The Hindu- 21- October-2021

Water level in Idukki reservoir starts dipping

Safe limits maintained in view of rain

A CORRESPONDENT
IDUKKI

The water level in the Idukki dam began to decline slowly on Wednesday following the opening of three shutters of the Cheruthoni dam by 0.34 metres on Tuesday.

Kerala State Electricity Board (KSEB) authorities said that in the wake of continued high volume of inflow, the water in the reservoir was kept at a controlled level to prevent further increase.

In view of the Indian Meteorological Department (IMD) predictions of high rainfall, the water level needed to be kept at a safe limit, they said.

At present, 60 lakh litres of water a minute was being discharged. The live storage stood at 94.28% of the total capacity on Wednesday, whereas the level on the same day last year was 89.61%, they said.

Power generation

The water level stood at 2,398.4 ft at 3 p.m. on Wednesday. Electricity generation at the Moolamattom power station remained high at 14.89 million units. The KSEB continued to monitor the water flow in the downstream areas, said an official.

The water level in the Mullaperiyar dam in the upstream of the Idukki dam on Wednesday morning was 134.30 ft. While there was an inflow of 2,559 cfs (cubic feet per second), Tamil Nadu drew water at 1,750 cfs from the dam. Its maximum storage level is 142 ft.

Roy, a local resident, watches a swollen Periyar downstream of the Idukki dam on Wednesday. He had moved his household items to the upstairs of his house after the district administration sounded a red alert on Tuesday before opening three shutters of the Cheruthoni dam. • H. VIBHU

Telangana Today- 21- October-2021

Uttarakhand floods toll up at 46

Stranded tourists being evacuated by the NDRF from the landslide affected areas in Nainital. —Photo: PTI

NEW DELHI

As many as forty six persons have reportedly died and 11 are reported missing in the heavy rains leading to flash floods and landslides in several parts of Uttarakhand.

Rescue and relief operations are still awaited in many remote areas and villages. Nainital, a major tourist destination, remains the worst-affected area in the State where 28 persons have reportedly died and several others are still missing. According to the Uttarakhand Chief Minister's Office, 28 people have reportedly died due to rain and landslides in Nainital district alone. Ramgarh's Talla area has been the worst-affected area in Nainital.

Nine persons are reportedly trapped under the debris of a house that collapsed. As many as six persons have reportedly died in Almora while another six persons have died in Pauri, Champawat and Pithoragarh. One person lost his life in Bageshwar. The State government has announced financial compensation of Rs 4 lakh to the next of kin of the deceased. A child has been trapped under the rubble after a house collapsed in Bhimtal in Kumaon region. In Almora district, three people were reportedly buried after debris from a hill destroyed a house.

Rains, landslides cut off NH 10, flooding in Bengal

Torrential rains pounded the tiny Himalayan State of Sikkim and the tea growing region of North Bengal, causing landslides which cut off National Highway-10, the main road linking Gangtok with the rest of the country. Normal life in parts of the tea growing North Bengal was also affected on Wednesday officials said. PTI

Ham operators swing into action in Kerala

THRISSUR: Even as the incessant rains and resultant flooding disrupted lives across central Kerala, ham radio enthusiasts have quietly swung into action in Thrissur district, setting up their unique work stations to ensure a steady stream of communication in case nature's fury wreaked havoc on conventional systems of contact.

The district administration here has sought the service of Ham radio operators to coordinate disaster relief operations in case the communication system gets cut off due to any rain-related incident.

"Communication turns out to be a major challenge when natural calamities strike. During heavy floods, there are chances that the power supply will be down for days, which will affect the communication systems including the mobile phones," Sarachandran CS, a former merchant navy officer-turned-ham radio operator said. He is one of the ten operators hired by the administration to handle emergency communication in case of any untoward incidents. All the operators have the Amateur Station Individual Operator licence issued by the Centre.

All the Taluks offices in Thrissur district are currently equipped with radio facilities so that even when all other communication systems are down, emergency services can be contacted and details can be shared. The services of ham radio operators were utilised during the 2018 August deluge. PTI

Business Standard- 21- October-2021

Water governance reform

The fifth and last in a series of weekly articles on the new National Water Policy

MIHIR SHAH

The decision to form the Ministry of Jal Shakti in 2019 was an important milestone in reforming water governance in India. It brought together under one umbrella the departments dealing with drinking water and irrigation. Ever since Independence, the governance of water has suffered from at least three kinds of "hydro-schizophrenia": that between irrigation and drinking water, surface and groundwater, as also water and wastewater. The new National Water Policy (NWP) suggests urgent action to overcome each of these divisions.

