Central Water Commission
Technical Documentation Directorate
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Dated 22.1.2019.

Subject: Submission of News Clippings.

The News Clippings on Water Resources Development and allied subjects are enclosed for perusal of the Chairman, CWC, and Member (WP&P/D&R/RM), Central Water Commission. The soft copies of clippings will be uploaded on the CWC website.

P. Mahendran
22.1.2019
SPA (Publicity)

Encl: As stated above.

O/C

Deputy Director, WSE Dte.

22/01/2019

Director, WSE Dte. – on leave

For information to

Chairman CWC, New Delhi

Member (WP&P/D&R/R.M.), CWC and all concerned, uploaded at www.cwc.nic.in

News item/letter/article/editorial Published on 22.01.2019.... in the

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Business standard
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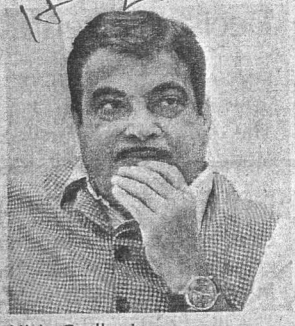
Steel pipes will link Godavari and Cauvery, says Gadkari

Minister says this will prevent wastage of water, reduce cost

V. RAGHAVENDRA
VIJAYAWADA

Union Minister for Water Resources Nitin Gadkari has revealed plans to take the backwaters of the Godavari up to the Cauvery river in Tamil Nadu through Krishna and Penna using steel pipes instead of developing canals en route as suggested by a non-resident engineer from Andhra Pradesh. By doing so, wastage of water from canals could be prevented and the overall cost reduced, he said.

Addressing a BJP meeting here on Monday, Mr. Gadkari said: "The DPR for the river inter-linking project has already been prepared and is in the process of being submitted to the Cabinet. It is estimated to cost ₹60,000 crore."



Nitin Gadkari

Claiming that the Central government was spending 100% of the funds for the Polavaram project and 62% physical progress had been achieved with the cooperation of the State government, he said it was his personal responsibility to ensure its completion as per schedule.

Mr. Gadkari said 1,100 tmcft of the backwater of Godavari river was going into the sea and there was a dispute between Karnataka and Tamil Nadu over 45 tmcft of it.

"To solve the crisis, the Centre has decided to link up the above rivers and once the Cabinet gives its nod, funds will be raised from the World Bank or the Asian Development Bank. It will mitigate the scarcity of water in A.P., Karnataka, and Tamil Nadu," he said.

It was Atal Bihari Vajpayee who, as Prime Minister, had conceived the idea of linking rivers, he recalled.

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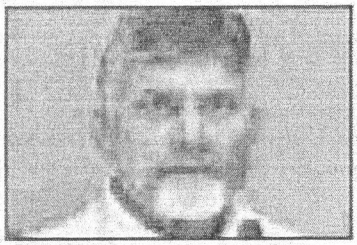

Central govt should reimburse ₹3,722 cr spent: Andhra CM

AMARAVATI: Andhra Pradesh chief minister N Chandrababu Naidu Monday wrote a letter to Union water resources minister Nitin Gadkari, demanding that the Centre immediately reimburse ₹3,722 crore spent by the state on the Polavaram project. He also wanted the Centre to expedite approval of the revised cost estimates of Polavaram, submitted to the Central Water Commission in August 2017. Naidu said ₹10,459 crore was spent on Pollavaram.

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New Indian Express, chennai ✓

Despite opposition, K'taka submits DPR on Mekedatu dam to CWC

SV KRISHNA CHAITANYA
@ Chennai

THE Karnataka government has submitted the Detailed Project Report (DPR) for the proposed Mekedatu Balancing Reservoir cum Drinking Water Project to the Central Water Commission (CWC).

A formal communication in this regard was sent by the Principal Secretary to the Water Resources Department, Karnataka, in a letter written to Chief Engineer, Project Appraisal Organisation of CWC, on January 18, and CWC has acknowledged the same.

