

News Links on Water Sector

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CENTRAL WATER COMMISSION

GOVERNMENT OF INDIA

DEPARTMENT OF WATER RESOURCES, RIVER DEVELOPMENT &
GANGA REJUVENATION

MINISTRY OF JAL SHAKTI

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Why you should care about the Third Pole and its crucial role as a global water resource

Date: 13/12/2024

The Hindu Kush Himalaya region, often referred to as the Third Pole, is home to the world's largest mountain ranges and is facing significant challenges due to climate change. The loss of snow and ice in these mountains is directly affecting nearly a billion people who rely on this water resource for agriculture, hydropower and their day-to-day water needs. It is also a concern for globally traded food supplies – many of us consume Himalayan snow all the time without knowing it, including wheat, maize, rice, pulses and sugar cane.

As the climate warms, it diminishes the seasonal meltwater from glaciers and snowpacks, which has historically sustained local communities and farms. This poses a severe risk to water security, especially during drought years. It could lead to increased competition for water, forced migration and even conflict between water rivals.

Why mountain snow and glacier ice matter

Mountains cover over 25% of the world's land area. They typically have wetter weather than the lowlands and so are crucial sources of fresh water. Mountain glaciers and snowpacks act as natural reservoirs, storing water during the winter and releasing it during the spring and summer months. This seasonal delay in water flow helps meet downstream demand when it is highest.



Source: <https://www.weforum.org/stories/2024/12/care-the-third-pole-crucial-role-global-water-resource/>

This Coalition is Providing Better Data for Water Security Solutions

Date: 13/12/2024

The Water Security Compass is a first-of-its-kind online tool created to address a critical data gap in global water management: understanding how both natural processes and human interventions impact the water supply. The designers hope it drives users to take action.

Climate change is altering the world's water cycle in ways that profoundly impact ecosystems, agriculture, industry and communities. Higher evaporation rates from increased temperatures lead to moisture accumulating in the atmosphere more quickly, which causes intense rainfall events that can lead to flooding. This great redistribution of global precipitation also causes more frequent and intense droughts in other areas.

A change in the timing and distribution of rainfall events disrupts agricultural cycles and human water supply, leaving companies, governments, and individuals in need of reliable data to better manage water resources.

The Water Security Compass is a first-of-its-kind online tool that aims to address a critical data gap in global water management: understanding the interplay between natural hydrological processes and human interventions. It was developed collaboratively by the consumer packaged goods company Suntory Holdings, the engineering consulting company Nippon Koei and the University of Tokyo's School of Engineering.



Source: <https://www.triplepundit.com/story/2024/water-security-compass/815341>

Floods, insufficient water, sinking river deltas: hydrologists map changing river landscapes

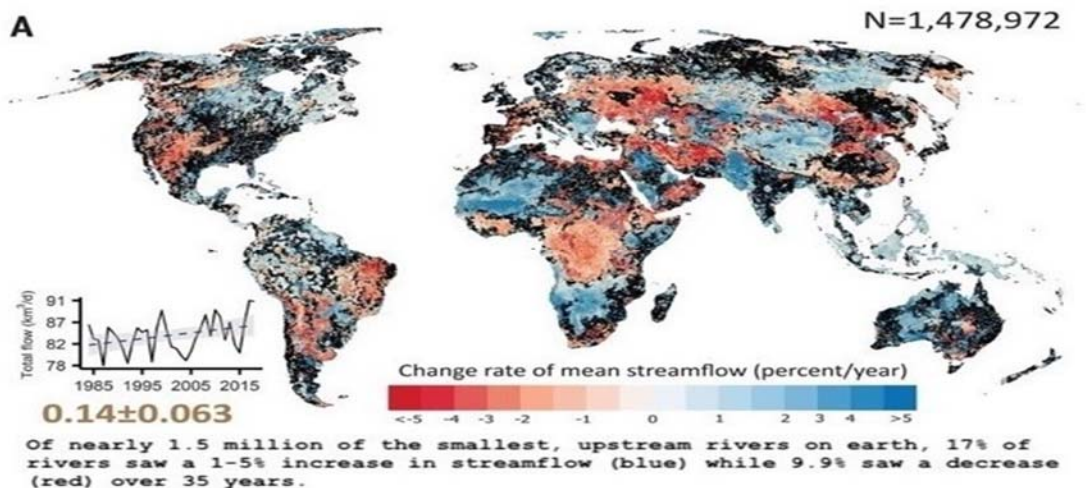
Date: 13/12/2024

A new study in Science by researchers from the University of Massachusetts Amherst and University of Cincinnati has **mapped 35 years of river changes on a global scale** for the first time. The work has revealed that **44% of the largest, downstream rivers saw a decrease in how much water flows** through them every year, while **17% of the smallest upstream rivers saw increases**. These changes have implications for flooding, ecosystem disruption, hydropower development interference and insufficient freshwater supplies.

