

Central Water Commission
Water Systems Engineering Directorate

West Block II, wing No- 5
R K Puram, New Delhi-66
Dated 8.11.2018

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 have also been uploaded on the CWC website.

Encl: As above.

P. M. Sharma
8.11.2018
SPA (Publicity)

Deputy Director, WSE Dte.

दीर्घा सिंह
8/11/2018

0/c

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.gov.in

Hindustan Times
Statesman
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Hindustan (Hindi)
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Punjab Keshari (Hindi)
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Deccan Chronicle
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The Times of India (A)
Business standard
The Economic Times

and documented at Bhagirath (English) & Publicity Section, CWC

Study: Drip irrigation uses 58% less water

VISHAL JOSHI
TRIBUNE NEWS SERVICE

KURUKSHETRA, NOVEMBER 6

A field experiment by the Command Area Development Authority (CADA) has shown that drip irrigation through a solar-based micro-irrigation system uses 58 per cent less water as compared to the conventional form of paddy cultivation.

Sharing the details of the field trials with *The Tribune*, CADA authorities said that per acre yield of PR-114 variety of rice in the farms irrigated under drip irrigation was recorded between 24.27 and 27.83 quintals.

Project coordinator and CADA executive engineer Neeraj Sharma said a pilot project was being initiated at Dera Fateh Singh village near Pehowa in the district.

Launched in 2017 under the Pradhan Mantri Krishi Sinchayee Yojana (PMKSY), it was for the first time in the country that solar-based micro-irrigation system was used to ensure water supply to every farm.

He said the experiment was being conducted in an area spread over nine acres, offered voluntarily by progressive farmers.

Sharma said three methods of irrigation were used in the experiment. "Under the guidance of experts, we used three methods of

FIELD REPORT

- An experiment was being conducted in nine acres offered voluntarily by progressive farmers.
- Three methods of transplanting paddy was used — the traditional one, the mechanical transplantation and direct seeding
- Results show drip irrigation not only produces a handsome yield, but it can also save an enormous amount of water, say project coordinator Neeraj Sharma

transplanting the paddy seeds, i.e. traditional method of manual transplanting, mechanical transplanting and direct seeding. Results clearly indicated that drip irrigation not only produces handsome yield but the technique can also save enormous amount of water," Sharma said.

A senior scientist at the Rice Research Station of Chaudhary Charan Singh Haryana Agricultural University, Kaul village, Kaithal, said the field inputs were "highly encouraging for water conservation".

The expert, who wished not to be named, said about 1.11 crore litres of water was required to irrigate one acre of paddy under the traditional flood irrigation system.

Hindustan Times ✓
Statesman
The Time of India (New Delhi)
Indian Express
Tribune

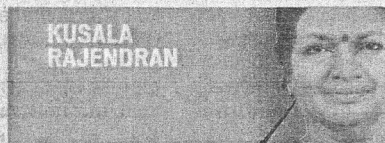
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How science can help us prepare for disasters

Advances in satellite, computer and communication systems are facilitating alerts on cyclones and floods



There seem to be an increase in frequency of natural disasters in recent times. We hear about cyclones, volcanic eruptions, earthquakes, floods and landslides much more often. Look at the last two decades of the history of disasters in India. 2001, the Bhuj earthquake; 2004, the tsunami; 2013, Uttarakhand flood, 2018, floods in Kerala. All these events took a heavy toll on life and property. What is common to these events is that the anthropogenic influences have amplified the damage. Unscientific land use, inappropriate constructions and climate change are certainly contributing to the severity of hazards. In a world where the demand far outweighs the resources, the impact of hazards is only likely to increase. Thus, there needs to be better preparedness, a higher level of comprehension of the kind of hazards that might take place and the ability to mitigate damages.

Advances in satellite, computer and communication systems are now enabling alerts on cyclones, floods and the like. With reasonable lead-time, alerts and evacuation can be done for these types of disasters. On the other hand, earthquakes remain unpredictable and give no warning or any time for evacuation.