In the letter, Karnataka claimed that a pre-feasibility report was already forwarded to Tamil Nadu, Kerala and Puducherry, but no comments were received from the co-basin States.

Now, the DPR will be placed before the Cauvery Water Management Authority (CWMA) and after its approval, will be brought before the Advisory Committee of the Union Ministry of Water Resources.

The DPR will be examined in specialised directorates of CWC including the Inter-State Matters Directorate, and if found acceptable, will be submitted to the Advisory Committee of Irrigation and Multipurpose Projects of the Ministry of Water Resources, for acceptance. On the basis of the note prepared by CWC and deliberations during the meeting of the Advisory Committee, a decision on acceptance of the project will be taken.

Recently, an affidavit filed before the Supreme Court by the Under Secretary to the Ministry of Water Resources, Ananda Chandra, had said: "The conditional clearance granted for preparation of the DPR was subject to the project authority (Karnataka) resolving inter-state matters amicably by due consultation with co-basin States of Cauvery basin. Also, acceptance of CWMA would be a prerequisite for consideration of the DPR for techno-economic approval by the Advisory Committee of the ministry."

Tamil Nadu has been vehemently opposing the project and the CWC's decision to grant permission for Karnataka to prepare the DPR. The State government said the project was in utter disregard to the adjudication rendered by the Supreme Court. "The attempt of Karnataka is to increase its storage capacity and enhance its irrigation, which would be in gross violation of the decision of the tribunal as modified by the court, besides seriously jeopardising the rights of the inhabitants of Tamil Nadu," the government said in its petition before the apex court.

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Climate 'time bomb' for groundwater is ticking

'Only half of it will replenish in 100 years'

AGENCE FRANCE-PRESSE
PARIS

Future generations face an environmental "time bomb" as the world's groundwater systems take decades to respond to the present day impact of climate change, scientists warned on Monday.

Groundwater is the largest useable source of freshwater on the planet and more than two billion people rely on it to drink or irrigate crops.

It is slowly replenished through rainfall – a process known as recharge – and discharges into lakes, rivers or oceans to maintain an overall balance between water in and water out.

Groundwater reserves are already under pressure as the global population explodes and crop production rises in lockstep.

But the extreme weather events such as drought and record rainfall – both made worse by our heating planet – could have another long-lasting impact on how quickly reserves replenish, according to a study published in *Nature Climate Change*.

An international team of researchers used computer modelling of groundwater datasets to put a timescale on how reserves may respond to the changing climate.

Mark Cuthbert, from Cardiff University's School of Earth and Ocean Sciences, and his team found that only half of all groundwater supplies are likely to fully replenish or re-balance within the next 100 years – potentially leading to shortages in drier areas.

"This could be described as an environmental time bomb because any climate change impacts on recharge occurring now, will only fully impact the baseflow to rivers and wetlands a long time later," Mr. Cuthbert said.

The process through which rainwater is filtered through bedrock and accumulated underground can take centuries and varies greatly by region.

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stagecraft & statecraft

BRAHMA CHELLANEY

HT 22

Remake the terms of the Indus treaty

Without formally withdrawing from the bilateral deal, India must assert its upper-riparian rights

The Indus Waters Treaty (IWT), the most generous water-sharing pact in modern world history, remains a large millstone around India's neck. Far from seeking to get rid of that millstone, India next weekend will welcome a three-member Pakistani team for an inspection tour of Indian hydropower projects in the basin of the Chenab, the largest of the six Indus-system rivers in terms of the rate of cross-border flow.

Contrast this with the record of other powers on binding accords. China's 2017 breach of bilateral accords by denying India hydrological data resulted in many preventable deaths in Assam floods. The US is now dumping the Intermediate-Range Nuclear Forces Treaty after unilaterally terminating another IWT-style pact of unlimited duration — the Anti-Ballistic Missile Treaty.

