

Central Water Commission  
Water Systems Engineering Directorate

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West Block II, wing No- 5  
R K Puram, New Delhi-66  
Dated 24.10.2018

***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.

*Prof. Ashwani*  
24.10.18  
SPA (Publicity)

Deputy Director, WSE Dte. *on leave.*

*o/c*

Director, WSE Dte. *in presence*

For information to:

Chairman, CWC, New Delhi

Member (WP&P/D&R/R.M.), CWC and all concerned, uploaded at [www.cwc.gov.in](http://www.cwc.gov.in)

Hindustan Times  
Statesman  
The Times of India (N.D.)  
Indian Express  
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Hindustan (Hindi)

Nav Bharat Times (Hindi)  
Punjab Keshari (Hindi)  
The Hindu  
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Deccan Chronicle  
Deccan Herald

M.P. Chronicle  
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Business standard

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# JNU forecast stn to fight floods and droughts

JNU'S AUTOMATED WEATHER STATION (AWS) WILL  
GIVE REAL-TIME DATA FOR EVERY 15 MINUTES

IT HAS SENSORS FOR

Wind  
speed &  
direction

Pollution  
(PM2.5, PM10)  
to cover 10km

Lightning chip  
to detect  
thunderstorm  
around 40km

Rain gauge

TIMES NEWS NETWORK

**New Delhi:** The capital now has a new weather and pollution forecasting system. The Automatic Weather Station (AWS) and Environmental Monitoring Station (Ambience Air Quality Monitoring Station) launched on Tuesday at the Special Centre for Disaster Research will help in the field of hydro-meteorological disaster risk mitigation to reduce incidents of floods and droughts.

The system, which can measure wind speed, direction, pollution, thunderstorm and weather, will provide real-time data every 15 minutes, which will be displayed at the JNU main gate. The SCDR, a new Centre in JNU, will work to provide weather data to research students of the varsity.

The Centre signed a MoU with Skymet, a company working in the field of weather forecasting. As part of the MoU, JNU has put in place an AWS system in their campus. "Delhi

flow changes multiple times in the season, it is necessary to have real-time data," said JNU registrar, Pramod Kumar.

Kumar said that while JNU is not doing any pollution activity, "research suggests that Nitrate and Sulphate deposition is more in JNU than at ITO. The pollutant generated there comes to JNU," he added.

SCDR head, Anita Singh, said that if the data on wind speed, direction, humidity and other factors is available, then pollution can be known. Singh added that a community radio will be set up to disseminate information about weather and pollution to the campus and adjoining areas. "We may have our own or collaborate with IIMC for the radio," she pointed out.

The university is also planning to include weather forecasting as part of their first-ever course, which will start this year. Jatin Singh of Skymet said with the launch of AWS, JNU will improve its data



News item/letter/article/editorial published on 24.10.2018 in the

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# State signs MoUs with Israel on agri research

TRIBUNE NEWS SERVICE

CHANDIGARH, OCTOBER 23

The state government on Tuesday signed four memorandums of understandings (MoUs) with Israel to boost cooperation in water conservation and management as well as agricultural research and education.

The MoU on water management was signed between the Punjab Water Resources Management and Development Corporation and Israel's national water company, Mekorot Development and Enterprise Ltd.

Under the MoU, the Israeli company will formulate a water conservation and management plan for Punjab within two months to counter the overexploitation of groundwater resources.

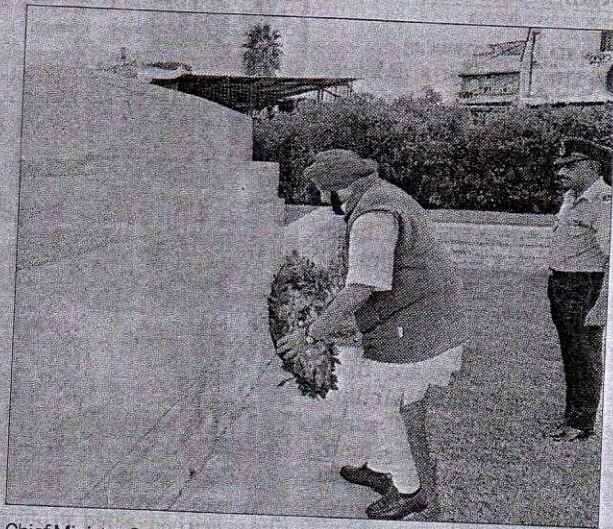
The other three MoUs, relating to agricultural research, have been signed by Punjab Agricultural University with Israel's ARAVA Institute, Tel Aviv University

and Galilee International Management Institute.

