News Links on Water Sector

(9, SEPTEMBER 2024)

CENTRAL WATER COMMISSION

GOVERNMENT OF INDIA

DEPARTMENT OF WATER RESOURCES, RIVER DEVELOPMENT & GANGA REJUVENATION

MINISTRY OF JAL SHAKTI

Serving the Nation Since 1945

Centre to provide ₹4,136 crore for 15 GW hydropower projects in the Northeast

Date: 28/08/2024

The Cabinet, chaired by Prime Minister Narendra Modi, has approved the proposal of the Ministry of Power for providing central financial assistance (CFA) to the state governments of Northeast Region (NER) towards their equity participation in the development of hydroelectric projects through Joint Venture (JV) collaboration between state entities and Central Public Sector Undertakings, an official statement said.This scheme has an outlay of ₹4,136 crore to be implemented from 2024-25 to 2031-32, Information and Broadcasting Minister Ashwini Vaishnaw said in a briefing on the Cabinet decisions. A cumulative hydro capacity of about 15,000 MW would be supported under the scheme, the statement said.

The scheme will be funded through 10% gross budgetary support (GBS) for the northeastern region from the total outlay of the Ministry of Power.The grant towards the equity portion of the state government of NER would be capped at 24 per cent of the total project equity, subject to a maximum of ₹750 crore per project.The cap of ₹750 crore for each project would be revisited, if required, on a case-to-case basis.The equity ratio of the CPSU and state government in the JV will be maintained at the time of disbursing of the grant.

Central financial assistance would be limited to only viable hydroelectric projects. States would be required to waive or stagger free power and reimburse SGST to make the project viable.

Source: https://www.thehindu.com/news/national/centre-to-provide-rs-4136-cr-for-15-gw-hydropower-projects-in-northeast-region/article68576940.ece

Global efforts to address sedimentation

Date: 28/08/2024

Ecuador's largest hydropower facility is under threat after a natural disaster has led to catastrophic river erosion. US scientists are now helping to advise the Ecuadorian government on the best way to handle the resulting sediment deposition in order to maintain the sustainability of the project. The US Geological Survey (USGS), the US Army Corps of Engineers and other federal agencies are working with the Electric Corporation of Ecuador (CELEC) on strategies for managing sediment and erosion in the Río Coca river basin, following the collapse of the 144m tall San Rafael waterfall in 2020. Catastrophic erosion of the river valley has been taking place upstream of the waterfall collapse, causing landslides and infrastructure damage. As the erosion has rapidly migrated upstream, over US$3 billion of Ecuadorian infrastructure, including the Coca Codo Sinclair (CCS) hydropower facility, is under threat.

During a visit in January 2024, USGS scientists observed substantial river channel shifts and upstream migration of the erosion, which was about 7km downstream of the intake to the CCS hydropower facility. The scientists also visited and assessed the extent of sediment migration to the lower reaches of the river, downstream of the waterfall collapse. In addition to effects of the 2020 incident, the same hydropower facilities are threatened by reservoir sediment accumulation upstream of the CCS intake.

CELEC leadership expressed support for continued US assistance and for a USGS proposal to implement a watershed monitoring plan for sediment and streamflow. Such data will be vital for sustainability assessments of infrastructure and implementation of sediment and erosion management strategies.

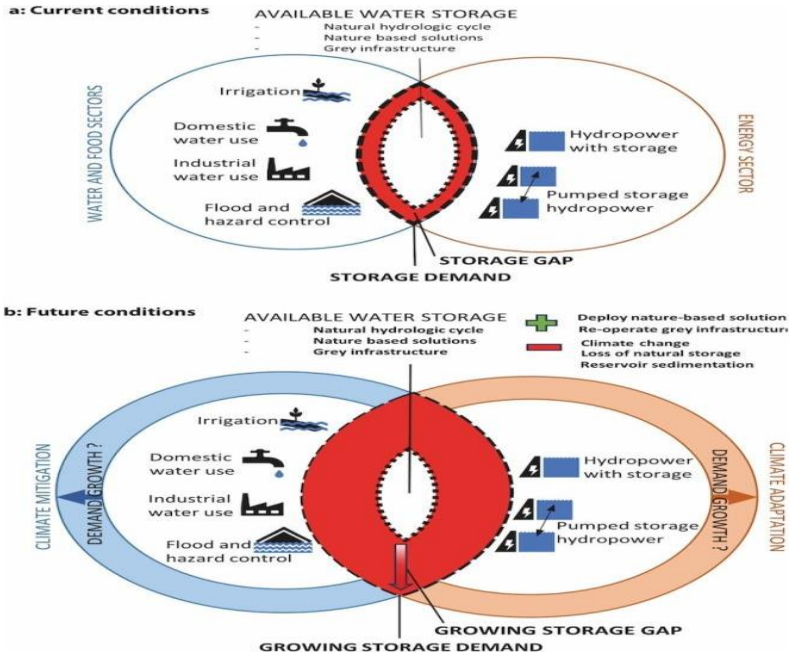
Source: https://www.waterpowermagazine.com/analysis/global-efforts-to-address-sedimentation/?cf-view&cf-closed

Can dams meet future water and energy demands?

