

Telangana Today- 23- August-2021

# KLIS' largest reservoir receives Godavari water

The trial run for Mallanna Sagar was conducted at Thukkapur Pump House in Siddipet

STATE BUREAU  
HYDERABAD

Mega Kaleshwaram Lift Irrigation Scheme achieved another major milestone on Sunday when water from River Godavari was pumped into Komuravelli Mallanna Sagar reservoir. The trial run of pumping water into the reservoir by the Irrigation Department is particularly significant since Mallanna Sagar is the largest reservoir under the complex KLIS network, and a major dream of Chief Minister K Chandrashekhara Rao to meet irrigation and drinking water needs in the State.

The authorities conducted the trial run at Thukkapur Pump House in Thoguta mandal of Siddipet district and diverted water from the Kaleshwaram canal into the reservoir. KLIS Engineer-in-Chief



Komuravelli Mallanna Sagar project, which has a storage capacity of 50 tmc, will store up to 10 tmc commencing this year.

Hariram performed special puja before switching on the pumps at around 3.30 am. They operated Pump-1 and Pump-2 of the eight heavy pumps installed at the pump house. The water pumped

into Mallanna Sagar travelled through four reservoirs, beginning with the Medigadda barrage and then Yellampalli, Mid Manair, Ananthagiri and Rangamayaka Sagar reservoirs.

Mallanna Sagar project, which has a storage capacity of 50 tmc, will store up to 10 tmc commencing this year. The water can be released further to fill Kondapocamma Sagar. (SEE PAGE 2)

Deccan Chronicle- 23- August-2021

# Hydrographic survey on to assess storage at Srisaillam

DC CORRESPONDENT  
KURNOOL, AUG. 22

With Krishna river management being taken over by the Union government, a hydrographic survey was commissioned at Srisaillam reservoir to assess its storage capacity.

A team of hydrologists, along with oceanography engineers, began the survey on Sunday. The reservoir depth has been shrinking in the past 45 years.

While AP engineers said that the present

capacity is no more than 175 tmc ft (thousand million cubic feet), the recorded capacity since 10 years hovers around 215.6120 tmc ft.

Srisaillam dam chief engineer Muralinath Reddy said there was a steady depletion of reservoir depth due to sedimentation and other environmental causes.

Reddy said that storage capacity at the Srisaillam reservoir had shrunk from 308.60 tmc ft in 1977 to 215.6120 tmc ft, a loss of almost 93 tmc ft.

Muralinath Reddy said

“Our estimate of present storage capacity is 175 tmc ft or less. As the Krishna river management is with the Centre, it has commissioned the survey to dispel doubts over the storage capacity. The team is conducting the depth of the reservoir and the inflow levels to arrive at the displacement of water finally leading to measuring the storage capacity accurately,” he said.

A hydrologist said the survey includes recording of soundings at an interval of 5 metres.

Deccan Herald- 23- August-2021

## Water in Amarja river catchment affected by microbial pathogens: study

GURURAJA B R  
KALABURAGI, DHNS

Several regions in the catchment area of Amarja river are highly affected by microbial pathogens which could affect public health, according to a study.

Syed Shams Ahmad Rizvi from the Geology Department of the Central University of Karnataka conducted a study on the quality of Amarja water for his thesis, which revealed the presence of bacterium groups such as total coliform and *Escherichia coli*, *Pseudomonas aeruginosa* and sulphite-reducing bacteria. These pathogens are responsible for food poisoning, intestinal infection,



A file picture of water gushing out of Amarja dam in Aland taluk of Kalaburagi district. DH FILE PHOTO

dysentery and other dangerous diseases.

Tests were conducted to ascertain whether the water is potable. The drinking suitability of

groundwater around the catchment was not good except in a few places. The pH was close to the permissible limit and higher at some places.

Higher concentrations of total dissolved solids (TDS), Calcium, Magnesium, Bicarbonate, Chloride, Nitrate and hardness were recorded except in a few cases.