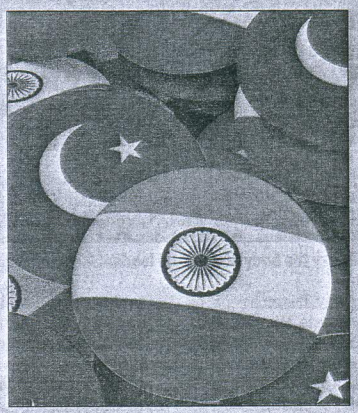
A scofflaw Pakistan, despite being in dire financial straits, remains wedded to terrorism, including inflicting upon India death by a thousand cuts. Yet the much larger India, instead of imposing deterrent costs, continues to treat Pakistan with kid gloves, as underscored by the impending visit of the Indus commissioner-led Pakistani team.

While Pakistan flouts international norms and rules, India adheres to the IWT's finer details — and goes even beyond. For example, under IWT's Article VIII, the Permanent Indus Commission (PIC) is to meet once a year. Its next meeting was due in March 2019. But, thanks to India's zealousness, the PIC met much earlier in August 2018, just five months after its previous meeting.

It was at that meeting that India agreed to advance Pakistan's inspection tour to October 2018. The last such tour occurred in 2014 and the next one, in keeping with the IWT provision for a tour "once every five years", was due by the end of 2019. The local bodies' elections in Jammu and Kashmir forced the October tour to be deferred to January.

The Pakistani side, like in 2014, will use its upcoming tour to collect new information on Indian projects and then mount technical objections to their designs and seek international intercession. Even before the team's visit, Pakistani officials have raised objections to the spillway or freeboard of the projects to be inspected.

The lopsided IWT, which keeps for India just 19.48% of the total Indus-system waters, is the world's only inter-country water agreement embodying the doctrine of restricted sovereignty, which compels the upstream nation to forego major river uses for the benefit of the downstream state. India has failed to fully exercise even its IWT-truncated rights. For example, India has built no storage on the Chenab, Jhelum and the main Indus stream, although the IWT permits it to store 4.4 billion cubic meters of these rivers' waters.



▪ To bring Pakistan to heel, India needs to fashion water as an instrument of leverage ISTOCKPHOTOS

On the three rivers, India is allowed to build run-of-river hydropower plants without dam reservoirs. Yet India's total installed generating capacity in J&K currently does not match the electric output of a single major dam in Pakistan, such as Tarbela, opened in 1976, or Diamer-Bhasha, whose construction is about to begin. In the lower basin, where India has full rights, the substantial waters of the Beas, Ravi and Sutlej untapped by it go to Pakistan as bonus outflows.

To bring Pakistan to heel, India needs to fashion water as an instrument of leverage. Such leverage can serve as the most potent instrument in India's arsenal against Pakistan — more powerful than the nuclear-weapons option, which essentially is for deterrence. Building leverage in the Indus Basin is a cheaper option for India to reform Pakistan's behaviour than fighting a war. Indeed, peaceful options — from mounting escalating riparian pressures to waging economic, cyber and diplomatic warfare — can effectively tame Pakistan.

India gains little from its present approach. For example, despite India's scrupulous observance of the IWT provisions and its concessions, Pakistan accuses it of not fully complying with the treaty's terms. Pakistan will never be satisfied. Nor will it stop internationalising every disagreement as part of its water-war strategy against India. Add to the picture its proxy war by terror. While trampling on basic norms, Pakistan claims interminable water rights.

In this light, an increasingly water-stressed India should unilaterally remake the terms of the Indus engagement. Four of the six Indus-system rivers originate in India. The other two begin as small rivers in Tibet and gain major flows in India. For starters, India should keep its Indus commissioner's post vacant. Without formally withdrawing from the IWT, India must assert its upper-riparian rights. India cannot keep bearing IWT's burdens without any tangible benefits accruing to it from the treaty.