Previous attempts to quantify changes in rivers over time have only looked at specific outlet reaches or a rear basin part of a river, explains Dongmei Feng, lead author, assistant professor at the University of Cincinnati and former research assistant professor in the Fluvial@UMass lab run by the paper's co-author Colin Gleason, Armstrong Professional Development Professor of civil and environmental engineering at UMass Amherst.

"But as we know, rivers are not isolated," she says. "So even if we are interested in one location, we have to think about how it's impacted both upstream and downstream. We think about the river system as a whole, organically connected system. The takeaway from this paper is: The rivers respond to factors — climate change or human regulation — differently [and] we provide the finer detail of those responses."

River flow rate, also known as discharge, describes how much water flows through a river, measured in cubic meters per second or gallons per day. Currently, flow rate is measured by manually dragging a tool (called an acoustic doppler current profiler) across the surface of a river and then combining it with another automatic measurement of river depth to calculate flow rate over time. Because this approach only measures flow rate at a specific location, at a specific time, data on flow rates are extremely limited.



Source: <https://smartwatermagazine.com/news/university-massachusetts-amherst/floods-insufficient-water-sinking-river-deltas-hydrologists>

Grand Falls Dam, a green project perfect for agro-industry growth

Date: 19/12/2024

Just like the Lamu Port-South Sudan-Ethiopia-Transport (LAPSSET) Corridor, the High Grand Falls Dam on River Tana is another Kibaki-era multisector project intended to economically open up a region classified as marginal.

In fact, this dam was expected to supply water to a new Lamu metropolis, a key component of LAPSSET project. The principal justifications for the dam are power generation, water supply and irrigation.

Awarding the project to the GBM Engineering Consortium is proof that PPPs can be sourced and awarded transparently and competitively.

This public procurement process meets the basic governance requirements necessary to earn public trust. It is now upon the government and relevant regulators to ensure they deliver on their contractual commitments to deliver project objectives on time and at cost.

The indicated power generation mix for the project is 700 megawatts of hydropower and 500 megawatts of solar, both renewable.

It is assumed that the solar plant will invariably include sufficient backup battery storage capacity to make its power output baseload for stable 7/24 feed to the national grid. This will permit reduced imports of power needed to supplement peak evening demands.



Source: <https://www.businessdailyafrica.com/bd/opinion-analysis/columnists/grand-falls-dam-a-green-project-perfect-for-agro-industry-growth-4863442>

NHPC in talks with Bhutan govt for hydro power JV

Date: 19/12/2024

State-run hydro power company, NHPC Ltd is under discussions with the Bhutan government to form a joint venture company to undertake hydro power projects in the country, a senior executive of the company told FE.

The move comes amid the company's plan to expand its business overseas. "We are in discussion with the Bhutan government to explore the possibility of forming a joint venture company for development of hydro projects in Bhutan," the source said.

Additionally, the company is also exploring opportunities for setting up hydro power plants in African countries given the huge potential of such projects in the region.

"There are opportunities in African countries for hydro power projects. The Ministry of External Affairs at different points of time have called hydro developers and asked to explore the possibility of developing hydro projects in African countries because there is a lot of potential there," said the executive. "But it is all under discussion, nothing has been finalized."

Apart from this, the company already has an active presence in Nepal with three hydro projects – 624 MW Phukot Karnali project underway, 480 MW Seti River 6 project, and 800 MW West Seti project underway. The Detailed Project Report (DPR) for the three projects are under preparation and after the approval of the same, the company will start with the clearance processes and construction of the projects.



Source: <https://www.financialexpress.com/business/industry-nhpc-in-talks-with-bhutan-govt-for-hydro-power-jv-3694774/>

Siang Multipurpose Dam Planned To Counter China's Hydro Power Plans: Pema Khandu

Date: 20/12/2024

Guwahati: Days after the locals of Siang and Upper Siang district of Arunachal Pradesh protested against the proposed 11,000 MW Siang Upper Multipurpose project, Chief Minister Pema Khandu on Thursday said that the government of India has planned the Siang Upper Multipurpose project only to counter China, who has already approved construction of a project that would generate a massive power of about 60000 MW on the river Siang— known as Yarlung Tsangpo in the Tibet region just before it enters India through Tuting in Upper Siang.

Khandu said this on Thursday while interacting with some locals in Boleng in Siang district. The Arunachal Pradesh Chief Minister was in Boleng on Thursday to attend the 'Thanksgiving' programme of the local legislator and Panchayati Raj Minister of the state Ojing Tasing on his electoral victory.