As a person working on earthquakes, I have often been asked why these phenomena cannot be predicted, unlike cyclones, floods or volcanic eruptions. My explanation that the processes leading to the earthquakes occur in the deep recesses of the earth, and are beyond the realm of human observation, was rarely well received. However, many were willing to accept that earthquakes cannot be predicted and they do not blame the scientists when an earthquake occurred without notice. However,

the reactions are sharper when a wrong prediction is made. That is what happened in L'Aquila, Italy, when a moderate earthquake killed more than 300 people and destroyed the whole city, in 2009. In a judicial trial that followed, the team of experts (six of them including seismologists, volcanologists, earthquake engineers and a public official) was found guilty and was given six-year jail. Those jailed were acquitted later, but this event was surely a jolt on the science earthquake prediction.

While the world did not hear much about earthquake predictions in the subsequent years, two US scientists, including Prof. Roger Bilham of Colorado University, have predicted an increase in devastating earthquakes during 2018. In a research paper published in August 2017 they noted that a change in the speed of the Earth's rotation could trigger intense seismic activity, particularly in the heavily populated tropical regions. I am not clear about the underlying mechanism that links the millisecond change during a day to an increase in seismic activity. The century long does show a correspondence between the increase in seismic activity around the world, with the slow down in the earth's rotation. Further they predicted increased activity in the tropical regions, which are also densely populated. Although they have not specifically mentioned India, with the Himalaya bordering it, this part of Asia is one of the most seismically active regions.

Talking of the Himalaya, there is another prediction, by Roger Bilham. The prediction, made in 2001, based on scientific data, was that the Garhwal-Kumaon Himalaya is ready for a great earthquake, any time. It has not happened, but if it does, how well prepared are we to face it? History tells us that large earthquakes in the Himalaya have severely affected the Gangetic plains. Given the large density of population and extent of development in the plains, how should we plan for damage mitigation? Perhaps the Disaster Management Authority needs to focus their attention on how to reduce the impact of a future earthquake. A map showing the level of high risk is not enough. There need to be plans for mapping the vulnerable zones and provide advisories for constructions. It is also important to create awareness among the citizens and let them know that there is an enemy sleeping by their side, who can wake up anytime. A known enemy is far easier to deal with, than an unknown and unexpected.

Kusala Rajendran is professor at the Centre for Earth Sciences, Indian Institute of Science, Bengaluru
The views expressed are personal

THE PREDICTION BY AMERICAN SCIENTIST ROGER BILHAM, MADE IN 2001, BASED ON SCIENTIFIC DATA, WAS THAT THE GARHWAL-KUMAON HIMALAYA REGION COULD FACE A GREAT EARTHQUAKE

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Business standard
The Economic Times

The Telegraph (7th Nov, 2018)

Nitish rings water alarm

DEVRAJ

Patna: Bihar may face water crisis from January-February next year as 275 of 540 blocks have been declared drought-hit, worried chief minister Nitish Kumar on Tuesday but said the government is charting out a plan to fight it.

Speaking at the 11th foundation day of the Bihar State Disaster Management Authority, he said the government will ensure supply of drinking water to villages and mark water bodies for availability when the groundwater table plummets. The chief minister is the authority's chairman.

"Drought has been declared in 275 blocks across 24 districts (Bihar has total 38 districts). The groundwater level is going down, so there could be scarcity of drinking water

from January-February," Nitish said. "I have asked my officials to ensure drinking water for the people. I have told them to make arrangements for tankers and chart out a route so that drinking water is provided to all the affected villages. I am regularly reviewing the situation on my level."

Minister for disaster management Dinesh Chandra Yadav, disaster management authority vice-chairman Vyasji and member P.N. Rai, former National Disaster Management Authority members Muzaffar Ahmad and K.M. Singh, disaster management, principal secretary, Pratyaya Amrit, chief minister's principal secretary Chanchal Kumar, Bihar Police Building Construction Corporation chairman-cum-managing director Sunil Kumar, CID, additional direc-

tor-general Vinay Kumar, Patna airport director Rajender Singh Lahauria were present at the celebrations.