“Of the 32 samples collected from several villages of the river catchment area, half of the samples are unfit for drinking. Fluoride content at three locations was found to be much higher than the permissible limit. Several cases of diseases caused by fluoride were noticed during the field work,” explained Rizvi.

The irrigational suitability of groundwater was within the limit for irrigation except in a few locations. There is a higher

chance of an increase in fluoride contamination level in the study area as it is a semi-arid region with a low precipitation zone.

Rizvi, in his study, advised water authority agencies to focus on immediate measures to reduce the sources of fluoride content. Community awareness programmes can help for capacity building to minimise the effect on human beings, he said.

Amarja river joins Bhima River at Ganagapura village in Kalaburagi district. Apart from irrigation purposes, Amarja river water is being utilised for drinking purposes in several villages in Aland taluk where a dam has been constructed across the river near Sangolgi village.



Millennium Post- 23- August-2021

DJB IS INTENT ON REVIVING AROUND 50 WATER BODIES IN THE CITY

# DJB floats water-cleaning organic wetlands over lakes across Capital

## OUR CORRESPONDENT

NEW DELHI: The Delhi Jal Board is now setting up floating platforms with plants across the city's lakes in an attempt to clean them of nutrient pollutants and by extension improve the water there. These "floating wetlands" have plants that have roots with bacteria that can separate organic waste from the water in the lakes.

These floating platforms have recently been installed at the Sanjay Van Lake and had also been early placed in lakes at Nangloi and Rajokri but officials working on the "City of Lakes" project of the DJB have said that these floating platforms alone may not be enough to clean the water adequately.

On these floating wetlands, which can cost between Rs 8,000 to Rs 10,000 apiece along with

## Highlights

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» Officials have explained that an aeration system also needs to be put in place that will supply the required amount of oxygen to the bacteria in the plants' roots, which in turn helps to clean out ammonia and other pollutants from the lakes thereby reducing the biological demand for oxygen

maintenance, pampas grass, spider lily, yellow and red canna, elephant ear plants, and soft rush or bulrush plants. Officials have said that nearly 600

such floating "wetlands" have been installed in the Sanjay Van Lake and over 1,300 have been installed at the Sonia Vihar lake. In addition to this, the wetlands

have been installed at the Jaffarpur Kalan Lake, Nangloi lake, and Ranikhera.

Officials have explained that an aeration system also needs to be put in place that will supply the required amount of oxygen to the bacteria in the plants' roots, which in turn helps to clean out ammonia and other pollutants from the lakes thereby reducing the biological demand for oxygen.

Curiously, however, the plants on the floating wetlands contribute to cleaning up just around 10 to 12 per cent of the pollutants themselves with officials saying that the need for the aeration system only increases as the plants grow and mature. Officials said that as the plants grow, their intake of the polluting nutrients is reduced, necessitating the aeration system's use.

Significantly, the aeration

systems that complement the floating wetlands are still in the making with officials saying that they are planning to introduce these floating platforms in ten lakes across the city as part of their project. Regardless, the DJB has said it will ensure the maintenance of these sites once the wetland systems are in place. The project by the Delhi Jal Board is intended to revive around 50 water bodies in the city with work on nearly 20 such water bodies nearing completion.

However, given what DJB officials have said about the systems being put in place, it would seem to experts that authorities are not exploring more efficient methods, adding that they should first focus on making sure that no pollutants on drain water enter the lakes in the first place.

Indian Express- 23- August-2021

# Water, Water Everywhere... But Not A Drop To Drink!

World Water Week is about a good time as any to take a long hard look at some alarming facts and figures. Who says statistics can't kill?