"If you don't want a dam, if you don't want a hydropower project, there won't be. Chapter closed," said Chief Minister Pema Khandu. "But," he added, "The case at hand is not about a hydropower project. It's about a Multipurpose Project, a project of national importance and envisioned by the Government of India and the Niti Aayog."

Khandu said that 'misinformation' is being circulated to brainwash innocent villagers against a project, which is not even in its pre-initial stage. Insisting on 'misinformation' being spread, Khandu pointed out that people who are 'instigating' the protests are themselves confused about whether the said project is of '12500 MW', '11000 MW' or '10000 MW'. Being the Chief Minister I am not aware, not even NHPC is aware of the exact wattage of power the project will generate. How do you know the capacity of the project when the survey and investigation process has not even begun?" he wondered.



Source: <https://www.etvbharat.com/en/!state/siang-multipurpose-dam-planned-to-counter-chinas-hydro-power-plans-pema-khandu-enn24121906988>

America's biggest hydroelectric dam, 90 years later: This is where the power is really going

Date: 22/12/2024

America's biggest hydroelectric dam, which is almost a century old, is one of the country's engineering excellent achievements, representing humanity's resource for stable living. It has been an essential source of hydroelectric power for about 90 years, **sustaining companies and millions of people** throughout the southwestern United States.

However, as time goes on, concerns surface about the precise location of all the electricity produced by this enormous construction. And is it still serving the function for which it was designed? At the base of the Hoover Dam, the entire power complex spans two states. However, the dam's construction was not motivated by electricity; rather, it was to control the Colorado River so that it could be consistently utilised for irrigation downstream and to provide fresh water to the expanding southwestern population.

The construction of the Hoover Dam, its purpose, and its impact on the Southwest

Herbert Hoover, a youthful Secretary of Commerce, first suggested building a dam on the Colorado River in 1921, marking the beginning of Hoover Dam's history. The Colorado River, which **flowed unbroken from the Rocky Mountains to the Gulf of California**, was seen as hazardous and untrustworthy at the time. The National Park Service stated that the river frequently flooded, especially in the late spring and early summer when the river was overflowing.

The dam's construction was completed on March 1, 1936, having started on April 20, 1931. According to the National Archives, the project involved about 16,000 workers, with about 3,500 working at any given moment. Even though the Great Depression was still going strong at this time, many people were able to support themselves and their families thanks to the construction of Hoover Dam.



Source: <https://www.eldiario24.com/en/americas-biggest-hydroelectric-dam-90/6001/>

Dams key in Nigeria attaining food sufficiency

Date: 23/12/2024

Nigeria has continued to grapple with what could aptly be described as self-imposed food insecurity, poverty and environmental degradation.

Millions of farmers across the country only rely on rain-fed agriculture, and are left with no other option than to remain idle throughout the dry season.

Typically, there is no country that attains food sufficiency, and earmarked the extra for export through rainy season farming. Leaders must face the reality that fighting hunger requires adequate attention to the value chain, including all-year farming through adequate utilisation of dams, as well as providing improved seedlings and fertiliser to farmers on time.

According to the Compendium and Digital Map of Dams in Nigeria, the country has a total of 408 dams, the highest in Africa.

There are 142 big dams, 59 middle-sized dams and 207 small ones. There are also 323 irrigation schemes spread across the six geopolitical zones of the country, as indicated by the Compendium of Irrigation Schemes in Nigeria.

In addition to the irrigation schemes, there are over 23 River Basin Development Authorities, which also provide irrigation potential for farmers to engage in dry-season farming.



Source: <https://dailytrust.com/dams-key-in-nigeria-attaining-food-sufficiency/>

Celebrations of the 1st World Day for Glaciers and World Water Day

Date: 23/12/2024

As part of the International Year of Glaciers' Preservation 2025, a joint celebration of the World Day for Glaciers and World Water Day will be organized to highlight the accelerating threat of glacier melt and its impact on water security, communities and ecosystems. With glaciers melting at record rates, this joint celebration will underscore the importance of glaciers as "water towers of the world" for billions of people who rely on them.

World leaders, policymakers, scientists, civil society and advocacy groups will come together to discuss the importance of glaciers in global water systems, their impact on ecosystems, sea levels, and human societies, and to drive concerted action to protect water supplies and glaciers for future generations.

The event will also mark the launch of the 2025 World Water Development Report, themed "High Mountains and Glaciers". The report emphasizes glaciers' role in sustaining water supplies and maintaining ecosystem stability, offering data-driven insights to guide sustainable water management and adaptation strategies for communities worldwide. Further, the event will lay the foundation for the Decade of Action for Cryospheric Sciences (2025-2034), fostering international cooperation in scientific research and monitoring to address the impacts of cryosphere changes.



