

# Rethinking run-of-the-river hydro projects

In 2012, I was part of a study investigating the impacts of National Thermal Power Corporation (NTPC)'s hydropower projects on the lives and livelihoods of local communities in Sikkim. As part of the project, I spoke extensively to local people in the catchment areas of Teesta-V, a run-of-the-river (ROR) hydropower project just like the Tapovan Vishnugad Power Project in Uttarakhand.

ROR projects are seen as a "green" alternative to high-dam hydropower projects such as the Tehri Hydropower Project. This is because an ROR dam diverts the river flow in a controlled environment to generate electricity and sends the water back to the river, whereas a high-dam project stores river water in a reservoir.

After a few meetings with local people in Sikkim, I learned four things. One, ROR projects are not green. This is because river water is diverted for power generation, and this destroys the riverine ecology. The blasting and tunneling that happens while building a dam dry up mountain springs, which provide water for drinking and agriculture.

Second, due processes for clearance of the project were also not followed. People were under pressure to give their nod for the project, but it was not an informed choice since they did not have adequate information about its impact on the environment and their lives.

Third, they told me about the fragility of the Himalayas and how earthquakes and other climatic events impact the dam and the people. Such shoddy project clearances have also happened in other parts of the country, including in Uttarakhand. And finally, the company in Sikkim, NTPC, spent its corporate social responsibility funds to build schools, health facilities, and road infrastructure for the locals. But as one of the women told me: "These are our basic rights, and why should their availability be tied up with any project?"

I saw parallels of what I learned in Sikkim in Uttarakhand on Sunday.

There is no doubt that the glacial avalanche that destroyed everything in its wake was climate-induced. Over the years, numerous reports of the Intergovernmental Panel on Climate Change (IPCC) — including the latest one, *Special Report on Oceans and Cryosphere in a Changing Climate* — point out the climate

risks in high-mountain regions. I strongly feel that projects such as hydropower must be weighed against its benefits. IPCC assessed that the climate crisis has altered the frequency and magnitude of the natural hazards in high mountain regions of the world. We reported, with medium confidence, that globally, in some regions, snow avalanches involving wet snow have increased while the rain on snow floods have also increased at lower elevation in spring.

We recognise hydropower is a low-emission energy source, but by design, these projects are not environmentally benign.

With the growth of the Indian economy in the last few decades, electricity demand has increased. While coal makes the bulk of India's energy generation, current policies to promote renewable resources are also growing. India's renewable power potential is enormous and investing in this must take precedence over coal. This shift may not happen instantly, but coal can be retired earlier-than-previously thought, provided there is strong political will. Similarly, as we think of coal, we must think about hydropower.

Is development with a greener face possible? There are no straight answers. We need to take each sector and start conversations on its environmental impact. Nature-based solutions, which mean the use of nature to tackle socio-environmental challenges, can also fuel green growth, if proper strategies are in place. They can also be linked to the *Atmanirbhar Bharat* initiative. For example, the solar industry is dependent on China for photovoltaic cells. If more such cells are made in India at a lower price, with green audits to protect the environment base, it will boost the shift from fossil fuel-based electricity generation to solar power and also provide jobs.

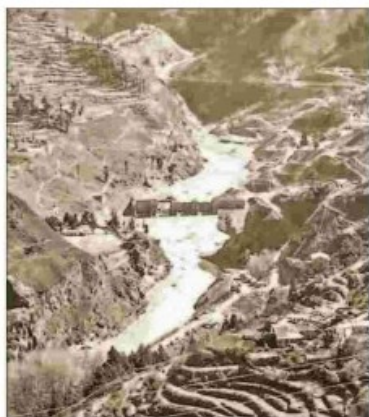
Global warming has already reached 1°C above the pre-industrial level. There is overwhelming evidence that this is resulting in profound consequences for ecosystems and people. The ocean is warmer, more acidic, and less productive. In high mountains, glaciers and ice-sheets are melting and changing the water regimes in the rivers. India has the seventh longest coastline in Asia (7,500 km). The warming of oceans has increased climatic events such as cyclones, as we have experienced in recent times. The melting of glaciers and ice-sheets impacts the river regimes in the Hindu Kush Himalayas and changes the watercourses in major river basins such as the Indus, Ganges, and Brahmaputra.