Meanwhile, Chief Minister Capt Amarinder Singh met Israeli President Reuven Rivlin to discuss a range of subjects, with the focus on engaging with Israel for technical collaboration and support in the areas of water

management, agriculture and homeland security.

The Chief Minister later visited the Commonwealth Cemetery for the Battle of Haifa martyrs and paid tributes to the Indian soldiers who had laid down their lives protecting the Israeli city of Haifa during World War I.



Chief Minister Capt Amarinder Singh lays a wreath at the Commonwealth Cemetery in Haifa, Israel, on Tuesday. TRIBUNE PHOTO

News item/letter/article/editorial published on 24.10.2018 in the

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## सिंधु जल संधि पर पाक बौखलाया <sup>14</sup>

इस्लामाबाद। सिंधु जल संधि को लेकर जम्मू कश्मीर में दो पनबिजली परियोजनाओं में पाक अधिकारियों को दौरा करने की अनुमति भारत से नहीं मिलने के बाद पाक बौखला गया है। पाक इस पर ध्यान आकर्षित कराने को झूठा अभियान चलाने की तैयारी में है। सेयद मेहर अली शाह ने कहा कि भारतीय जल आयुक्त ने वार्षिक बैठक में वादा किया था कि सितंबर के अंतिम हफ्ते में घाटी में 48 मेगावाट की लोअर कलनाई परियोजना के दौर का प्रबंध किया जाएगा। (एजेंसी)



News item/letter/article/editorial published on 22.10.2018 in the

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Punjab Keshari (Hindi)  
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## DRY WEATHER TO PREVAIL OVER STATE

DC CORRESPONDENT  
HYDERABAD, OCT. 21

The southwest monsoon has withdrawn from the remaining parts of the country on Sunday.

Dry weather is likely to prevail over Telangana state with a partly cloudy sky predicted for the capital over the next week. As the southwest monsoon retreats, rain-fall deficient regions are increasing in south Telangana. In the monsoon period, Hyderabad too received deficient rainfall.

According to the IMD, the northeast monsoon rainfall is very likely to commence over south-east peninsular India from around October 26. A low pressure area lies over the north Andaman Sea. The associated cyclonic circulation is likely to become more pronounced by Monday.

The upper air cyclonic circulation over south-west Bay of Bengal, now lies over south-west Bay of Bengal off Sri Lanka, Tamil Nadu coasts and extends up to 4.5 km above mean sea level.

■ **THE NORTHEAST** monsoon rainfall is very likely to commence over southeast peninsular India from around October 26.



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# 180 talukas in Maharashtra facing drought-like situation: Fadnavis

Opp Cong says BJP-led govt should straightaway declare drought, stop using 'scarcity-like' or 'drought-like' terminologies

PRESS TRUST OF INDIA  
MUMBAI, 23 OCTOBER

**A**round 180 talukas in Maharashtra are facing a drought-like situation, chief minister Devendra Fadnavis said on Tuesday.

These talukas have been identified on the basis of norms laid down by the Centre, he said. The situation, he added, has arisen as the state received only 77 per cent of its average rainfall this year.

The Opposition Congress slammed the BJP-led government over the issue, saying it should straightaway declare drought in the state and stop using terminologies like 'scarcity-like' or 'drought-like' to describe the situation.

"A situation of drought has developed in Maharashtra. The state has received only 77 per cent of its average annual rainfall. I have declared

180 talukas to be facing a drought-like situation as per the norms of the Centre and immediate measures are being taken in view of the situation," Fadnavis told reporters after a weekly state Cabinet meeting here.

The state has more than 350 talukas spread across 36 districts.

He said relief measures being undertaken by the state government include concession in land revenue, educational fees, continued power supply for agriculture pumps and deploying tankers for supplying drinking water in the talukas (an administrative unit in a district) facing water scarcity.