Source: <https://www.unesco.org/en/articles/celebrations-1st-world-day-glaciers-and-world-water-day>

China Mega Dam on Brahmaputra: What India Needs To Do

Date: 27/12/2024

New Delhi: Though China has defended its decision to go ahead with the construction of a mega-dam on the Yarlung Zangbo river in Tibet, known as the Brahmaputra in India, saying that proper safeguard measures have been taken, the fact of the matter is that it is bound to have a major impact on the lower riparian nations of India and Bangladesh, whether it be hydrological or ecological or even in terms of energy security.

The Chinese government, earlier this week, approved the construction of the dam on the lower reaches of the Yarlung Zangbo River, state-run Xinhua news agency reported citing an official statement. The dam is expected to be the world's largest hydroelectric project when completed and will produce nearly 300 billion kilowatt-hours (kWh) of electricity annually. That means it will generate three times the power of the Three Gorges Dam on the Yangtze River, also in China, which is currently the world's largest hydroelectric project.

Though the massive project was included in China's 14th five-year plan from 2021 to 2025, it was only recently that Beijing approved it sparking concerns among experts in India and Bangladesh, countries through which the Brahmaputra flows.

However, the Chinese foreign ministry has defended the construction of the dam saying that China has always been responsible for the development of cross-border rivers. During a regular media briefing on Friday, foreign ministry spokesperson Mao Ning said that China's hydropower development in the lower reaches of the Yarlung Zangbo river "aims to speed up developing clean energy, and respond to climate change and extreme hydrological disasters".



Source: <https://www.etvbharat.com/en!/opinion/china-mega-dam-on-brahmaputra-what-india-needs-to-do-enn24122805223>

Water, energy and climate are inseparable — how to navigate the nexus for a sustainable future

Date: 27/12/2024

The interplay between climate change, water availability and energy demand represents one of the most critical challenges in sustainability research. These interdependent systems require integrated resource management as climate change rapidly affects both water and energy. Systemic solutions are essential to address this complex nexus.

The International Energy Agency (IEA) reports that energy production is intrinsically linked to climate change, with fossil fuels accounting for approximately 80 per cent of global energy generation. The Intergovernmental Panel on Climate Change estimates that these fuels are responsible for 73 per cent of greenhouse gas emissions. This reliance accelerates global warming and disrupts climate patterns.

Rising temperatures intensify energy demand, particularly for cooling, creating a cyclical relationship where increased energy consumption further exacerbates climate change.

The IEA estimates that climate change could increase global energy demand by 25 per cent to 58 per cent by 2050, primarily due to heightened cooling requirements in warmer regions. Transitioning to renewable energy is therefore imperative to break this cycle. However, renewable technologies such as hydropower and bioenergy can significantly impact water resources, linking energy transition strategies to water availability.



Source: <https://www.downtoearth.org.in/climate-change/water-energy-and-climate-are-inseparable-how-to-navigate-the-nexus-for-a-sustainable-future>


State's draft Water Policy moots strategies for sustainable resource management and equity

Date: 30/12/2024

The State Planning Commission (SPC) has drafted the 'Tamil Nadu State Water Policy' to address challenges on water management, and provide strategies to ensure equitable access to clean water for all as a basic human right.

The need for the policy arises because the State's annual per capita availability of water resources is just 900 cubic metres. It falls behind, when compared with the national average of 1,486 cubic meters in 2021.

addressing specific challenges in water management



1 To ensure social justice and equity in providing adequate water to all

2 To ensure that clean water for drinking and sanitation becomes a basic human right

3 To protect, rejuvenate and enhance the quality and quantity of surface and groundwater

4 To achieve climate-resilience to drought and flood

5 To transform T.N. from water-scarce to a water-secure State

A LOOK AT THE WATER RESOURCES OF TAMIL NADU

■ T.N. is dependent on monsoon for water. The normal annual rainfall is 960 mm — 41% of which is

■ There are 34 rivers in the State, which

■ Of the State's total surface water potential of 24,943.84 mcm, 7,608.53 mcm is received from Andhra Pradesh, Karnataka and Kerala. More than 95% of the surface water and 80% of the groundwater are already being used

■ Tamil Nadu has pioneered desalination, as early as in the 1990s, bringing about technological solutions to provide drinking water in

Source: <https://www.thehindu.com/news/national/tamil-nadu/states-draft-water-policy-moots-strategies-for-sustainable-resource-management-and-equity/article69040748.ece>