The green growth model of development as an adaptation option will also have mitigation as a co-benefit. We must pay heed to the voices emerging from scientific, policy, and practice communities to chart a course for green growth. Shifting to renewable and green energy sources is one of the many strategies that would chart a greener growth for India.

And hydropower is certainly not on my list of green energy sources.



Anjal Prakash



Hydropower is a low-emission energy source, but by design, these projects are not environmentally benign

PTI

Anjal Prakash is a research director and adjunct associate professor, Bharti Institute of Public Policy, Indian School of Business. He is an IPCC author who was coordinating lead author of the special report on *Oceans and Cryosphere*, 2018, and lead author of the ongoing 6th Assessment report of IPCC. The views expressed are personal.

Deccan Chronicle 11-February-2021

# CM studies maps related to irrigation projects

From Page 1

Foundation stone was laid in Devarakonda assembly segment for the Pagilla lift irrigation, Kambalapalli lift irrigation, Sambapuram Pedda Gattu lift irrigation, Pedda Munagala lift irrigation and AKBR lift irrigation schemes.

Under Miryalguda assembly segment, work was initiated for the Dunnepothula Gandhi, Ballepally Chapla Thanda lift irrigation, Kesavapuram Kondrapol, and Bothalapalem Wadapalli lift irrigation schemes.

Under the Nagarjuna Sagar assembly segment, work was initiated for the CC lining of Sagar Left Canal from 1.8km

● **UNDER THE** Nagarjuna Sagar assembly segment, work was initiated for the CC lining of Sagar Left Canal from 1.8km to 70.52 km.

to 70.52km. Under Huzurnagar, Kodad Assembly segments, the works were initiated for the Muktyala branch lift irrigation, Jaanpahad branch distributary CC lining, Muktyala branch canal, CC linking of other tanks and modernization projects.

Foundation stone was laid also for CC lining of the Sagar left canal from 70.52km to 115.4km and for development works. Foundation

stones for all these works were laid by the Chief Minister at Nellikal. The Chief Minister examined the maps related to the works and collected information from the officials.

As per the local Banjara tradition, the auspicious "Karobar" band was put on the CM's wrist by the local Rangunla Banjara temple priest. Traditional puja was held at the foundation stone laying place.

Addressing a public meeting later, KCR vowed to complete all these projects within a year and a half. "If I fail to do so, the TRS will not seek votes in the next assembly elections in 2023," he said.

Asian Age 11-February-2021

**ADVANCED | TECH** Scientists believe this could help farmers to prepare earlier for unexpected events

# New model to predict Indian monsoon

**London, Feb. 10:** Scientists, including those of Indian-origin, have developed a new system which they say can provide farmers in India early forecasts of expected variations in the monsoon season, an advance which may help reduce crop losses.

The researchers, including those from the European Centre for Medium-range Weather

Forecasts (ECMWF) in the UK, used their long-term global weather forecasting system to predict when the summer monsoon will start, and how much rainfall it will bring.

In the study, published in the journal *Climate Dynamics*, they noted that the model provided accurate forecasts a month in advance for the timing of the monsoon in India's

major agricultural regions.

The scientists believe providing this information to farmers could help them prepare earlier for unexpected heavy rainfall or extended dry periods, both of which regularly destroy crops in India.

According to the researchers, the Indian monsoon brings around 80 per cent of India's annual

rainfall with even small variations in the timing of its arrival potentially having a huge impact on agriculture.

"Accurately predicting these year-to-year variations is challenging, but could be the difference between prosperity or poverty for many families," said study co-author Amulya Chevuturi from the University of Reading

in the UK.

"The forecasting accuracy we identified in India's main agricultural regions provides a clear opportunity for this system to make a positive difference to people's lives," Chevuturi said in a statement.

He believes a month's warning of a drought or deluge is a valuable time to understand the likely

impact on water availability and for the farmers to make provisions to reduce the threat to food supplies.

"Better forecasts save lives, and this kind of in-depth global analysis is only possible when the best scientists and leading research institutes work together for the benefit of the whole planet," Chevuturi added.

