

Central Water Commission  
Technical Documentation Directorate  
Bhagirath(English)& Publicity Section

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*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.

S. Mahram  
7.2.18  
SPA (Publicity)

Encl: As stated above.

Deputy Director (Publication)

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# Canal network revived

After 25 years, water was carried to villages on the Rajasthan border

SATBIR SINGH KADIAN

**T**he efforts of Chief Minister Manohar Lal, who has the Irrigation portfolio, have borne fruit.

It was history in the making when water was carried to villages on the Rajasthan border after a span of more than 25 years. The canal network built by former CM Bansilal was on the verge of extinction when Manohar Lal took over and turned the whole system around. It has impacted an over 5 lakh populace and created more than 32000 man-days of MNRGA employment. Haryana has been the first state to utilise MNREGA in capacity building and revamping the canal network.

A brief background on the lift canal system would be

appropriate. Lift irrigation system means lifting water from lower surface to upper surface as well as lifting it to dry sloppy areas.

The system was introduced in 1970-1971 in Haryana, a move ahead of its times. It was inspired by the Tennessee Valley project in USA. Those who have travelled to Hathnikund as well as the desert terrain of Loharu and Narnaul will vouch for the fact that half a century ago one could not imagine any connection between the two. The credit must go to those visionary souls who not only dared to dream but made things happen. The lift system saw its golden age till the early 80s and then the decline started. Some canals were buried 15 feet deep beneath desert sands and the pump house, already ram-



like a teardrop on the history of time.

The masses suffered. The safe operations of Jawaharlal Nehru (JLN) canal were merely to the tune of 1600-1800 cusecs in a canal which had capacity of 3451 cusecs. Over Rs 65 crore has been spent on this canal from 2004-2014. The

safe operations of the JLN feeder remained below 50 per cent till 2016.

After the new dispensation took over in October 2014, the focus from survival to restoration started. Major steps were taken in 2016 and implementation at the grassroots level started. With meagre

investment on the JLN feeder the operations have been restored to almost 85 per cent capacity. The NABARD project costing Rs 143 crore is in the final stages of implementation and will be completed before May 2018. Also more than Rs 25.75 crore has been sanctioned to revamp the Loharu lift system which will be completed before June 2018.

The water security of Narnal, Mahendergarh, Loharu, Dadari, Bhiwani and Rewari has been ensured to a great extent. Recharging in Jal Mahal, Masani Barrage, Krishnawati Riverbed, Dohan Riverbed and Hamidpur Bund will have a long-term impact on sustainable groundwater in Haryana.

The state is yet to receive water from SYL but simple grit to achieve the goal to carry

water to the last mile has borne results. The work involved documenting the status of each pump on every pump house. More than 237 pump houses with over 5000 pumps were scanned and operation hours of each pump was analysed. Defunct pumps were dismantled and all useable parts separated and matched.

The key bottlenecks in pump operations and the reasons for pump breakdown especially motor burning were studied. Thereafter, it was decided that the sumps were to be cleaned by the mechanical wing as they run the pumps. All trash racks were repaired and installed again. Barrier walls were created to stop outside silt inflow in sumps and the operation of pumps was scheduled to reduce silt load.



The overall result has been:  
1. The JNL feeder carried over 150% water compared to 2014

2. MGC carried over 200% water compared to 2014

3. JLN canal carried 300% more water compared to 2014  
The Centre has recognised

this work done by Haryana the Irrigation Department was felicitated by Union Minister for Water Resources, Clean Ganga Mission Gadkari on 3 January. (The author is Haryana Irrigation and Water Resources Department's Chief Engineer)



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# Solar System 2.0 may have water-rich planets: Study

ST-7  
EVA, 6 FEBRUARY

ets around the faint red star  
PIST-1, just 40 light-years  
Earth, may host signifi-  
amounts of water, scien-  
say.

