'आजादी का अमृत महोत्सव' के हिस्से के रूप में देश के प्रत्येक जिले में 75 जलाशयों का विकास और कायाकल्प करना है।

गुजरात पर्यटन से संबंधित एक वीडियो पर एक ट्वीट का जवाब देते हुए मोदी ने कहा, 'कच्छ पर एक अच्छा वीडियो। जब 2001 में भयंकर भूकंप आया था तो लोगों ने कच्छ के लिए शोक संदेश लिखे थे, लेकिन इस जिले के लोगों के बारे में कुछ उल्लेखनीय है। वे फिर से उठ खड़े हुए और जिले को नई ऊंचाइयों पर पहुंचाया। आज कच्छ पर्यटन के लिए एक शानदार स्थान है।' लद्दाख को उसकी लकड़ी की नक्काशी के लिए जीआइ (जियोग्राफिकल आइडेंटिफिकेशन) टैग मिलने की सराहना करते हुए मोदी ने कहा कि

पीएम नरेन्द्र मोदी ● फाइल फोटो

- जल शक्ति मंत्री ने ट्वीट कर बताया, 11 माह में विकसित हुए 40 हजार जलाशय
- कहा, 15 अगस्त, 2023 तक 50 हजार अमृत सरोवरों के निर्माण का लक्ष्य

इससे लद्दाख की सांस्कृतिक परंपराएं और लोकप्रिय होंगी और कारीगरों को लाभ होगा।

मोदी ने अरुणाचल प्रदेश के मुख्यमंत्री पेमा खांडू के भी एक ट्वीट का जवाब दिया। उन्होंने कहा था कि स्वर्ण जयंती सीमा रोशनी कार्यक्रम प्रधानमंत्री के इस दृष्टिकोण के अनुरूप है कि बदलाव लाने के लिए सीमावर्ती गांव अंतिम नहीं, बल्कि सबसे पहले हैं। खांडू ने ट्वीट किया, 'मेरे मुक्तो विधानसभा क्षेत्र के मागो गांव में नई भोर हो रही है। अंतरराष्ट्रीय सीमा के पास 200 करोड़ रुपये की अनुमानित लागत से 50 मिनी और माइक्रो जलविद्युत परियोजनाएं विकसित की जाएंगी, जिससे ग्रामीणों और सीमा की रक्षा में लगे बलों को 24 घंटे बिजली की आपूर्ति सुनिश्चित होगी।' खांडू के ट्वीट को टैग करते हुए मोदी ने कहा, 'सीमावर्ती क्षेत्रों में स्वागत योग्य विकास, जो सीमावर्ती गांवों में रहने वाले लोगों को सशक्त बनाएगा।'

मोदी ने पेट्रोलियम एवं प्राकृतिक गैस मंत्री हरदीप सिंह पुरी के उस ट्वीट का भी जवाब दिया, जिसमें उन्होंने सिटी गैस डिस्ट्रिब्यूशन (सीजीडी) नेटवर्क पर सुविधाजनक और किफायती ईंधन की पेशकश के लिए बड़े पैमाने पर कदम उठाए जाने की बात कही थी। पुरी ने कहा था, 'वर्ष 2014 में केवल 66 जिलों में सीजीडी नेटवर्क था, जो 2023 में 630 जिलों तक पहुंच गया। इसी प्रकार 2014 में घरेलू पीएनजी कनेक्शनों की संख्या केवल 25.40 लाख थी, जो अब बढ़कर 103.93 लाख हो गई है।' इस पर प्रतिक्रिया देते हुए मोदी ने कहा कि ये अच्छे आंकड़े हैं और वह उन सभी की सराहना करते हैं, जिन्होंने इस कवरेज को हकीकत में बदलने के लिए वर्षों तक कड़ी मेहनत की।

एक ट्वीट में मोदी ने कहा कि एम्स मंगलागिरी में बाह्य रोगी परामर्श के 10 लाख के आंकड़े को पार करना संस्थान की अच्छी उपलब्धि है। प्रधानमंत्री ने कहा, 'हाल ही में मन की बात कार्यक्रम में उन्होंने इस मुद्दे पर चर्चा की थी, जिसमें एक डाक्टर और ऐसे व्यक्ति के साथ बातचीत शामिल थी, जिसे टेली-परामर्श से लाभ हुआ है।'