— PTI



Indian Express 11-February-2021

# 100 of 156 drains in catchment of river Yamuna 'are not meeting standards'

**EXPRESS NEWS SERVICE**

NEW DELHI, FEBRUARY 10

ASSESSMENT OF water quality data of drains for the year 2020 has found that 100 of the 156 drains in the catchment of the river Yamuna "are not meeting General Standards for discharge of environment pollutants in respect of one or more parameters namely; BOD (Biochemical Oxygen Demand), COD (Chemical Oxygen Demand) and TSS (Total Suspended Solids)", the Centre has told the Supreme Court.

The Central Pollution Control Board (CPCB) and Ministry of Environment, Forests and Climate Change said this in a joint affidavit filed in response to a notice issued by the top court, which is hearing a plea on "remediation of polluted rivers" in the country.

The affidavit pointed out that the CPCB had sought data from the State Pollution Control Boards of Uttarakhand, Himachal Pradesh, Haryana and Uttar Pradesh and Delhi Pollution Control Committee with regard to Yamuna.

The figures showed that a total of 156 drains open into the Yamuna from 70 munici-

palities as it flows through these places.

The CPCB concluded "that there is no gap in treatment and disposal of hazardous waste and industrial wastewater management" but "gaps are identified in sewage generation and treatment capacity in case of 60 cities/muni/municipalities including Delhi".

Gaps are calculated based on Sewage Generation vis-a-vis installed capacity or actual utilisation or complying capacity, whichever is lower. For Delhi, the gap in sewage treatment capacity is found to be 2,562 MLD, the affidavit said.

Though towns like Vikas Nagar and Harbatpur in district Dehradun, Purola in district Uttarkashi and Ponta Sahib in Himachal Pradesh have gaps with respect to sewage treatment, "but water quality of river Yamuna at these locations is meeting the Primary Water Quality Criteria for bathing waters", the affidavit added.

Based on the materials, three polluted stretches have been identified, it said, adding these are Panipat to Sonapat in Haryana, Wazirabad to Asgarpur in Haryana, Delhi and UP and Asgarpur to Etawah in Haryana and UP.



Millennium Post 11-February-2021

# SC asks Centre to do Environment impact assessment on flow of river in Himachal

**NEW DELHI:** Three days after the Uttarakhand disaster, in which a portion of the Nanda Devi glacier broke off triggering an avalanche and a deluge in the Alaknanda river system, the Supreme Court on Wednesday adopted a cautious approach and asked union environment ministry to do an impact assessment on removal of boulders from the river bed system in Himachal Pradesh.

The top court asked the Ministry of Environment, Forests and Climate Change (MoEFCC) to assess the impact

of removal of boulders from the river bed system in Kullu district of Himachal Pradesh and how it will affect the flow of rivers including its tributaries.

A bench of Chief Justice SA Bobde and Justices AS Bopanna and V Ramasubramanian observed that removal of sand and stones from the river bed has created problems in Kerala, which has witnessed massive floods a couple of years back.

It is a well known fact that stones and boulders have a direct impact on the flow of

rivers. We find it imperative to direct the MoEFCC to do an Environment Impact Assessment (EIA) of the proposed site and specifically make a report whether it will have an adverse impact on the flow of the river, the bench said.

The top court directed that the cost of EIA shall be borne by a company Paras Stone Crusher, who sought court's nod to carry on its business and collect boulders falling in the river bed from nearby forest areas in Kullu district of the state.

AGENCIES

Telangana Today 11-February-2021

[ Marching Ahead ]

# KCR lays stone for 13 LIS in Nalgonda

These projects will be taken up at an estimated cost of Rs 2,395 cr and irrigate additional ayacut of 1.3 lakh acres in five Assembly constituencies in the district

## STATE BUREAU

### NALGONDA

Chief Minister K Chandrashekhara Rao set a record of sorts on Wednesday when he laid the foundation stone for 13 Lift Irrigation Schemes (LIS) including Nellikallu LIS and three canal modernisation works at Nellikallu in Nalgonda district. The construction of these irrigation projects will be taken up at an estimated cost of about Rs 2,395 crore, which will irrigate an additional ayacut of 1.3 lakh acres, benefiting farmers in the Assembly constituencies of Devarakonda, Nagarjuna Sagar, Munugode, Kodada and Huzurnagar of erstwhile Nalgonda district.