Fadnavis said a Central government team will soon visit the state and declare financial assistance to deal with the situation.

Asked about the Opposition's criticism over a Water Resources Department report,



DEVENDRA FADNAVIS  
CHIEF MINISTER, MAHARASHTRA

The Congress is insulting farmers and villagers who toiled hard to make Jalyukt Shivar scheme

a success and made their villages drought-free... The scheme doesn't say there'll be water if there are no rains

which stated that the groundwater level in 14,000 villages across 252 talukas has gone down by at least a metre, he said the state has received insufficient rainfall in the last three years.

He rejected the Congress criticism of the government's flagship water conservation scheme, 'Jalyukt Shivar', and noted farmers have worked hard to make it a success.

The Congress has alleged the scheme is beset with corruption and despite its implementation, groundwater levels have dropped alarmingly in the state.

"The Congress is insulting farmers and villagers who toiled hard to make Jalyukt Shivar scheme a success and made their villages drought-free. "This scheme means there should be water (for conservation) even if there is less rain. It does not mean there will be water if there are no rains," he said.

The chief minister said last year, the state received 80 per cent of its average rainfall, but still the farm productivity increased.

"There was less water for three continuous years, so we are using that water in the ground for farming. Therefore, agricultural production increased by 27 per cent.

"Since there have been insufficient rains, we have

used the water (conserved) through Jalyukt Shivar (for farm purposes) and hence storage is bound to go down," he said.

The micro-irrigation scheme involves deepening and widening of streams, construction of cement and earthen stop dams and digging of farm ponds.

The chief minister said no one should politicise the issue.

"Maharashtra has seen many droughts but this is the first time when a drought is being declared in October. The Centre has adopted scientific norms for declaration of drought.

Maharashtra Congress president Ashok Chavan on Tuesday asked the Fadnavis government to declare drought in the state and immediately provide financial assistance to tackle the situation.

"The state government should straightaway announce 'drought' and stop the word

play wherein it is using terms like 'scarcity-like' or 'drought-like'," the former chief minister told reporters here.

He said the situation in the state is grim. Farmers have lost their kharif (summer) crops, while sowing for rabi (winter) season is severely affected.

"Irrespective of this, ministers are busy in jugglery of words such as 'scarcity-like' and 'drought-like' situation," Chavan said.

He demanded urgent setting up of cattle sheds and deployment of water tankers in the affected areas.

Chavan alleged that 'Jalyukt Shivar' is the "biggest scam" in the state. "Groundwater level across the state is depleted significantly despite thousands of crores are being spent on this scheme which is the biggest scam of this government," Chavan alleged.

The Congress leader said farmers are angry with the BJP government.



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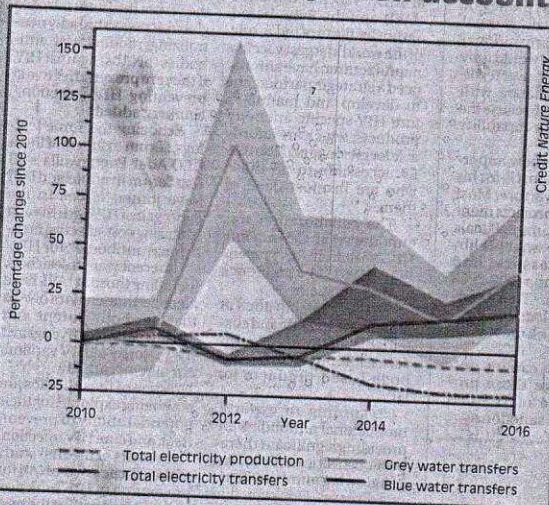
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# Getting more water-stressed

The export of electricity is also a transfer of resources, but that has barely been accounted for, until now



**S ANANTHANARAYANAN**

The raw material that goes into a finished product is sometimes not apparent. Direct material, labour, energy and overheads are regularly accounted for. The value of a resource, like water, which has been consumed in generating electricity, however, does not get measured when electricity is metered.

Christopher M Chini, Lucas A Djedhian, William N Lubega and Ashlynn S Stillwell, from the College of Engineering, University of Illinois, in the journal *Nature Energy*, consider the distribution of electricity over the grid as a case of virtual export of the water that goes into production of electricity. They divide the water used according to its quality and the extent of its degradation and analyse its movement, not physically, but virtually, along with the electricity that flows from the point of generation to centres of

distribution and consumption.