Government departments at the Centre and states have generally dealt with just one side of these binaries, working in silos, without co-ordination with the other side. As a result, critical inter-connections in the water cycle have been ignored, seriously aggravating water problems. We fail to see the link between rivers drying up and over-extraction of groundwater, which reduces the baseflows needed by rivers to have water even after the monsoon. Placing drinking water and irrigation in silos has meant that aquifers providing assured sources of drinking water dry up over time, because the same aquifers are used for irrigation, which consumes much higher volumes of water. This has adversely impacted availability of safe drinking water in many areas. And when water and wastewater are separated in planning, the result generally is a fall in water quality, as wastewater ends up polluting supplies of water.

The Central Water Commission (CWC) set up in 1945 is India's apex body dealing with surface water and the Central Ground Water Board (CGWB) set up in 1970 is the one handling groundwater. Over several decades, even as ground realities and understanding of water have both undergone a sea change, the CWC and CGWB have remained virtually unreformed, working in pristine isolation from each other, with little dialogue or co-ordination between them. The same pattern is visible in the corresponding bodies at the state level. Ironically, even as groundwater use has grown in significance, becoming India's single most important water resource today, groundwater departments have only gotten progressively weaker over time.

The NWP suggests merger of the CWC and CGWB to form a multi-disciplinary, multi-stakeholder National Water Commission (NWC). The policy visualises that this exercise at the Centre would become an exemplar for all states to follow. Bridging multiple silos, the NWC would include the following divisions, which would work in close co-ordination with each other: 1) Water Security Division to guide the fulfilment of national goals pertaining to drinking water; 2) Irrigation Reform Division to more effectively meet the overarching national goal of "*har khet ko paani*" (water to every farm); 3. Participatory Groundwater Management Division to ensure sustainable and equitable management of India's most important resource; 4) River Rejuvenation Division to work towards revival of India's river systems; 5) Water Quality Division to reflect the highest priority to be given to this aspect; 6) Water Use Efficiency Division to improve performance on this parameter in all economic activities; 7) Urban and Industrial Water Division to meet these emerging national challenges; 8) Democratisation of Data Division to ensure the development of a 21st century national water database, with user-friendly access to primary stakeholders of water; 9) Knowledge Management and Capacity Building Division to generate and disseminate knowledge on water, as also build requisite capacities within and outside government.

The indigenous knowledge of our people, with a long history of water management, is an invaluable intellectual resource that should be fully leveraged. The unique experience and insights of women must also be actively drawn upon

Both at the Centre and in the states, government departments dealing with water resources today include professionals predominantly from just civil engineering, hydrology and hydrogeology. Despite the avowed commitment to rejuvenating our rivers, we have never had a single river ecologist or ecological economist in any department handling water anywhere in India. Despite the fact that agriculture takes up most of our water, we do not have even one agronomist within the water bureaucracy. While it is clear that water management always needs community mobilisation, water departments have never included social mobilisers. The NWP argues that the NWC and its counterparts in the states need experience and expertise in all these disciplines, without which solutions to India's complex water problems will remain elusive. Since systems such as water are greater than the sum of their constituent parts, solving water problems requires understanding whole systems, deploying multi-disciplinary teams and a trans-disciplinary approach, as is the case in the best water resource departments across the globe.

Wisdom on water is not the exclusive preserve of any one section of society. The NWP, therefore, enjoins the state and central governments to build a novel architecture of enduring partnerships with primary stakeholders of water. Thus, the NWC, and its counterparts in the states, must include farmers, water practitioners, academia, industry etc. and build respectful partnerships with all of them, based on mutual learning. The indigenous knowledge of our people, with a long history of water management, is an invaluable intellectual resource that should be fully leveraged. The unique experience and insights of women must also be actively drawn upon.