The Chief Minister arrived by helicopter at Nandikonda at around 12.40 pm and reached Nellikallu by the road where he performed a special puja and laid foundation stones for the lift irrigation schemes at the same location. This includes repair to HLC (high-level canal)-8 and HLC-9 distributary canals for water supply from the LLC (low-level canal) pump house to the Nellikallu LIS.

Similarly, foundation stones were laid for Pogilla LIS, Kambalapally LIS, Nambapuram-Peddagattu LIS, Ammabhavani Peddamunagala LIS, AKBR LIS in Devarakonda Assembly constituency; Dunnepothulagandi-Balnepally-Champlathanda LIS, Keshavapuram Kondrapole LIS, Bothalapalem-Wadapally LIS in Miryalaguda constituency; and CC (concrete cement) lining of Nagarjuna Sagar Left Bank Canal (NSLBC) from 1.8 km to 70.52 km in Miryalaguda constituency.

Further, foundation stones were laid for the Muktyala branch canal LIS, Janpadu branch canal LIS, and also CC lining of Muktyala branch canal, Janpadu branch canal and NSLBC main canal (from 70.52km to 115.4 km) covering the Assembly constituencies of Huzurnagar, Kodad and Suryapet. Chandrashekhara Rao wore a Karobaar bracelet presented by the local Banjara temple priest to honour the tradition of the local Banjara community. The State Legislative Council Chairman Gutha Sukhender Reddy, Energy Minister G Jagadish Reddy, MLAs, MLCs, Zilla Parishad chairpersons and other elected representatives from the erstwhile Nalgonda district, attended the ceremony.



Dainik Jagran 11-February-2021

## दिल्ली में निकलने वाले गंदे पानी व शोधन क्षमता में भारी अंतर

नई दिल्ली, आइएनएस : दिल्ली में यमुना नदी को प्रदूषण से मुक्ति मिलने की उम्मीद फिलहाल नजर नहीं आ रही। केंद्रीय प्रदूषण नियंत्रण बोर्ड (सीपीसीबी) ने सुप्रीम कोर्ट में हलफनामा देकर बताया है कि दिल्ली में रोजाना निकलने वाले गंदे पानी और उसे शोधित करने की क्षमता में लगभग 2,562 एमएलडी (25,620 लाख लीटर प्रतिदिन) का अंतर है।

सीपीसीबी के विज्ञानी नलिन कुमार गुप्ता द्वारा दायर हलफनामे के अनुसार दिल्ली में रोजाना 32,730 लाख लीटर सीवर का पानी निकलता है। जबकि, 35 सीवेज ट्रीटमेंट प्लांट की स्थापित/परिचालन क्षमता मात्र 27,150 लाख लीटर प्रतिदिन है। वास्तव में 24,320 लाख लीटर प्रतिदिन शोधन करने की क्षमता का ही उपयोग हो रहा है। इसमें से भी मात्र 7,110 लाख लीटर गंदे पानी को ही साफ किया जाता है। डाटा के मुताबिक यमुना नदी में 156 नाले गिर रहे हैं।

Dainik Jagran 11-February-2021

## हानिकारक तत्वों से अनजान नागरिक श्रद्धा से पी रहे गंगाजल : एनजीटी

नई दिल्ली, प्रेस : नेशनल ग्रीन ट्रिब्यूनल (एनजीटी) ने बुधवार को कहा कि गंगाजल में हानिकारक तत्वों से अनजान देश के नागरिक श्रद्धापूर्वक उसे पीते रहते हैं। अधिकारियों से कम से कम इतनी अपेक्षा तो की ही जाती है कि वे बंगाल में गंगा सागर समेत उचित स्थानों पर गंगाजल में हानिकारक तत्वों के स्तर के बारे में सूचित करें।

एनजीटी के चेयरमैन जस्टिस एके गोयल की अध्यक्षता वाली पीठ ने कहा कि गंगा में प्रदूषण रोकने के लिए अधिकारियों को युद्धस्तर पर कदम उठाने की जरूरत है। उत्तराखंड, उत्तर प्रदेश, बिहार, झारखंड और बंगाल