Less than 50% of the population in India has access to safely managed drinking water

## WATER RESOURCES & SCARCITY

- Of all water on earth, 97% is saltwater. Of the remaining 3% freshwater, 70% is frozen in the polar icecaps. The other 30% is mostly present as soil moisture or lies in underground aquifers. (U.S. Geological Survey, 2009)
- Less than 1% of the world's freshwater is readily accessible for direct human use. (U.S. Geological Survey, 2009)
- The global volume of stored groundwater is poorly known; estimates range from 15.3 to 60 million kms. (4th UN World Water Development Report, 2012)
- Around 20% of the total water used globally is from groundwater sources (renewable or not), and this share is rising rapidly, particularly in dry areas. (Comprehensive Assessment of Water Management in Agriculture, 2007)
- Global aggregated groundwater use: Irrigation 67%, Industry 11%, Domestic Use 22%. (4th UN World Water Development Report, 2012)
- The world's water crisis is not related to the physical availability of water; but to unbalanced power relations, poverty, and related inequalities. (UNDP: Human Development Report, 2006)
- Water scarcity can roughly be divided into two categories: *Apparent scarcity* exists when there is plenty of water

but is inefficiently and wastefully used. *Real scarcity* is caused by insufficient rainfall or large populations depending on a limited resource. (SIWI: *On the Verge of a New Water Scarcity*, 2007)

- A nation's water footprint is defined as the total volume of freshwater, both green and blue, that is used to produce the goods and services consumed by the people of the nation, i.e. both food and other goods and services. (UNESCO-IHE: *A Quantification of Virtual Water Flows Between Nations in Relation to International Crop Trade*, 2002)
- The 10 largest water users (in volume) are India, China, United States, Pakistan, Japan, Thailand, Indonesia, Bangladesh, Mexico, and Russia. (3rd UN World Water Development Report, 2009)
- With rapid population growth, water withdrawals have tripled over the last 50 years. (3rd UN World Water Development Report, 2009). Water withdrawals are predicted to increase by 50% by 2025 in developing countries, and by 18% in developed countries. (UNEP: *Global Environment Outlook Report GEO-4*, 2007)
- Humans are over-consuming natural resources at an unsustainable rate. Around 3.5 Planet Earths would be needed to sustain a global population achieving the current lifestyle of the

average European or North American. (4th UN World Water Development Report, 2012)

- A child born in the developed world consumes 30 to 50 times as much water as one in the developing world. (1st UN World Water Development Report, 2003)
- According to UNDESA, the world population is predicted to grow from 6.9 billion in 2010 to 8.3 billion in 2030 and to 9.1 billion in 2050. At the same time, urban populations are projected to increase by 2.9 billion, to 6.3 billion in total 2050. (4th UN World Water Development Report, 2012)
- An estimated 90% of the people expected to be added to the population by 2050 will be in developing countries, many in regions already in water stress where the current population does not have sustainable access to safe drinking water and adequate sanitation. (3rd UN World Water Development Report, 2009)
- In 2030, 47% of the world population will be living in areas of high water stress. (OECD: *OECD Environmental Outlook to 2030*, 2008)
- As the urban population increases rapidly, many major cities have had to draw freshwater from increasingly distant watersheds, as local surface and groundwater sources no longer meet the demand for water; or as they become depleted or polluted. (2nd UN World Water Development Report, 2006)

## WATER SUPPLY, SANITATION & HEALTH

- To ensure our basic needs, we all need 20 to 50 litres of water free from harmful contaminants each and every day. (2nd UN World Water Development Report, 2006)
- In 2000, world leaders at the United Nations Millennium Summit committed themselves to attaining the Millennium Development Goals which aimed to halve the proportion of people without sustainable access to safe drinking water by 2015.
- With 2 billion people gaining access to clean water over the last two decades, the water target was reached in 2010, five years ahead of schedule. (WaterAid and Development Initiatives: *Addressing the shortfall*, 2012) However, there are still 884 million people using unimproved sources for drinking water globally. (4th UN World Water Development Report, 2012)
- 87% of the world's population uses drinking water from improved sources. 54% use a piped connection in their dwelling, plot, or yard, and 33% uses other improved drinking water sources such as public taps, standpipes, tube wells or boreholes, protected dug wells, protected springs, and rainwater collection. (WHO and UNICEF Joint Monitoring Programme (JMP): *Progress on Drinking Water and*