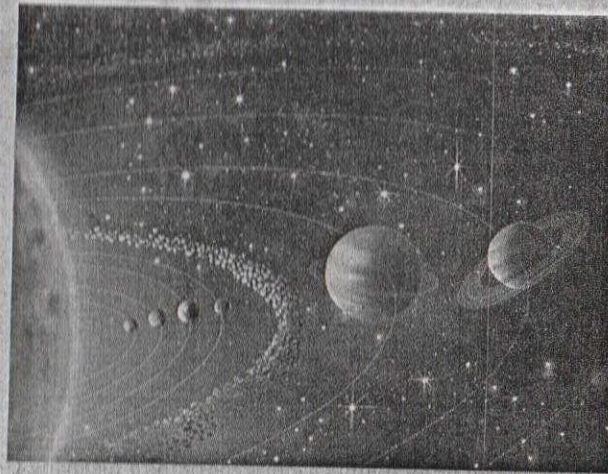
he TRAPPIST-1 planetary  
m was first detected in 2016.  
year, further observations  
ved that there are at least  
planets in the system, each  
ly the same size as the

These are named TRAP-  
1b, c, d, e, f, g and h, with  
asing distance from the  
al star. Scientists led by  
n Grimm at the Univer-  
of Bern in Switzerland  
now applied very complex

computer modelling meth-  
ods to all the available data and  
have determined the planets' densities with much better precision than was possible before.

"The TRAPPIST-1 planets are so close together that they interfere with each other gravitationally, so the times when they pass in front of the star shift slightly," said Grimm.

"These shifts depend on the planets' masses, their distances and other orbital parameters," he said. "With a computer model, we simulate the planets' orbits until the calculated transits agree with the observed values, and hence derive the planetary masses," he added.



The measurements of the densities, when combined with models of the planets' compositions, strongly suggest that

the seven TRAPPIST-1 planets are not barren rocky worlds, researchers said. They seem to contain significant amounts of volatile material, probably water, amounting to up to five per cent the planet's mass in some cases. By comparison the Earth has only about 0.02 per cent water by mass, researchers said.

TRAPPIST-1b and c, the innermost planets, are likely to have rocky cores and be surrounded by atmospheres much thicker than Earth's.

TRAPPIST-1d, meanwhile, is the lightest of the planets at about 30 percent the mass of Earth. Scientists are uncertain whether it has a large atmosphere, an ocean or an ice

**TRAPPIST-1b and c, the innermost planets, are likely to have rocky cores and be surrounded by atmospheres much thicker than Earth**

layer. TRAPPIST-1e is the only planet in the system slightly denser than Earth, suggesting that it may have a denser iron core and that it does not necessarily have a thick atmosphere, ocean or ice layer, researchers said.

It is mysterious that TRAPPIST-1e appears to be so much rockier in its composition than the rest of the planets.



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# State groundwater most contaminated

VIJAY MOHAN  
TRIBUNE NEWS SERVICE

CHANDIGARH, FEBRUARY 6

While making up less than 2 per cent of India's land-mass, Punjab accounts for 88 per cent of the total habitations in the country that are adversely affected with the presence of heavy metals in groundwater.

Till December 2017, as many as 2,139 habitations or villages in the state were reported to the integrated management information system of the Ministry of Drinking Water and Sanitation as having more than the permissible levels of heavy metals.

The total number of affected villages in the country, according to the data compiled by the Central Ground Water Board (CGWB) is 2,420, which includes 273 in West Bengal, seven in Assam and one in Karnataka. The neighbouring states of Haryana, Himachal Pradesh, Rajasthan and Jammu and Kashmir have not reported water contamination by heavy metals in any of their habitations.

Heavy metals include aluminium, nickel, cadmium, chromium, lead and mercury and their enhanced presence in environment is due to increasing levels of domestic

## Heavy metals: 2,139 villages hit hard

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and industrial effluents, excessive use of fertilisers and unscientific disposal of toxic items. They are hazardous to human health as well as ecology.

The contamination of groundwater by lead is more prominent in the districts of Amritsar, Bathinda, Ferozepur, Gurdaspur, Muktsar and Ropar. Cadmium has a higher presence in Fatehgarh Sahib, Ludhiana, Nawanshahar, Patiala, Ropar, Sangrur, SAS Nagar and Tarn Taran districts. Chromium is the major contaminator in Amritsar, Bathinda, Gurdaspur, Kapurthala, Mansa, Ropar, Barnala, Sangrur, SAS Nagar and Tarn Taran districts.

Punjab is also among the

states that tops the charts for the presence of fluoride, arsenic nitrates and iron in groundwater. The number of villages affected by these elements in Punjab is much more than that in Haryana and Himachal.

The deterioration of groundwater quality as well as falling levels has been cause of concern for the past few decades.

Analysis of pre-monsoon data for 2017 with the 2007-2016 decadal average carried out by the CGWB reveals that 85 per cent of survey wells in Punjab showed a fall in water level. For Haryana, Himachal and Rajasthan, the fall is in 69, 63 and 50 per cent of the wells.