Date: 28/08/2024

Research by Stanford University and Carnegie Science has been described as a first-of-its-kind global overview of the role dams and reservoirs play in providing water storage. Acknowledging that hydropower and irrigated agriculture are critical for climate mitigation and adaptation, as well as meeting basic human needs in the 21st century, the research team highlighted there was a lack of available data to evaluate the multi-purpose role of existing dams and reservoirs. This is important, the research team observed, as both sectors depend on and compete for the same service, namely water storage.

Published in Renewable and Sustainable Energy Reviews, the study used machine learning to quantify the roles of the world's 6000 largest dams and reservoirs. The analysis revealed that dammed reservoirs globally store about 1000 times the volume of California's largest man-made lake, Shasta Lake. Of that, less than 5% reaches irrigated crops. With the analysed dams providing 505GW of hydropower, 40% of current total global hydropower capacity, the study projects global demand for hydropower will grow by approximately 35% by 2050, while the global need for stored irrigation water will see a 70% increase.



Source: https://www.waterpowermagazine.com/analysis/can-dams-meet-future-water-and-energy-demands/?cf-view

Half of the World's Countries have degraded freshwater system, UN finds

Date: 28/08/2024

In half the world's countries one or more types of freshwater ecosystems are degraded, including rivers, lakes and aquifers. River flow has significantly decreased, surface water bodies are shrinking or being lost, ambient water is growing more polluted, and water management is off-track. These are some of the findings of three reports tracking progress on freshwater, published today by UN-Water and the UN Environment Programme (UNEP).

The triennial series of reports is focused on progress towards achieving the goal of "clean water and sanitation for all" (SDG 6) through protecting and restoring freshwater sources. Based on greater data sets than ever before, the reports reiterate the call to scale up support for Member States in tackling challenges through the UN System-wide strategy for water and sanitation and the accompanying upcoming Collaborative Implementation Plan.

"Our blue planet is being rapidly deprived of healthy freshwater bodies and resources, with dire prospects for food security, climate change and biodiversity," said Dianna Kopansky, Head of the Freshwater and Wetlands Unit, Ecosystems Division at UNEP. "At this critical point, global political commitments for sustainable water management have never been higher, including through the passing of a water resolution at the last UN Environment Assembly in February, but they are not being matched by required finance or action. Protection and restoration policies, tailored for different regions, are halting further loss and show that reversing degradation is within reach. We absolutely need more of them."

Source: https://www.unep.org/news-and-stories/press-release/half-worlds-countries-havedegraded-freshwater-systems-un-finds

Digging riverbeds in Zimbabwe in desperate search for water

Date: 30/08/2024

By Shingai Nyoka

One of the worst droughts in living memory is sweeping across southern Africa, leaving close to 70 million people without enough food and water. In Mudzi district in northern Zimbabwe, a community and their livestock are gathered on a bone-dry riverbed. The Vombozi normally flows throughout the year but right now, it is just beige sand as far as the eye can see.Armed with shovels and buckets, the men are digging into the river floor, desperately trying to extract the last drops of water from it.Rivers and dams have dried up in other parts of the district and as a result more and more people are descending on this specific riverbed in Kurima village, putting pressure on the water source.Along the riverbed are several holes, large enough to fit a single bucket.Children are bathing, women are doing laundry and giving their bellowing cattle drinks of water.Gracious Phiri, a mother of five, stands among these women. The 43-year-old tells the BBC she now has to walk further than usual, spending three hours every day travelling to fetch water.Ms Phiri lowers her bucket into the half-metre (19in) wide hole and draws brown-coloured water. She worries about her family getting sick.

Source: https://www.bbc.com/news/articles/cq6rvz4p37do

Why is water-related violence getting so much worse - and what can be done to stop it?

Date: 31/08/2024

By Saskia O'Donoghue

New research has revealed that violence over water resources increased dramatically in 2023, continuing a steep growth trend of such incidents over the past decade globally.The study by the Pacific Institute, a global water think tank, confirmed that these violent events include attacks on water systems, unrest and disputes over the control of and access to water, as well as the use of water as a weapon of war.

In 2023, 150 per cent as many incidents were recorded as in 2022 - some 347 events versus 231. It's even starker when compared to records from the year 2000, when there were only 22 such incidents recorded.

Why has water-related violence risen so sharply?

In 2010, a UN resolution explicitly recognised the essential human right to water and sanitation and, since then, it's been increasingly acknowledged that extreme weather - including drought and flooding - is further straining water systems around the world.

Due to the findings from 2023, the Pacific Institute has been forced to make a major update to its Water Conflict Chronology, known as the world's most comprehensive open-source database on water-related violence.

The experts behind the document identified the incidents from sources including news reports, eyewitness accounts, and other conflict databases.