*Sanitation: Special Focus on Sanitation*, 2008)

- In many countries, policies and programmes underemphasise adequate financing and human resource development to sustain the existing infrastructure and to expand access to sanitation, drinking water, and hygiene services. (UN-Water: *GLAAS*, 2012)
- The provision of improved sanitation and safe drinking water could reduce diarrhoeal diseases by nearly 90%. (4th UN World Water Development Report, 2012). Improved water supply reduces diarrhea morbidity by 21%, and improved sanitation reduces diarrhea morbidity by 37.5%. (WHO: *Water, sanitation and hygiene links to health*, 2004)
- Up to 90% of wastewater in developing countries flows untreated into rivers, lakes, and highly productive coastal zones, threatening health, food security, and access to safe drinking and bathing water. (4th UN World Water Development Report, 2012)
- In many places of the world, a staggering 30 to 40% of water or more goes unaccounted for due to water leakages in pipes and canals and illegal tapping. (2nd UN World Water Development Report, 2006)





Indian Express- 23- August-2021

# Message In A Bottle

Despite getting off to a slow start in India, the packaged water industry has grown exponentially in recent times. The ongoing pandemic has driven home the benefits of clean drinking water that only a bottled product can provide, says **Ivor Vaz**



UNTIL THE TURN OF THE MILLENNIUM, it was unimaginable to foresee a scenario wherein people in the cities and towns of India would guzzle down a bottle of mineral water to slake their thirst. Why one needs to pay for water when it is available for free would be the main argument. But that's all changed in the last 20 years or so. Pure and clean drinking water is today considered to be a necessity by many, and not necessarily the rich alone. And judging by how the Covid-19 situation has panned out in the last year and a half, the demand for bacteria-and-virus-free, ozonized water that helps improving one's energy levels and boosts the immune system is only going to skyrocket further.

Truth be told, clean drinking water has perennially been one of the major challenges in a developing country like India. Hence it is not really surprising that the bottled water industry in India has been growing like never before in the last few decades. It is interesting to note that while the concept of bottled water came into existence in the

early 1900s in Western countries, it wasn't until the mid-'70s that people in India turned to bottled water.

At the outset, bottled water was believed to be a luxury meant for the rich. But later on, increasing health concerns and unavailability of clean drinking water (due to multiple factors including a huge increase in the population, the inflow of foreign students and tourists, and poor quality of tap water) led to the increase in the demand for bottled water. At present, working-class people spend a large part of their time outside their homes and do not prefer to drink the outside water due to safety issues. Instead, they opt to purchase bottled water as it is available everywhere at an affordable price. Many people living on the far fringes of India's cities have to deal with water-related issues daily, and hence prefer to purchase 20L bulk packages of water for home use, functions, small hotels and restaurants rather than installing water purifiers.

According to a recent UNICEF report, it is estimated that waterborne diseases have an economic burden of approximately

\$600 million a year in India. This is especially true for drought and flood-prone areas. Less than 50% of the population in India has access to safely managed drinking water. Chemical contamination of water, mainly through fluoride and arsenic, is present in 1.96 million dwellings.

As the government has failed to provide clean drinking water at all places, private players have not just filled the gap but also created a robust business. The best mineral water companies in India are focussing on augmenting their market shares by implementing effective marketing strategies and attractive packaging.

The packaged water industry in the country is regulated and all bottling units have to obtain Bureau of Indian Standards (BIS) certification as well as a Food Safety and Standards Authority of India (FSSAI) license before they can operate. The western region accounts for 40% of the market and the eastern region just 10%. However, the bottling plants are concentrated in the southern part of the country. More than 55% of the total bottling plants are in four southern states.