Speaking on the drought situation in the state, Nitish pointed out that cattle suffer because of water scarcity and the government was making efforts there too.

"In case of water scarcity, people with no resources leave their cattle behind. We have identified big ponds where water will be available by use of solar pumps. Special camps will be set up near the ponds for cattle. We won't let cattle die," Nitish asserted, adding that he had felt drought coming the state's way when easterly winds started blowing during the "Vaishakh" month of the Hindu calendar — roughly April according to the Gregorian calendar.

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The Times of India (7th Nov, 2018)

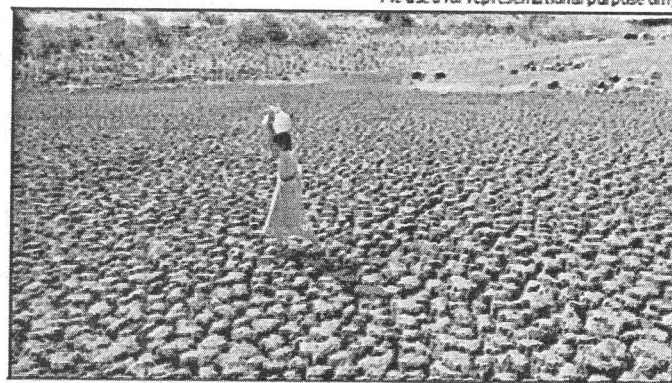
Maha govt to ask Centre for ₹7,000cr drought assistance

Mumbai: The Maharashtra government will seek Rs 7,000 crore Central assistance for drought mitigation, chief minister Devendra Fadnavis said on Tuesday.

He said since the government declared drought in October itself, Central funds are expected by January next year. Speaking to reporters in Osmanabad, over 400km from Mumbai, Fadnavis said a proposal has already been prepared, which will be sent to the Union government on Wednesday.

On October 31, the state had declared drought in 151 talukas in 26 out of 36 districts. Of the 26 districts, eight each fall in Vidarbha and Marathwada regions, five in north Maharashtra, four in western Maharashtra and one, Palghar, in coastal Konkan.

Fadnavis said the government has mentioned in its proposal that the Central funds would be used for paying crop lo-



Pic used for representational purpose only

Maharashtra government declared drought in October

ans of farmers, arranging fodder for animals and for drinking water purposes.

"We will also request the Centre to expedite the process of sending a Central team to assess the drought situation and submit its report," he said, adding that his government has initiated relief measures swiftly.

Last month, the Congress had demanded Rs 5,000 crore Central assistance while accu-

sing the ruling dispensation of fiscal mismanagement.

Hitting back at the Opposition, which has accused the government of "failing" the farmers, Fadnavis said, "During the Congress tenure, insurance companies paid farmers only the premium amount they had paid for the losses incurred. However, our government has ensured that the money paid was much more."

When asked to comment on the progress made by agencies investigating the irrigation scam, Fadnavis, who also holds the home portfolio, said chargesheets have been filed against more than 100 people and 25 fresh FIRs were filed recently. "The court has sought more information which the government is providing," he said.

Fadnavis' comments came two days after state unit BJP president Raosaheb Danve said senior NCP leader and former deputy chief minister Ajit Pawar can be arrested "any time" in the alleged scam. Pawar was among the NCP ministers who were in charge of the irrigation department at different times between 1999 and 2014, when the Congress and the NCP were part of the coalition government in the state. The NCP had said Pawar had no role in the alleged scam and accused BJP of trying to vitiate the political atmosphere. AGENCIES

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Deccan Chronicle
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The Economic Times

The Times of India (8th Nov, 2018)

CM promises ₹2,200 crore for Krishna-Marathwada project

TIMES NEWS NETWORK

Chief minister Devendra Fadnavis has promised funds worth Rs2,200 crore for the long-pending Krishna Marathwada irrigation project, a large chunk of which would be released by the National Bank for Agriculture and Rural Development (NABARD).

Chairing a drought review meeting in Osmanabad on Tuesday, around 250km from Aurangabad, Fadnavis said Rs 800 crore had already been released for the project.