में सभी स्तरों पर गंगा में प्रदूषण पर नियंत्रण को गंभीरता से लेने की जरूरत है। ट्रिब्यूनल ने कहा, 'इसके अभाव में गंगा पुनरुद्धार के वांछित परिणाम जो हर भारतीय का सपना है, हासिल नहीं हो पाएंगे।' एनजीटी ने कहा, कुछ कदम उठाए गए हैं, लेकिन नेशनल मिशन फॉर क्लीन गंगा द्वारा दाखिल अनुपालन रिपोर्ट दिखाती है कि विभिन्न परियोजनाएं टेंडर या डीपीआर (विस्तृत परियोजना रिपोर्ट) के स्तर पर हैं और भारत सरकार की सहायता व धन की उपलब्धता के बावजूद जारी परियोजनाओं को समयबद्ध तरीके से पूरा करने की प्रक्रिया अभी भी चुनौती है।



Haribhoomi 11-February-2021

# मप्र के प्रत्येक घर में 2023 तक घरेलू नल कनेक्शन, 44 हजार करोड़ आएगा खर्च

हरिभूमि न्यूज ॥ गोपाल

कैबिनेट में सभी 17 प्रस्तावों को मिली मंजूरी

मुख्यमंत्री शिवराज सिंह चौहान की अध्यक्षता में मंगलवार को हुई कैबिनेट की बैठक में बनी (हरबाखेड़ी) मध्यम सिंचाई परियोजना के लिए 93 करोड़ 75 लाख रुपए की मंजूरी दी गई। परियोजना से 3,050 हेक्टेयर में सिंचाई हो सकेगी। कैबिनेट ने आदिम-जाति कल्याण विभाग का नाम बदलकर जनजातीय कार्य विभाग करने का भी निर्णय लिया गया है।

कैबिनेट बैठक में कुल 17 प्रस्तावों को रखा गया था। इसमें कुछ को छोड़कर ज्यादातर मुद्दे कर्मचारियों की संविदा नियुक्ति, पेंशन रोकने से लेकर अन्य से जुड़े थे। कैबिनेट ने मप्र धार्मिक स्वतंत्रता विधेयक 2021 को भी मंजूरी दे दी। इसे अब विधानसभा में पारित कराया जाएगा। इसके साथ ही सरकार ने राजस्व समेत अन्य विभागों के कुछ विधेयकों को भी विस सत्र में पारित कराया जाएगा।



## जल जीवन मिशन से एक करोड़ 21 लाख से अधिक परिवार होंगे लाभान्वित

मुख्यमंत्री शिवराज सिंह चौहान ने कहा कि प्रदेश के प्रत्येक ग्रामीण परिवार को वर्ष 2023 तक घरेलू नल कनेक्शन उपलब्ध कराया जाएगा। कुल एक करोड़ 21 लाख से अधिक ग्रामीण परिवार लाभान्वित होंगे। इस पर 44 हजार 500 करोड़ रुपए का खर्च आएगा। मुख्यमंत्री मंत्रालय में जल-जीवन मिशन के प्रस्तुतिकरण के बाद मंत्रियों को संबोधित कर रहे थे। उन्होंने कहा कि जल-जीवन मिशन के संचालन में जन-जन की भागीदारी सुनिश्चित की जाएगी।

## थर्ड पार्टी निरीक्षण से होगा गुणवत्ता पर नियंत्रण

कैबिनेट में हुए जल-जीवन मिशन के 'हर घर जल' पर प्रस्तुतिकरण में जानकारी दी गई कि मिशन के क्रियान्वयन के लिए राज्य-स्तर पर मुख्य सचिव की अध्यक्षता में राज्य जल और स्वच्छता मिशन तथा राज्य-स्तरीय योजना स्वीकृति समिति विद्यमान है। नल-जल योजनाओं के निर्माण कार्यों की गुणवत्ता सुनिश्चित करने के लिए थर्ड पार्टी निरीक्षण एजेंसी को व्यवस्था भी विद्यमान है। जल एवं स्वच्छता समिति लोक स्वास्थ्य यांत्रिकी विभाग के सहयोग से योजना का निर्माण करेगी। स्वास्थ्य, शिक्षा, महिला-बाल विकास और पंचायत एवं ग्रामीण विकास विभागों के बीच सतत समन्वय से अन्य गतिविधियों का संचालन किया जाएगा।