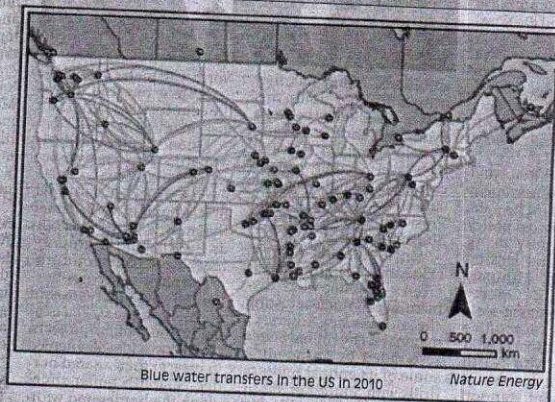
"Thermoelectric power plants account for 90 per cent of electricity generation in the United States and are the largest withdrawers of water in the country. In addition, water is consumed via evaporation in hydropower," the paper says. The sources of electricity in India are similar. 84 per cent in total from coal, biomass, gas and nuclear, and 10 per cent from hydroelectric plants. The study based on the US would hence be equally relevant to India. The paper describes the water footprint of electricity generation, as an analogy of the water footprint of food, as either blue or grey. In agriculture, the blue water footprint is the consumption of water from rivers or lakes that is consumed for irrigation, and the green water footprint is the water from rainfall. Grey water is the water that is used to dilute and assimilate pollutants. In power generation,

the blue water footprint is in the case of cooling towers of thermal plants and the evaporative loss in hydro plants. Grey water in thermal plants is the run-off, which carries heat, thermal waste, into the environment. This run-off water can be dangerous to fish and plant life and most states have regulations of how far this water needs to be cooled. The network that the water footprint of food forms with the food trade has been studied to create regional maps of how virtual water gets transferred, underlining the dependence of consuming centres on the aquifers in producing regions, the paper says. "However, the coupling the water footprints of electricity with electricity transfers, to map and determine the changing properties of the electricity-virtual water network is a relatively understudied, but important, area of the energy-water nexus," the paper says. The paper points out that unlike food produce, which is physically transported, with identified points of supply and consumption, in the case of electricity, all production centres are simply connected to the grid. Electricity produced at a centre then loses its identity and consumers can be connected anywhere over the national or even international grid. As electricity carries with it a component of embedded resources, such as water, it is important to understand the dynamics of consumption of resources that are transferred.

Traditionally, the policies have sought to minimise the resources consumed at the supply side, the paper says. Details of the end-use water footprints, however, are necessary for planning, policy and for conserving resources. Studies conducted over a limited geographical area and not over an extended period have not been able to make this available. The University of Illinois group hence combined the existing regional studies to create a network of electricity transfer data covering the whole of the US, over a seven year period, from 2010 to 2016. A noteworthy trend in the trans-

## SOURCES OF ELECTRICITY IN INDIA (2017-18)

SOURCE	GW	PERCENTAGE
Coal	986,591	75.9
Large Hydro	126,123	9.7
Small Hydro	5,056	0.4
Wind Power	52,666	4.0
Solar Power	25,871	2.0
Biomass	15,252	1.2
Nuclear	38,346	2.9
Gas	50,208	3.9



fer of virtual water is displayed by the graph. While the total electricity production went down, from 2010 to 2016, and the transfers remained unchanged, there was substantial increase in the transfer of virtual water. While the peak in 2012 can be explained by the nation-wide drought in the US, there is rise in other years too. The study was designed as a network where the nodes were the Power Control Areas (PCAs), where the output of a number of nearby plants is managed) and the value of the links between nodes, which is called the "weight", was the embedded water resources in the transfer. An example is the network of blue water transfers, shown in the picture. Analysis of the networks threw up a number of conclusions. For instance, it was seen that the nodes, which had the most number of connections to other nodes were the ones that managed a greater share of virtual water. The relationships between the virtual water handled and properties of the network then provides direction for PCAs to minimise their water footprint by selecting the electricity they import, as well as the potential for policies to intervene. The study provides a mechanism to identify the points of consump-

tion that intensify water water-use pressure on points of production. "A potential burden shift" and regional and seasonal interdependence, the paper says. There could then be levies and subsidies, to incentivise, as well as selection of the mode of development of industry in different regions, to minimise and rationalise water consumption.