"The money already released for the project is being

used for work related to tunnelling and stabilization activities. The government will ensure there is no shortfall of funds to expedite the project as a huge sum will be arranged through NABARD," he said.

It is claimed around 238 villages from Osmanabad and Beed districts will be free from water scarcity if the multi-crore irrigation project, scheduled to fetch seven TMC water, becomes a reality. It is also expected to irrigate nearly 34,000 hectares of agricultural land in three districts.

The state cabinet, at its spe-

cial meeting on October 4, 2016, had pegged the cost of the project at nearly Rs 5,000 crore and assured speedy completion.

Fadnavis at the time had said the project would fetch Marathwada its "due share" of seven TMC water without any difficulty.

Of the total sanctioned funds for Krishna-Marathwada irrigation project, Krishna-Bhima stabilisation work had a financial outlay of over Rs1,000 crore, while the remaining money was allotted to three lift irrigation schemes, including two in Osmanabad

and one in Beed.

The capacity of the much-delayed project has been reduced to only seven TMC as the water arbitrator concerned had denied permission to divert water from one river basin to another.

Meanwhile, Fadnavis also asked the Osmanabad district administration to achieve its target in the 'farm-pond on demand' scheme, failing which they could face stern action.

The chief minister also took stock of the water scarcity situation. Fadnavis is holding a series of such meetings in the worst affected districts of the state.



News item/letter/article/editorial Published on 7/11/2018 in the

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Times Now Digital (7th Nov, 2018)

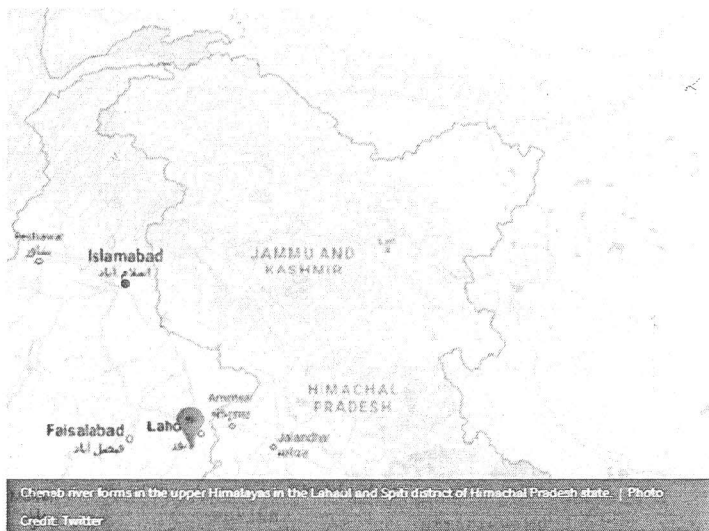
Pak 'diplomatic sabotage' busted: India to go ahead with Ratle hydroelectric project, govt to send team to J&K

| India

Updated Nov 07, 2018 | 16:53 IST | Times Now Digital



Under the Indus Water Treaty Agreement India is allowed to water from the western rivers for limited irrigation use and unrestricted use for power generation.



New Delhi: India has decided to go ahead with the 850 MW hydroelectric power project despite objections by Pakistan. The Ratle dam is currently under construction on the Chenab River. While Pakistan says that the dam violates the Indus Water Treaty, signed between the two countries in 1960, India has always maintained the Ratle project is a run-of-the-river hydroelectricity project and not in violation of the treaty.

According to the treaty, India can build hydropower projects on the Jhelum and the Chenab but Pakistan has deliberately protested and tried to stop any construction.

The decision to send the power ministry and state

government officials to Ratle was taken at a meeting chaired by top officials of the prime minister's office on October 30. This meeting was related to the Indus basin projects and apart from Ratle two other projects were also discussed.

The Punjab and Jammu and Kashmir government have revived the Shahpur Kandi dam project and have entered into an agreement to restart the work that has been stalled for the past four years.

While the Punjab government will begin the work, the water resources ministry will prepare a revised cost estimate and ensure cabinet approval.