Problems have often arisen in the water sector owing to varying and sometimes conflicting understanding, perspectives and positions on key issues, between the Centre and states, as also across states. There is, therefore, an urgent need for an institutional mechanism that facilitates constructive discussions, translating into mutually agreed actions on the ground that can at best prevent conflicts or at least find time-bound resolution for existing disputes. The NWP suggests that this could be done either by creating a new inter-state council or by recasting and activating the existing National Water Resources Council. The council should also facilitate water reforms as per the needs of states and facilitate capacity enhancement required to implement the paradigm shift proposed in the NWP. The council should be equipped with the requisite multi-disciplinary expertise and multi-stakeholder representation, to enable it to play this role in the most effective manner.

The writer is Distinguished Professor, Shiv Nadar University. He chaired the Committee to draft the new National Water Policy set up by the Ministry of Jal Shakti in 2019

Times of India- 21- October-2021

Himalayan Vulnerabilities: Don't Worsen Them

Three ways to mitigate the freak weather events that are predicted to increase in Uttarakhand

Anjal Prakash

The extreme rainfall event in Nainital and adjoining districts in eastern Uttarakhand has broken all the records. In Mukteshwar, for example, 340.8 mm of rainfall was registered during October 18-19, the highest in a 24-hour period since a weather station was set up here in 1897. IMD data shows Uttarakhand got 485% more average rain even in the first 18 days of October than is usual at this time of the year. Actually since 2015 the Himalayan state has reported over 7,500 extreme rainfall events, with a steady rise in the past three years. It is a no-brainer that these freak weather events are linked with a rapidly changing climate.

Anatomy of mountainous hotspots

In 2019, more than 200 global scientists from the Intergovernmental Panel on Climate Change (IPCC) worked for three years to produce a special report on oceans and cryosphere, which categorically stated that the frequency and severity of extreme climate events will increase in future. The Himalayan region, which is considered the third pole and a climate change hotspot, was studied in detail.

The Hindu-Kush Himalaya Assessment report which was published by ICIMOD the same year aligned with the global assessments, showing that the recent warming trends directly reduce the snow cover, melt glaciers, and degrade permafrost. In the future, even if global warming is kept to 1.5°C, in the Himalayan region, the warming will likely be in the range of 0.3-0.7°C higher. The latest IPCC report published in 2021 reaffirms these findings and has given a code red for humanity.

Northward march of the snowline

How is global warming feeding into extreme weather events in Uttarakhand? The world's ocean and cryosphere have been 'taking the heat' from global warming for decades. Warmer oceans feed into cyclone systems

Where the rivers overran the streets

and affect monsoon patterns. With oceans and glaciers thus interlinked, as an effect of global warming, Himalayan regions are witnessing fewer snowfalls.

The snowline has moved up and temperature rise has been steep due to elevation-dependent warming. Similarly, rainfall is also ascending higher due to the unique geography, leading to a much wetter climate in some locations. The recent events are linked with these rapid changes in weather patterns leading to high and super-high rainfalls unmatched in recent recorded history. The wreckage is in terms of flash floods and large-scale devastation as we see in the images coming so frequently from these regions.

Re-evaluate development projects

As the Himalayan ecology is very sensitive, and full of hotspot regions, they require special attention in policies and programming. First, we must acknowledge that the present climate crisis is causing extreme rainfall events and there are also strong linkages with the lack of adaptation measures.

Knee-jerk solutions are there, but long-term climate action is missing. It means stopping the destruction of local ecology, the changes in land-use patterns that disregard local resources and encroach on natural water flows and seasonal streams. In light of extreme events having become an annual phenomenon, we need to re-evaluate development projects that harm the local ecologies and disturb the region's environmental resources.

Improve transboundary cooperation on watersheds

Second, the Himalayan region is transboundary, with watersheds spread across various countries. Lack of transboundary administration of shared water leads to ineffective management at virtually every level in the Himalayan region. Regional approach and transboundary cooperation are necessary to protect the people of the region.

Cooperation means sharing upstream-downstream data and scientific collaboration with countries for better management of resources. The Arctic region, for example, has been engaged in similar action that has led to a better understanding of the resource. It was done through science-policy forums where planners, scientists and local people can be part of the solutions.