New Indian Express- 23- August-2021

# Irrigation project sees light in TS after roadblocks

R PRIDHVI RAJ @ Hyderabad

KOMURAVELLI Mallannasagar, the Telangana government's flagship project, began receiving water on Sunday. The project had hit many stumbling blocks, with opposition from residents in the area.

At 3.30 am, three of the eight pumps at the Tukkapur surge pool in Thoguta mandal of Siddipet district began pumping water into Mallannasagar. As waters rose up and fell into the surge pool from the pumps and rushed to Mallannasagar, it

heralded a new era of abundance in the State's perennially drought-hit hinterland.

"If each pump works for 24 hours, it can pump 0.3 tmcft water. We have eight pumps at Tukkapur. We intend to run them for a week to begin with. This is only a trial run," project superintending engineer T Venu told *Express*.

A part of the mammoth Kaleshwaram Lift Irrigation Scheme (KLIS), the Mallannasagar project had been stuck in

court litigation for a long time. Recently, the court had asked the government not to evict the oustees forcibly, but the police and the administration, using tact, managed to persuade all of them to move out to the rehabilitation colony which it had built for them at Mutrajpalli.

The Mallannasagar project is the last major reservoir in the long chain of projects under KLIS. It has a 50 tmcft storage capacity and is now being fed by the Tukkapur

surge pool.

The stumbling block in commissioning the project was the opposition by residents of a few villages who had refused to move out unless they were paid compensation in accordance with the 2013 Land Acquisition Act. There are about 150 families in Etigadda Kistapur, 60 in Vemulaghat, 30 in Palleshahad, and 10 in Erravalli who are in the submergence zone of the reservoir. Finally, all of them fell in line. "We evacuated all the oustees by last night," the Superintending Engineer said.





The Pioneer- 23- August-2021

## Paddy sowing takes a beating with deficient rainfall



PNS ■ NEW DELHI

With monsoon deficiency still 8 per cent in the country, area sown to summer crops like paddy was lagging behind by 1.55 per cent at 1,043.87 lakh hectare so far in the ongoing kharif season of the crop year 2021-22 (July-June) as against 1060.37 lakh hectare last year. The India Meteorological Department (IMD) on Sunday said that current rainfall activity over plains of northwest India was likely to reduce from Monday.

The Ministry of Agriculture on Sunday released a kharif sowing data said that area sown to paddy (the main kharif crop) remained marginally lower at 374.03 lakh hectare till August 20 of this kharif season as against 378.07 lakh hectare in the year-ago period.

Similarly, area sown to oilseeds remained slightly lower at 187.88 lakh hectare as against 189.98 lakh hectare, while that of coarse cereals

acreage was down at 169.06 lakh hectare as against 171.82 lakh hectare in the said period. However, area sown to pulses was marginally higher at 134.23 lakh hectare so far this kharif season, from 132.03 lakh hectare in the year-ago period.

In cash crops, area sown to cotton was down at 117.04 lakh hectare so far this kharif season, against 127.69 lakh hectare in the year-ago period. But, acreage under sugarcane was slightly higher at 54.63 lakh hectare as against 53.85 lakh hectare, while jute and mesta area was flat at 7.02 lakh hectare as against 7 lakh hectare in the said period.

Sowing of kharif crops in some places continues till September and harvesting begins from October onwards. Sowing operation is still under-way and planting of summer (kharif) crops can be continued till the end of August, it said.

Sowing of kharif crops begins with the onset of south-west monsoon from June.

Monsoon rainfall was lower eight per cent between June 1 and August 20, the ministry said. However, water storage available in 130 reservoirs in the country was 96 per cent of live storage in the corresponding period of last year, and 99 per cent storage of average in the last 10 years, as per the Central Water Commission, it added.