The water resources ministry and the Jammu and Kashmir government are also planning to visit the Ujh multipurpose project to prepare the action plan. According to media inputs, the government is looking to lay the foundation stone of the project by the end of the year.

Basically, the treaty allows the waters from the Indus, Jhelum, and Chenab to Pakistan and the Ravi, Sutlej, and Beas to India.

World Bank has allowed India to construct Kishanganga and Ratle hydroelectric project on tributaries of the Jhelum and Chenab rivers with certain restrictions.

Hindustan Times
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Rajasthan Patrika (Hindi)

Deccan Chronicle
Deccan Herald
The Times of India (A)
Business standard
The Economic Times

The Times of India (5th Nov, 2018)

BENGALURU NOT BONE DRY But Utility Yet To Measure Water Saved Through Mandatory Salvaging Of Rainwater

Has water harvesting cut dependence on Cauvery? BWSSB hasn't got a clue

Sunitha.Rao@timesgroup.com

Bengaluru: The city received no less than 654.5 mm of rainfall between March and September, but its dependence on Cauvery water has not reduced a bit — at least, according to BWSSB figures. Bengaluru consumes as much as 1,375 million litres of drinking water every day and this did not change even when the city received heavy showers, despite it being mandatory for houses with an area of 1,200sqft and more to have rainwater harvesting units.

While logically the harvested rainfall should have reduced city's dependency on Cauvery water supply, the water board has no method to verify if it actually does. Which begs the question: Unless the authorities can quantify the success of an ongoing project of such importance

— Niti Aayog, for one, has warned that Bengaluru will run out of groundwater in 2020 — how do they plan for the future?

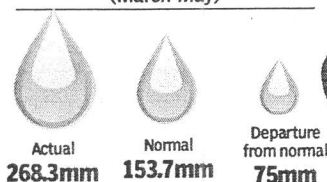
An estimated 10% of the 9.53 lakh consumers with water connections have rain water harvesting (RWH) systems.

Vishwanath Srikantaiah, a water activist and Rainwater Club founder who has helped many households and government agencies set up rainwater harvesting systems in the city, says BWSSB might not be able to analyse the effectiveness of RWH because of its water supply is intermittent.

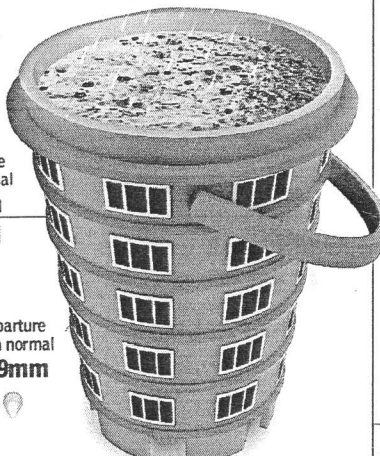
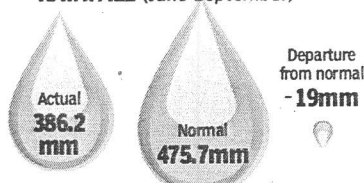
"Irrespective of whether it rains, BWSSB must supply 1,375ml of water a day, because it supplies water to different areas on different days," he says. "When it does rain, households meet extra demand by harvesting and from recharged aquifers. If BWSSB supplied water 24x7, it could measure the use of harvested rain water. With intermittent supply, BWSSB cannot determine that nor how much less

RECYCLING RAIN

IN BENGALURU THIS YEAR PRE-MONSOON RAINFALL (March-May)



SOUTHWESTERN MONSOON RAINFALL (June-September)

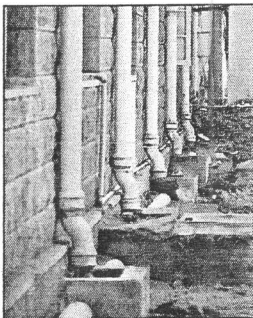


Source: Indian Meteorological Department, Karnataka chapter

BWSSB WATER SUPPLY

Source: BWSSB, data till October 2018

Daily drinking water supply 1,375 million litres of water	Total drinking water connections in Bengaluru 9,53,000	Properties with RWH facility 1,02,000	Penalty collected for lack of RWH ₹2.5 to ₹3 crore per month
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THE RULE

Under Section 72a of the Bangalore Water Supply And Sewerage Act, 1964, every owner of a building standing on a site area of not less than 216 sqm (Approximately a 60'x40 site built before 2011 or every owner who proposes to construct a building on a site less than 108sqm (30'x40 feet) has to install an RWH system either for storage or to recharge groundwater.

it had to supply."