Create a ministry of climate change

Third, the climate crisis is bleeding India's economy. From Kerala to Uttarakhand, climate change led extreme events are hitting headlines almost daily. What has been the response from the government? Climate change is handled by a backyard desk with an added name within the environment and forests ministry, when it should be carved out as a separate ministry both at the central and state levels to deal with the unprecedented challenges faced by us.

A separate ministry of climate change should also be populated by lateral entry of scientists, policy professionals and specialists beyond environment and forests.

The writer is Research Director at the Bharti Institute of Public Policy, ISB. He contributes to IPCC reports. Views are personal

Times of India- 21- October-2021

City digs in to guzzle groundwater

Draws 370 Million Litres Daily Yet No Data On Borewells

Paul.John @timesgroup.com

Ahmedabad: Each day the AMC supplies 1,369 million litres of drinking water to roughly 72 lakh citizens. But daily, the municipal corporation receives 1,739 million litres of sewage at its sewage treatment plants! The difference indicates that Amdavadis draw 370 million litres of extra water from the ground every day.

There is no state-level groundwater regulation in place.

So neither the Central Ground Water Board nor the AMC nor indeed the state water resources department has comprehensive data on the number of borewells dug in residential, commercial, and industrial areas in the city.

Almost 92% of the 15.55 lakh housing units have access to a groundwater source.

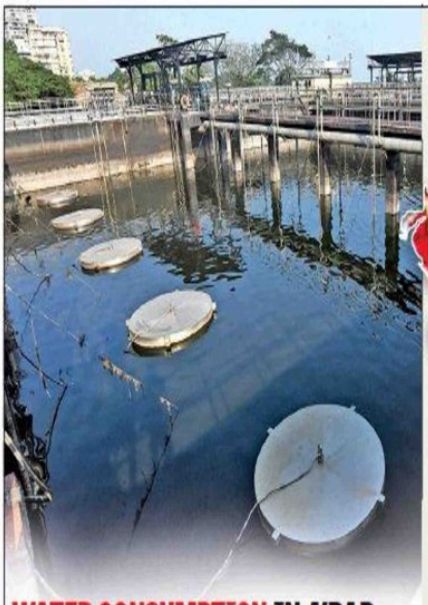
"The state government has had a groundwater governance code since 2005. It was provided by the Centre," said a senior official of the Narmada, water resources and water supply department. The official said: "But the government is yet to implement it as a state law."

More disturbing, according to the data available with the Rajya Sabha, Ahmedabad city was found to have groundwater at 67 metres (220 feet) in the confined aquifer. Ahmedabad had the third deepest groundwater aquifer after Jaipur (84.7 metres) and Dehradun (79.2 metres).

To put the figure in perspective, the deepest level in Delhi is 64 metres. In Chandigarh, it is 53.6 metres, and in Lucknow it is 45.8 metres. Other Gujarat cities fared better with the deepest level at 12.3 metres in Vadodara, 5.5 metres in Rajkot, and 4.6 metres in Surat.

The data was collected from four wells in Ahmedabad and Vadodara each, and one well in Rajkot and Surat each.

A senior AMC official said, "While studying water consumption patterns, most state agencies overlook the 7 lakh floating population that travels to the city from the neighbouring talukas, towns, and cities for work or business." The official added: "They drink water and use toilets. No one accounts for that."



WATER CONSUMPTION IN A'BAD

Zone	Population as per 2011 census	Total water drawn per day (million litres)	Per capita consumption per day (litres)
North West	5.7 lakh	178.33	309
Central	7 lakh	155.3	220
East	7.4 lakh	226.15	238
West	10 lakh	278.44	270
South West	4.6 lakh	100.66	217
South	9.5 lakh	223.35	233
North	9.7 lakh	207.28	213
Total	56.65 lakh	1,369.5	242

WHAT IS BASELINE STRESS?: Baseline water stress measures total annual water withdrawals (municipal, industrial, and agricultural) expressed as a percent of the total annual available flow

BASELINE WATER STRESS IN GUJARAT

Low (<10%) Low to medium (10 to 20%) Medium to high (20-40%) High (40-80%) Extremely high : (>80%) Arid and low water use

THE ECONOMICS OF WATER

- Cost of treating potable water | **₹7.5/1,000 litres**
- Cost of treating sewage water | **₹3.8/1,000 litres**
- Housing units in city | **15.55 lakh**
- Contribution of housing societies towards water bill | **₹36 crore**
- Contribution of commercial establishments towards water bill | **₹153 crore**
- Total population catered to by AMC | **68 lakh**
- Extra floating population in city | **7 lakh**