Brahma Chellaney is a geostrategist. The views expressed are personal

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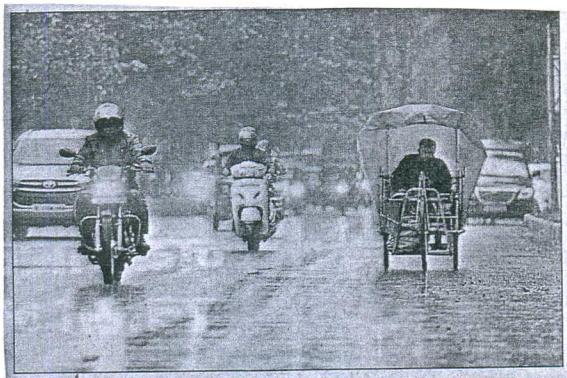

Till 5.30pm on Monday, Safdarjung received around 1.2mm rain and Palam received 2.8mm rain. Other areas such as Lodhi Road, Ridge and Aya Nagar received less than 1mm rain. AMALKS/HT PHOTO

Rain helps bring down day temp, boosts air quality

HT Correspondent
htreporters@hindustantimes.com

NEW DELHI: The morning drizzle and gusty winds that swept through the national capital on Monday helped bring down air pollution levels and the day temperature to 22.6°C, which on Sunday was recorded at 28.7°C.

The India Meteorological Department (IMD) said similar weather conditions were likely to persist in the national capital region (NCR) on Tuesday, too.

According to the central pollution watchdog officials, air quality could improve in NCR to "moderate" in the coming days as a strong wind blowing at nearly 20km/hour is expected to sweep Delhi till Wednesday. The city needs a minimum of 10km/hour of wind speed to disperse pollutants.

The drizzle, however, was far removed from the IMD forecast of moderate rain (more than 15mm).

Till 5.30pm Monday, Safdarjung, considered to be representative of Delhi's weather, received around 1.2mm rain, Palam received 2.8mm rain. Other areas such as Lodhi Road, Ridge and Aya Nagar received less than 1mm rain.

"Several places across Jammu and Kashmir and Himachal Pradesh received heavy snowfall because of a western disturbance. There was rain across the plains of northwest India, including Delhi-NCR. We are expecting the conditions to remain the same on Tuesday," said BP Yadav, deputy director general, IMD.

The maximum temperature was recorded at 22.6°C, a degree above normal. The maximum temperature had shot up to 28.7 degrees Celsius on Sunday, the hottest January day since 2007. The minimum temperature was 11.5 degrees Celsius, four degrees above normal.

"We are expecting yet another western disturbance towards the end of this week. There is a possibility of very light rain on January 25," said a senior IMD official.

The weather conditions also helped bring down the city's pollution levels. The Air Quality Index (AQI), which shot up to the "severe" level on Sunday, improved and came down to 'very poor' zone on Monday. While the AQI was 404 on Sunday it was 346 on Monday.

"According to the air quality early warning system, the air quality is likely to improve further over the next two days and come down to moderate levels," said a senior official of the Central Pollution Control Board.

Delhi encountered at least seven days of severe air pollution this January so far. This is the maximum number of severely polluted days, the city has encountered in the month of January ever since Air Quality Index is being recorded. The AQI came into being in May 2015. In 2016, there were six such days in January.

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Himalayan glacier recedes as climate change hits home

SATELLITE DATA Chaturangi proves more vulnerable to climatic variability than Gangotri, retreats at much faster clip

Jayashree Nandi
letters@hindustantimes.com

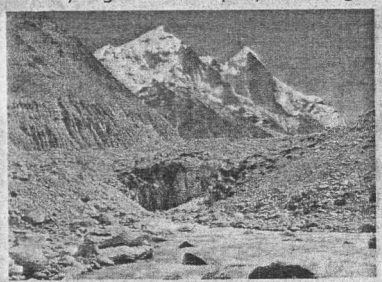
NEW DELHI: Chaturangi glacier, a tributary of the Gangotri glacier, is retreating at a "considerable rate" and may vanish in the future, according to a research paper accepted to be published in the Current Science journal's February edition. The retreating glacier is another example of the impact of climate change and, according to one of the study's contributors, affects water flow in the Ganga, fed by the Gangotri.

The study by scientists from GB Pant National Institute of Himalayan Environment and Sustainable Development and the Centre for Earth Sciences at the Indian Institute of Science (IISc) uses satellite data from 1989 to 2016 and kinematic GPS (a satellite navigation technique used to enhance the precision of data from satellite based positioning systems such as GPS) to arrive at the retreating rate of the glacier.