BWSSB engineer-in-chief Kemparamaiah says 95% of harvested rainwater recharges groundwater, so it isn't possible to quantify the impact of RWH. "It is not possible to analyse the RWH used by households, as only 5% of rooftops are connected to

sible to quantify the impact of RWH. "It is not possible to analyse the RWH used by households, as only 5% of rooftops are connected to

RWH systems in the city," he says. "Not more than 0.75TM-Cft of water can be collected this way. Only if 30% to 40% of all households use RWH systems, will the impact be perceptible."

BWSSB officials say they have also observed that several property owners have RWH systems only in name.

"RWH systems are connected to drains in many households, and others are blocked with mud," a senior official said. "Unless there are constant inspections and billing incentives to use rainwater, the system may not change. In fact, RWH systems are working well on the outskirts, where there are no BWSSB connections."

MODEL HOUSEHOLDS

Couple saves 60k litres rain in 7 months

SEETHALAKSHMI RAVISHANKAR AND RAVISHANKAR B K, chartered accountants who live near Sarjapur Road, have collected over 60,000 litres of rainwater in the past seven months. Their gated community, Rainbow Drive, on the outskirts of the city, does not receive Cauvery water supply from BWSSB. "Our water dependence on community borewells has reduced by 35% annually," Ravishankar says. "We collect rainwater in a 25,000-litre sump." The couple has not bought tanker water even once in the recent past.

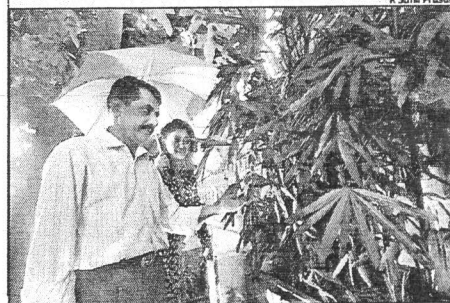
Gated community houses 300 water harvesting wells

K P SINGH, another resident of Rainbow Drive, says his family does not use more than 15,000 litres of water per month, setting an example for water conservation. The 34-acre gated community's rainwater harvesting system either recharges aquifers or is used by residents after it fills sumps. The commune, with 300 water harvesting wells, makes every effort to save rainwater. "It's helped the community from 20 years ago, when it started RWH as a massive project," says Singh. "I have lived here for the past 15 years and never bought tanker water."

No water connection here since 1995!

SCIENTIST A R SHIVAKUMAR's house in Vijayanagar is a stunning example of effective rainwater harvesting. For the past 23 years, his family has done without a water connection. Meticulous rainwater harvesting means they have not had to pay a water bill since building the eco-friendly house in 1995. Rainwater from the terrace goes through popup filters, invented by Shivakumar, before it collects in two sumps. The water is pumped to an overhead tank from where the family uses it for every household purpose. They use water from the kitchen sink to water plants and trees around the house and treated wastewater from the washing machine to flush toilets.

K Suresh Prasad



ECO-FRIENDLY HOME: Scientist A R Shivakumar and his wife Suma use rainwater harvesting so successfully in their Vijayanagar house that they have not needed a water connection for 23 years

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The Indian Express (7th Nov, 2018)

3,000 villages may face drinking water shortage by year-end

ANJALI MARAR
PUNE, NOVEMBER 6

THE SHADOW of the deficient monsoon continues to haunt rural Maharashtra, where as many as 3,000 villages, mostly in central Maharashtra and Marathwada, have seen severely depleted groundwater levels this year. Experts have warned that these villages may face a drinking water crisis by the end of the year unless a contingency plan is put in place to control the situation.