Rajasthan Patrika- 21- October-2021

मौसम का कहर : कुमाऊं क्षेत्र में ज्यादा नुकसान, रेस्क्यू ऑपरेशन में सेना की मदद

उत्तराखंड में मूसलाधार के बाद अब तबाही का मंजर, 52 लोगों की मौत

उत्तर प्रदेश के मुरादाबाद में बुधवार को भारी बारिश के बाद सड़कें पानी से लबालब हो गईं, जिससे कई वाहन पानी में फंस गए। सड़क पर पानी के बीच फंसी बस को धक्का देते लोग।

अकेले नैनीताल में 29 की मौत

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देहरादून. उत्तराखंड में दो दिन से लगातार हो रही मूसलाधार बारिश के बाद तबाही का मंजर हैं। गढ़वाल की तुलना में कुमाऊं क्षेत्र में अधिक तबाही हुई हैं। प्रदेश में बारिश और भूस्खलन से अब तक 52 लोगों की मौत हो गई है। अकेले नैनीताल जिले में 29 लोगों की जान गई है। लबालब होने के बाद नैनी झील का पानी ओवरफ्लो होकर नैनीताल में आ गया था, जो धीरे-धीरे कम हो रहा है। हालांकि शहर में जलभराव की स्थिति हैं। इससे शहर का मॉल रोड और नैना देवी मंदिर भी प्रभावित हुआ है। बारिश और भूस्खलन के कारण प्रदेश में 9 राष्ट्रीय राजमार्ग को नुकसान हुआ है जबकि 7 राज्यीय मार्ग क्षतिग्रस्त हुए हैं। पूरे राज्य में नदियां उफान पर हैं। अक्टूबर महीने में 17 साल बाद गंगा नदी फिर खतरे के निशान को पार कर गई। बाढ़ में फंसे लोगों के लिए रेस्क्यू ऑपरेशन चलाया जा रहा है। इसमें सेना की मदद ली जा रही है। सिक्किम में भारी बारिश से काफी नुकसान हुआ है।

500 पर्यटकों को सुरक्षित निकाला

नैनीताल. नैनीताल के आपदा प्रभावित गरमपानी-खैरना और कैंची क्षेत्र में फंसे 500 पर्यटकों को सुरक्षित बाहर निकाला गया। इन क्षेत्रों में बारिश के दौरान सड़कें अवरुद्ध होने से ये पर्यटक फंस गए। छत्तीसगढ़ के भिलाई से आए 55 पर्यटकों को सुरक्षित नैनीताल लाया गया। इन्हें वापस छत्तीसगढ़ भेजा जा रहा है। सेना के 100 जवान राहत कार्यों में जुटे हुए हैं। नैनीताल की एसएसपी प्रीति प्रियदर्शिनी के अनुसार मंगलवार से अभी तक 1500 लोगों को रेस्क्यू किया गया है।

असर अब लद्दाख और हिमाचल में : पश्चिमी विक्षोभ व दक्षिणी पूर्वी हवाओं का गठजोड़ वेस्टर्न हिमालयन रीजन में लद्दाख, हिमाचल के कुछ हिस्सों के साथ जम्मू-कश्मीर, अफगानिस्तान की तरफ बढ़ गया है। मौसम विशेषज्ञों के अनुसार 22 से 23 अक्टूबर तक वेस्टर्न हिमालयन रीजन में बारिश-बर्फबारी देखने को मिलेगी।

केरल : 39 लोगों की मौत, 6 लापता

तिरुवनंतपुरम. केरल के सीएम पी विजयन ने बुधवार को विधानसभा में बताया, राज्य में वर्षा जनित हादसों में 39 लोगों की मौत हो गई। छह लोग लापता हैं। प्रदेश में 217 घर पूरी तरह क्षतिग्रस्त हो गए। 3,851 परिवार 304 राहत शिविरों में हैं।

नेपाल : 48 की मौत

काठमांडू. नेपाल में तीन दिन से जारी बेमौसमी बारिश से आई बाढ़ और भूस्खलन की घटनाओं में 48 लोगों की मौत हो गई।