CONTINUED ON P 8

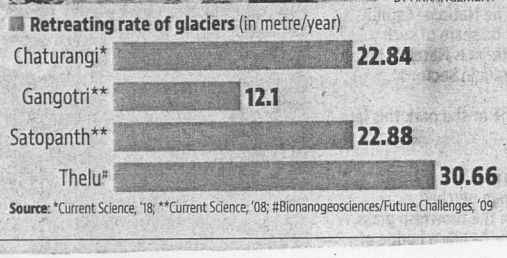
UNDER THREAT

Scientists say there is consensus that the majority of Himalayan glaciers are rapidly retreating



76% glaciers have shown loss in area of ice cover

■ The retreat will impact the water level in the Ganga. BY ARRANGEMENT



Source: *Current Science, '18; **Current Science, '08; #Bionanogeosciences/Future Challenges, '09

Glacier

The Chaturangi glacier was connected with the Gangotri glacier till 1989 but is now detached and retreating at the rate of about 22.84 m/year, according to the study. According to the paper, a similar pattern of retreat has also been reported from a 2008 study on the Gangotri. But the retreating rate of Gangotri is far slower than the Chaturangi glacier.

"In 2017, we calculated the retreating rate of Gangotri glacier but the research is yet to be published. The overall health of the Gangotri glacier is not worrying because the retreating rate is about 9 to 12 m/year, less than its tributary glaciers and other glaciers like Dokriani in Uttarkashi in the same latitude and altitude," said Harish Bisht, junior research fellow at Kumaun University and senior author of the Current Science paper. He added that there is consensus among researchers and scientists that the majority of glaciers in Uttarakhand Himalayas are retreating.

"The variability in retreating rate is not only controlled by climate change but is also governed by glacier size, type, topographic setting and debris cover. The retreating rate of the Chaturangi glacier is higher than the Gangotri glacier because of its smaller size and fast response time to climatic variability," reads the paper. That may have an impact on the Ganga. "Gangotri has many tributary glaciers but the Chaturangi and Raktavaran glaciers are two tributary glaciers retreating at a worrying rate. They may disappear in the future. The larger glaciers in the Himalayas are retreating at a relatively slow rate. Since Ganga originates from Gangotri glacier, which is fed by tributary glaciers, the rapid retreat of glaciers like Chaturangi and Raktavaran will definitely impact flow and water level in the Ganga," said Prakash Chandra Arya, an IISc researcher who contributed to the study. According to NASA's Land Use Land Cover Change programme, glacial melt will "in the long run... water supplies in those regions [Himalayas rivers] will be in peril". There will also be an impact to agriculture, including soil loss due to soil erosion, landslides and floods, and temperature increase in areas downstream. ISRO has been mapping the long-term health of Himalayan glaciers. ISRO's web mapping service or Bhuvan says information on glaciers (retreat/advance) in the 13 sub-basins of Himalaya has been generated using satellite images of 1989-1990 to 1997-2008 time frames under the "Snow and Glacier Studies Phase-I". Of 2,190 glaciers, about 76% have shown loss in area of ice cover and about 24% glaciers either did not show any change or showed gain in area. More recent data on glaciers is yet to be released, said an ISRO scientist.

"If smaller glaciers are retreating at a considerable rate, it will have a feedback effect downstream. Water volume in Ganga could reduce because the glacier is moving away from the source. Glacial lakes may also form due to accumulation of melt water but I don't know of any comprehensive study on how river flow has been affected by glacial retreat in the Himalayas," said Abhijit Mukherjee, associate professor (hydrogeology), department of geology and geophysics at IIT Kharagpur. Bisht and other researchers are carrying out an assessment of the Glacial Lake Outburst Flood (GLOF) in Uttarakhand Himalayas. "We have noticed formation of glacial lakes around the Gangotri glacier which also often contributes to glacial retreat by dissolving ice. It also increases the risk of GLOF disasters," Bisht added.