The groundwater situation is particularly grim in some parts of Pune and parts

of Ahmednagar, Nashik, Dhule, Jalgaon, Aurangabad, Buldhana, Parbhani, Beed, Osmanabad, Solapur, Satara, Amravati, Akola, Hingoli and Latur districts.

As many as 114 talukas saw the steepest fall, by over 3 meters, in their groundwater levels in September, as per the latest post-monsoon groundwater scarcity report issued by Groundwater Survey and Development Agency (GSDA). "Rainfall during monsoon season has been far below normal and the groundwater recharge in many villages have remained unsatisfactory in comparison to the discharge rates," said a senior GSDA official.

The report, which contains figures about groundwater levels from the last five years, pointed out that this year's levels are among the lowest in the last half-decade. The average annual rainfall for Maharashtra is 1,133 mm. Phaltan in Satara district has recorded the lowest average annual rainfall of 316 mm, while Vaibhavwadi in Sindhudurg district was the wettest region in the state, with an annual average rainfall of 5,656 mm. "There is an immediate need to prepare a contingency plan to provide drinking water in 2,941 villages, mostly in Marathwada and adjoining Madhya Maharashtra regions. These areas

are most likely to face acute drinking water shortage soon, or even before the end of 2018," warned the GSDA official.

The latest scarcity report confirms that 185 talukas have an over 20 per cent rainfall deficit, including 3,342 villages where the groundwater levels have dropped by over 3 metres, followed by 3,430 villages where groundwater reserves have fallen between 2 to 3 metres.

Given the depleting groundwater levels, farmers are bound to have a tough time during the upcoming rabi season, said experts. The kharif season this year has also seen lower than average yield.

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Testing the waters, breaking new ground: what a cargo voyage signifies

AVISHEK G DASTIDAR
NEW DELHI, NOVEMBER 6

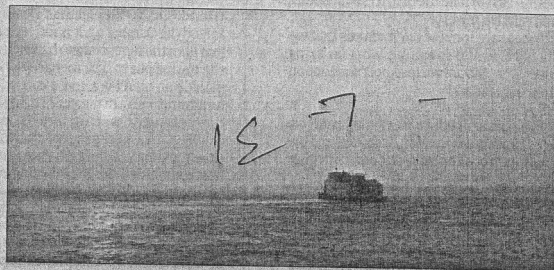
A CARGO of 16 containers carrying snacks and other food items manufactured by Pepsi is on its way to Varanasi. What makes this nine-day journey special is that instead of roads or railways, this cargo has taken the waterway — part of an effort by the government to resurrect the Ganga as a significant transportation artery.

On November 12, Prime Minister Narendra Modi will receive the vessel, MV R N Tagore, at the new multimodal freight terminal in Varanasi. Modi will dedicate to the nation the terminal, designed mainly for construction material, foodgrains, cement, and fertilisers.

Minister for Road Transport and Shipping Nitin Gadkari tweeted on November 3, the day after the ship departed Haldia at the mouth of the Hooghly in West Bengal: "This should have been the biggest news of the week in India. For the first time since Independence, a container is moving on inland vessel... Such a huge accomplishment!"

The background

The push to revive the country's waterways as viable commercial freight corridors is among the government's less talked-about big-ticket infrastructure initiatives. Rivers and canals were traditionally used in pre-modern India to transport humans and materials, and to carry out trading activity. Inland waterways started to decline with the advent of widespread road and rail net-



The MV VV Giri leaves Ghazipur, Uttar Pradesh, on its journey towards Patna en route to Kolkata two years ago. In August 2016, the VV Giri, carrying 24 Maruti cars, and MV Joy Basudev, carrying a cargo of 1,400 tonnes of goods to Ballia, travelled on the Ganga, National Waterway 1 (right). Neeraj Priyadarshi/Archive

works. Long, slow voyages began to be considered incompatible with the faster pace of doing business, and as silt deposits led to channels becoming increasingly shallow, commerce dried up in the traditional docks and ports.