मंत्री नवाचारों पर ध्यान दे दिल्ली जाकर ज्यादा से ज्यादा राशि लाएं: सीएम



मुख्यमंत्री शिवराज ने कैबिनेट की बैठक से पहले मंत्रियों से फिर कहा कि सभी मंत्री नवाचारों पर विशेष तौर पर ध्यान दें। यदि कुछ अच्छा होता है तो इसका लाभ प्रदेश की जनता को मिलेगा। उन्होंने मंत्रियों से यह भी कहा कि अपने अपने विभाग से जुड़ी योजनाओं के लिए नई दिल्ली जाकर केंद्र से ज्यादा से ज्यादा पैसा लाएं। ताकि प्रदेश में विकास को नई गति दी जा सके। मुख्यमंत्री ने कहा कि प्रदेश में 1271 मू-माफियाओं से 2000 हेक्टेयर भूमि मुक्त कराई गई, जिसकी लागत 10 हजार करोड़ रुपए से अधिक है। विटफंड कंपनियों से 50 हजार लोगों की 800 करोड़ की राशि वापस कराई गई है। गुन बच्चों को खोजने के लिए प्रदेश में ऑपरेशन मुस्कान संचालित है, इसके तहत अभी तक 9500 बच्चों को रिकवर किया गया है, जिसमें 80 फीसदी बालिकाएं हैं।

## 2021-22 तक सात मिले पूरी तरह कवर होंगे

वर्ष 2020-21 तक निवाड़ी तथा बुरहानपुर जिलों में शत-प्रतिशत कवरेज का लक्ष्य है। इसी तरह वर्ष 2021-22 में मोपाल, दतिया, इंदौर, मुरैना, नरसिंहपुर, राजगढ़ तथा उमरिया सहित कुल 7 जिले पूरी तरह कवर कर लिए जाएंगे। शेष जिले वर्ष 2023 तक पूर्ण कवर करने का लक्ष्य निर्धारित किया गया है। प्रदेश के 34 हजार 305 गांवों में सतही स्त्रोत आधारित समूह योजनाओं से नल से जल की सुविधा उपलब्ध कराई जाएगी। शेष 16 हजार 382 गांवों में रेट्रो फिटिंग से सुविधा का विस्तार किया जाना है। प्रदेश में 32 लाख 41 हजार परिवारों तक योजना का विस्तार किया जा चुका है।

## हरियाणा को एसवाईएल से पानी दे पंजाब : शर्मा

नई दिल्ली (ब्यूरो)। रोहतक से भाजपा सांसद अरविन्द शर्मा ने पंजाब से हरियाणा को एसवाईएल से पानी देने की मांग की है। उन्होंने कहा कि किसान आंदोलन के दौरान हरियाणा ने पंजाब के लोगों का बड़े भाइयों की तरह आदर सत्कार किया है। अब पंजाब की



यह जिम्मेदारी बनती है कि हरियाणा को कई दशकों से जिस सौगात का इंतजार है वह प्रदान की जाए।

Hindustan 11-February-2021

# जल संरक्षण में दिल्ली हवाईअड्डा सबसे आगे

नई दिल्ली | वरिष्ठ संवाददाता

दिल्ली हवाईअड्डा प्रशासन को जल शक्ति मंत्रालय ने राष्ट्रीय जल संरक्षण पुरस्कार से सम्मानित किया है। हवाईअड्डे की संचालक कंपनी दिल्ली इंटरनेशनल एयरपोर्ट लिमिटेड (डायल) का दावा है कि दिल्ली हवाईअड्डा यह पुरस्कार प्राप्त करने

वाला भारत का पहला हवाई अड्डा है।

डायल के मुताबिक, हवाईअड्डे पर सिंचाई में 100 फीसदी सीवेज ट्रीटेड पानी का उपयोग होता है। पूरे हवाईअड्डा परिसर पर 400 वर्षा जल संचयन संयंत्र हैं, जिससे भूजल स्तर को बनाए रखने में मदद मिलती है। आधुनिक सिंचाई प्रणाली को हवाई अड्डे से सात किमी से अधिक दूरी पर लगाया गया है।