Rajasthan Patrika- 21- October-2021

सौराष्ट्र रीजन के 73 समेत गुजरात के 91 बांध छलके, 127 हाईअलर्ट पर

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अहमदाबाद. प्रदेश में हुई मौसम की लगभग 98 फीसदी बारिश के परिणाम स्वरूप राज्य के प्रमुख 206 बांधों में से 91 छलक गए हैं। इनमें अकेले सौराष्ट्र रीजन के ही 73 हैं। कुल 128 बांधों में क्षमता का 90 फीसदी से अधिक जल संग्रह हो चुका है इनमें से 127 हाई अलर्ट पर हैं। प्रदेश के सबसे बड़े सरदार सरोवर नर्मदा बांध में बुधवार तक क्षमता के मुकाबले 75 फीसदी से अधिक जल संग्रह हो चुका हैं। राज्य

के प्रमुख बांधों में से सबसे अधिक 141 सौराष्ट्र रीजन में हैं। इनमें से 73 बांध पूरी तरह भर गए हैं। इस क्षेत्र के सभी बांधों में 2550.69 मिलियन क्यूबिक मीटर (एमसीएम) जल संग्रह की क्षमता हैं। इसके मुकाबले अब तक 2276.90 एमसीएम जल संग्रह हो चुका हैं जो 89.90 फीसदी है। जल संग्रह की स्थिति के आधार पर देखा जाए तो दक्षिण गुजरात बेहतर स्थिति में हैं। यहां के प्रमुख 13 बांधों में से नौ पूरी तरह भर गए हैं। इन सभी बांधों की जल संग्रह की क्षमता 8624.78 एमसीएम है। इसके मुकाबले 8613.66 एमसीएम जल संग्रह है। क्षमता की तुलना में दक्षिण गुजरात के बांधों में 99.87 फीसदी जल संग्रह हो चुका हैं।

कच्छ रीजन के बांध में सबसे कम जल संग्रह

फिलहाल कच्छ रीजन के बांधों में सबसे कम 35.87 फीसदी ही जल संग्रह हो पाया हैं। इस रीजन में कुल 20 में से दो बांध ही पूरी तरह से भरे हैं। 332.27 एमसीएम क्षमता के मुकाबले इनमें 119.19 एमसीएम जल संग्रह हो पाया हैं। मध्य गुजरात के 17 में से छह बांध छलक गए हैं। 2347.37 एमसीएम संग्रह क्षमता वाले इन बांधों में फिलहाल 2107.44 एमसीएम जल संग्रह हो चुका हैं जो 89.78 फीसदी हैं। जबकि उत्तर गुजरात रीजन के कुल 15 में से एक बांध छलका है। 1929.29 एमसीएम की क्षमता की तुलना में इन बांधों में 708.44 एमसीएम ही जल संग्रह हो पाया हैं। यह जल संग्रह 36.72 फीसदी हैं।

नर्मदा का जलस्तर 130.83 मीटर पर पहुंचा

गुजरात के सबसे बड़े सरदार सरोवर नर्मदा बांध का उच्चतम जलस्तर 138.68 मीटर के मुकाबले बुधवार सुबह तक 130.83 मीटर पर पहुंच गया। इस बांध में जलसंग्रह की क्षमता 9460 एमसीएम है, इसके मुकाबले फिलहाल 7098.92 एमसीएम है। यह क्षमता का 75.04 फीसदी है। नर्मदा समेत राज्य के 207 प्रमुख बांधों में जल संग्रह की कुल क्षमता 25244.4 एमसीएम है। अब तक 20924.55 एमसीएम जल संग्रह हो चुका है, यह 82.99 फीसदी है।

128 बांध 90 से 100 फीसदी तक भरे

राज्य के प्रमुख 128 बांधों में क्षमता के मुकाबले जल संग्रह 90% से अधिक हो चुका हैं। महिसागर के वाणकबोरी बांध को छोड़कर 127 को हाईअलर्ट घोषित किया है। 80 फीसदी से अधिक और 90% से कम भर चुके सात बांधों को हाईअलर्ट और 70 से अधिक व 80% से कम भरे 7 बांधों को चेतावनी के रूप में दर्शाया गया हैं। 61 बांधों में 70% से कम जल संग्रह हुआ हैं।