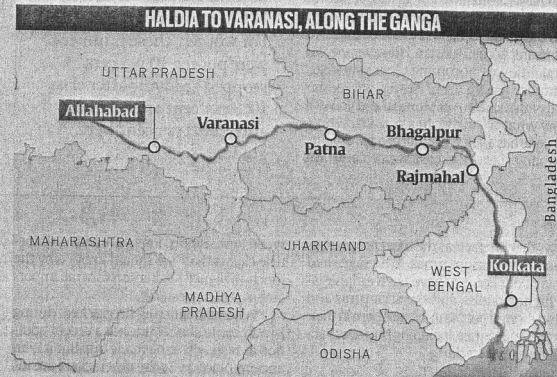
The potential

India has 14,500 km of navigable waterways in rivers, canals, backwaters, creeks, etc. About 55 million tonnes of cargo moves on waterways, but the activity is largely restricted to the Ganga-Bhagirathi-Hooghly system, the Brahmaputra, the Barak river, the rivers in Goa, the backwaters of Kerala, inland waterways in Mumbai, and the delta regions of the Godavari and Krishna.

Overall, waterways account for just about 3% of all freight movement in India, and the mode remains grossly underutilised, officials say. Also, according to the calculations in various government papers, the same amount of energy can move several times more cargo (by weight) by water than it can move via rail or by road.

Authority and Act

The Inland Waterways Authority of India (IWAI) was established in 1986. Five waterways were identified, but the investment in them remained inadequate. Between 1986 and 2014, India spent only Rs 1,456 crore on its inland waterways. In comparison, China invested \$15 billion (Rs



1,09,000 crore) from 2005-10, and Germany pumped in €9 billion (Rs 77,000 crore) in its waterways in 2016 alone. After the NDA government came to power, India invested Rs 1,605 crore in this sector from 2014-18. The National Waterways Act, 2016, which came into effect on April 12 that year, merged existing Acts to make a law to notify 106 National Waterways, including the existing five.

Constraints and effort

There are multiple constraints in transporting men and materials perennially on inland waterway corridors. Periodic dredging is required to clear the silt that comes with the monsoon, so that ade-

quate depth is maintained. Both fixed and floating terminals are needed at multiple points along the waterways. Many rivers are becoming progressively drier; many of those that retain adequate volumes are spanned by low bridges that would hinder passage of larger vessels.

The Jalmarg Vikas Project approved by the Cabinet in January this year receives financial assistance from the World Bank to upgrade navigability on National Waterway 1 from Varanasi to Haldia, a distance of 1,380 km. The project seeks to develop a fairway of 3-metre depth in phases, at an estimated cost of Rs 5,369 crore.

The project is intended to be completed by 2023.

There are plans to develop three multimodal terminals along National Waterway 1. Apart from the one in Varanasi, being built for Rs 169.59 crore, there is one planned in Sahibganj in Jharkhand, and the third in Haldia. It also involves building a Farakka navigation lock for Rs 359 crore, to be completed by June 2019.

The government has also tapped the National Clean Energy Fund and the Central Road Fund for the initiative, and has borrowed from the market by issuing government bonds.

Northeast milestone

Completing a month-long, 2,085-km voyage from Bihar to Assam, 1,233 tonnes of bagged fly ash from NTPC's Kahalgaon plant reached Guwahati's Pandu Inland Port, marking one of the longest hauls in waterways sector movement in India. The government called it "a critical integrated movement through three waterways — NW1 on the Ganga, the Indo-Bangladesh Protocol (IBP) route, and NW2 on the Brahmaputra.

The PepsiCo cargo

Since August 2016, when Minister Gadkari flagged off a consignment of Maruti cars from Varanasi to Haldia, pilot movements have been carried out on various stretches of NW1.

More than 15 voyages have been completed, including integrated movements through multiple waterways. What the PepsiCo cargo shows is that a commercial shipment can use this as a viable, working route for transportation.