According to the ministry, "sowing is still going on" in states growing kharif crops with "occurrence of monsoon rains in many states". A majority of States have informed the Central Government that the sowing of kharif crops, particularly paddy, urad, moong and sesamum castor, can be continued up to the end of August, it said.

Castor can be grown up to September 15 in Gujarat which has been receiving good rains for the last two days. Similarly, sowing of kulthi and nizer and early mustard seed can be done up to September in Jharkhand, it added.

The Tribune- 23- August-2021

# Ancient Saraswati river ghat excavated

**TRIBUNE NEWS SERVICE**

**KURUKSHETRA, AUGUST 22**

The Centre of Excellence for Research on the Saraswati River, Kurukshetra University, has excavated an ancient Saraswati river ghat near Arunai temple in Pehowa of Kurukshetra.

The site was identified in June this year. The team has excavated 12 stairs of the ghat and collected more than 20

## Site identified in June; 12 stairs of ghat unearthed

samples from sediment beds.

Prof AR Chaudhri, director, CERSR, told The Tribune, "We have excavated an ancient Saraswati river ghat near Arunai Temple complex and along the sides of the

ghat, sediments accumulations reveal that a big river used to flow through this location. We have excavated 12 stairs, and the total depth of the trench and the staircase is around 4 metre. This bathing ghat falls on the Saraswati River paleochannel identified by CERSR and represents a unique case where the details mentioned in holy scriptures and the scientific investigations match."

The Tribune- 23- August-2021

# NDRI awarded for water conservation

**KARNAL, AUGUST 22**

The National Dairy Research Institute (NDRI) was awarded the prestigious Global Water Award-2021 for water conservation and project Agri. CRP on the occasion of the fifth World Water Summit 2021 on Sunday.

The award was conferred by Gajendra Singh Shekhawat, Union Minister of Jal Shakti to Dr MS Chauhan, Director, NDRI. "This award will boost our enthusiasm for developing more technologies for water saving and waste water reused in livestock-based farming system for the conservation of water at farmer's level. We will



## Many water-conserving techniques developed

help in saving significant quantities of water," said the director.

In the past five years, the institute under the Agri. CRP on water project developed various water-conserving techniques like waste water purification for its reuse in livestock drinking, he maintained. — TNS



Business Standard- 23- August-2021



# Powering the water mission

The Jal Jeevan Mission has adopted technology based on the Internet of Things to provide safe tap water to every rural household by 2024, reports Ruchika Chitravanshi

From internet-of-things (IoT)-based sensors and flow meters to water-quality detection kits and a new mobile application, the national Jal Jeevan Mission has been adopting advanced technology to achieve cost-effective solutions for providing safe tap water to every rural household in the country by 2024.

The government programme has led many startups to develop affordable solutions for measuring and monitoring water consumption in villages. Research is also underway to come up with easy-to-use water testing kits that would check for specific contaminants and general water quality. "Technology is actively involved in this mission,

from the planning stage to implementation, operation and maintenance," says a senior government official.

The Jal Jeevan Mission mobile application, which will be launched soon, will provide details of water infrastructure, an Aadhaar-verified data set of beneficiaries, and water quality and contamination-related information for each village. The information will be available to users on a public forum alongside specific data for each village, district and state-level bodies concerning water.

This data is currently maintained on the integrated management information system and covers action plans of villages, districts and states, along with financing and funding details.

The app will also allow users to rate their experience with their water facility. An algorithm is being designed to allow feedback and grievances to be registered on it.

"Each village will have its own page. The data will be regarding financial collection, progress of work, maintenance and other water-related information at the village block level," says the official.

The Jal Shakti ministry also maintains a dashboard for the Jal Jeevan Mission to show the coverage of tap water connections across states. The water quality management information system also provides details of water samples received and tested across labs and states. The mobile app will bring all this data under one umbrella.