Scientific rationalising of costs and benefits would go a long way to stabilise markets, equalise opportunity and optimise resource use, in all parts of the world. There are groups that have been protesting against the virtual nuclear waste that is carried by electricity produced in nuclear plants in one country, but exported to another country. The production of electricity all over the world, which carries virtual water resources, is still 94 per cent from conventional thermal (include nuclear) and hydroelectric sources. This is likely to be the dominant source for many decades, during which the world would get progressively more water-stressed.

The writer can be contacted at response@simplescience.in



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## गंगाजल चार जगह ही पीने योग्य

नई दिल्ली, (एजेंसी): देश में गंगाजल सिर्फ चार स्थानों पर ही पीने योग्य है। गोमुख से कोलकाता तक पानी की मात्रा अधिकतर जगह खराब है। हम निर्मल गंगा और अविरल गंगा की भले ही कितनी बातें की जाती हों लेकिन गंगाजल आज भी पीने योग्य नहीं है। देश के कई ऐतिहासिक शहरों से होकर गुजरने वाली गंगा के तटों पर स्थिति बिगड़ती चली गई। गुणवत्ता निगरानी केंद्रों की ताजा रिपोर्ट के मुताबिक गोमुख से कोलकाता तक सिर्फ चार स्थानों पर गंगाजल की गुणवत्ता ए श्रेणी की है। बाकी स्थानों पर पानी की गुणवत्ता कहीं ज्यादा खराब पाई गई है। जानकारों ने इस स्थिति को बेहद गंभीर बताया है। पर्यावरण मंत्रालय द्वारा स्थापित 66 गुणवत्ता निगरानी केंद्र गंगाजल की गुणवत्ता की निगरानी कर रहे हैं। इसका

रियलटाइम डाटा अब ऑनलाइन भी उपलब्ध है। यह केंद्र पानी में डिजॉल्व आक्सीजन (डीओ), बायोकेमिकल आक्सीजन डिमांड, टोटल कोलीफॉर्म तथा पीएच की जांच करते हैं। इन चार मानकों के आधार पर गंगाजल की गुणवत्ता तय की जाती है। इन स्थानों पर ट्रीटमेंट के बिना पीना खतरनाक गुणवत्ता

### यहां पीने योग्य

गुणवत्ता निगरानी केंद्रों के आंकड़ों की मानें तो तय मानकों पर केवल रुद्रप्रयाग, देवप्रयाग, ऋषिकेश तथा मध्य गंगा ब्रिज बिजनौर में ही गंगाजल की गुणवत्ता ए श्रेणी की पाई गई है। यानी इन चार स्थानों के गंगाजल को कीटाणुशोधन के बाद पिया जा सकता है। इन मानकों पर परखा गया : केंद्रीय प्रदूषण नियंत्रण बोर्ड ने गंगाजल के लिए जो मानक रखे हैं, उनके अनुसार डीओ की मात्रा प्रति लीटर 6 मिलीग्राम से ज्यादा होनी चाहिए। जबकि बीओडी की मात्रा दो मिलीग्राम से कम होनी चाहिए। कोलीफॉर्म प्रति 100 मिलीलीटर पानी में 50 से नीचे होने चाहिए। जबकि पीएच 6.5 से 8.5 के बीच होना चाहिए। इन पैरामीटर में सिर्फ चार केंद्र खरे उतरे हैं।

निगरानी रिपोर्ट के अनुसार उत्तराखंड के दो, उत्तर प्रदेश में एक और बिहार में तीन स्थानों पर ही गंगाजल की गुणवत्ता सी श्रेणी की पाई गई। यहां के गंगाजल को ट्रीटमेंट और कीटाणुशोधन के बाद पीने योग्य बनाना संभव है। इनमें उत्तराखंड से हरिद्वार, रुड़की, यूपी से गढ़मुक्तेश्वर और बिहार से आरा-छपरा ब्रिज, जनता घाट तथा राजमहल शामिल हैं।