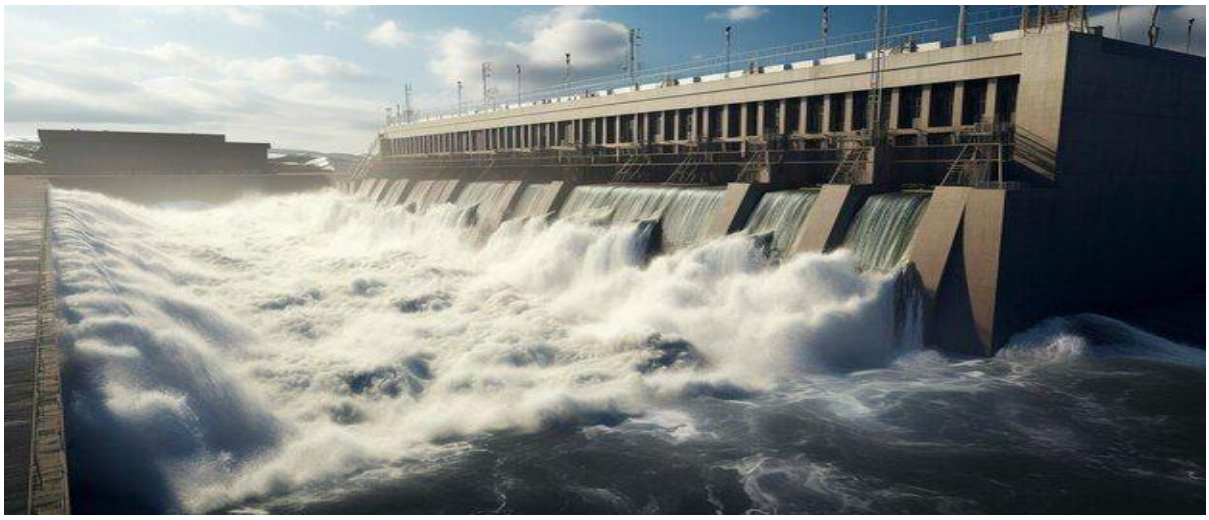
Source: https://www.euronews.com/green/2024/08/31/why-is-water-related-violence-getting-so-much-worse-and-what-can-be-done-to-stop-it

Artificial intelligence to increase efficiency in dams

Date: 05/09/2024

In dams, both the building heights and the water level of the dam after construction will be adjusted with artificial intelligence and water will be used efficiently. Environmental conditions, altitude, dam area, body height, temperature and precipitation data will be analyzed by artificial intelligence without creating any additional costs. Thus, water can be used much more efficiently both in energy production and agricultural irrigation. The moment the soil is satisfied with water will cut off the water

Studies are being carried out to make artificial intelligence systems that will work in integration with the engineering studies available in all dams. In this context, the amount of water used by farmers for irrigation will be determined by artificial intelligence. After the fields fed by the dams reach sufficient saturation, artificial intelligence will be activated and prevent extra irrigation. In this way, water waste will be prevented. Thanks to dams, fields are irrigated while electricity is also produced. In this context, the transmission of water in dams to turbines that produce electricity in the most efficient way will be carried out with artificial intelligence.



Source: https://www.azernews.az/region/230829.html

Pattern of extreme climate events across India changing: Study

Date: 08/09/2024

There is a shifting pattern of extreme climate events across Indian districts according to a new report released on Friday. Some floodprone areas are now becoming susceptible to droughts and vice versa; often a combination of both hazards are being seen, the report added.In the past two decades more than 80% districts in Gujarat have witnessed an increased frequency and intensity of extreme floods as per the analysis by IPE Global and Esri-India. This may explain the devastating floods in Saurashtra this year too. In Southern India, states such as Andhra Pradesh, Tamil Nadu, and Karnataka, are witnessing a notable increase in drought conditions. as are parts of western and central India.

“The findings indicate that drought events are becoming more severe across the Indian subcontinent which can also be linked to increase in number of heat wave days,” the report states.Over 85% of Indian districts are prone to flood, drought, cyclone and heat waves, and 45% of them are witnessing a swapping trend, according to the analysis.The frequency, intensity, and unpredictability of these climate extremes have also risen in recent decades by four-fold.Using a penta-decadal analysis, the study compiles a catalogue of extreme climate events over a 50-year historical period from 1973 to 2023 by employing spatial and temporal modelling.

“The current trend of catastrophic climate extremes that makes 9 out 10 Indians exposed to extreme climate events are a result of 0.6 °C temperature rise in the last century. El Nino is gaining momentum and making its early presence felt across the globe with India facing the extreme events turbulence more in patterns than waves,” said Abinash Mohanty, Head-Climate Change and Sustainability Practice at IPE Global and the author of the study. One of the findings of the study was that at least 60% of districts in Bihar, Andhra Pradesh, Odisha Gujarat, Rajasthan, Uttarakhand, Himachal Pradesh, Maharashtra, Uttar Pradesh, and Assam witness more than one extreme climate event.

Source:https://www.hindustantimes.com/india-news/pattern-of-extreme-climate-events-across-india-changingstudy-101725734502048-amp.html