The primary data being generated through internet-based sensors will not just monitor the flow of water in the pipelines, but also check for turbidity and chlorination in water. These sensors will account for 2 per cent of the project cost for each village. "A world-class command and control centre to monitor the IoT platform will be developed at the National Centre for Drinking Water, Sanitation and Quality, Kolkata," the official adds.

The sensors are placed in the reservoirs and at the outlet going towards each habitation of the village. A pressure sensor is also placed at the tail end. The sensor is programmed to relay the data on overall supply every day.

In many villages, the government has been using this technology to determine if there are dis-

parities in water supply in scheduled caste and scheduled tribe areas and others, and the data has been used to fix these issues. The sensors will be installed across 100 locations in nine states. More than 60 villages have already deployed them.

"This technology also helps in reducing the cost of operation and improving the life of water supply schemes by detecting leaks, preventive maintenance and optimising resource requirements," the official adds.

The four startups taking part in the field trials include GLOBALm, Greenenvironment Innovation & Marketing India Pvt Ltd, Rydot Infotech Private Limited, EyeNetAqua Solutions Pvt Ltd and Ilonnati Innovations Pvt Ltd. These companies took part in a "grand challenge" organised by the ministries of Jal Shakti and Electronics and Information Technology last year.

The Jal Jeevan Mission promises 55 litres of water per capita per day for each rural household and BIS10500 quality of water.

Goa, one of the first states to achieve 100 per cent tap water coverage, has mechanical meters installed in each household. And, like in urban setups, households can update their meter readings online.

While the Jal Jeevan Mission mandates the local authority to conduct regular checks, five women in each village have also been trained to use test kits to check water quality. These kits are designed to assess 12 types of contamination, including phosphate, sulphate, and turbidity, among others.

The Jal Shakti ministry is also planning to launch a portable quality-testing device and nitrate and in-line arsenic sensors.

While the challenge of conveying tap water to every household remains, once water quality data is available for each village, the Jal Shakti ministry plans to use it to understand the water-borne disease burden in rural India.

"Resources can be linked in future disease surveillance databases, especially for water and communicable diseases. It is important that the data is meaningful, and that different data sets are able to talk to each other," says the senior official.

**MANY STARTUPS ARE DEVELOPING AFFORDABLE SOLUTIONS TO MONITOR WATER CONSUMPTION IN VILLAGES**



Dainik Bhaskar- 23- August-2021

# पॉजिटिव खबर • पंजाब यूनिवर्सिटी के चार वैज्ञानिकों की टीम का कमाल बिना लैब गए 5-7 रुपए में पानी में पेस्टिसाइड की टेस्टिंग, पेटेंट भी मिला

ननु जोगिंदर सिंह | चंडीगढ़



डॉ. नेहा सिंगला



डॉ. रवि प्रताप बरवाल



डॉ. विशाल अग्रवाल



डॉ. गुरपाल सिंह

## अधिकतम पांच मिनट में मिलता है रिजल्ट

प्रेगनेंसी टेस्ट करने वाली किट की तरह दिखने वाली यह डिवाइज पीपीएम (पाटर्स पर मिलियन) स्तर तक भी पेस्टिसाइड का पता लगा सकती है। मिट्टी को पानी में घोलकर किट पर डालना होगा। या पानी की सीधी एक बूंद डाली जा सकता है। यदि मात्रा ज्यादा होगी तो पता लग जाएगा। पानी या मिट्टी में पेस्टिसाइड होगा तो उस पर सफेद से बबल बन जाएंगे। मात्रा कम होगी तो भी अधिकतम पांच मिनट लॉगेंगे। इसे पर्यावरण से जुड़े लोग भी मोबाइल टेस्टिंग आसानी से कर सकते हैं। डॉ. नेहा बताती हैं कि सबसे बड़ी चुनौती थी कि पेस्टिसाइड का डिटेक्शन सस्ता हो और आम आदमी खुद कर सके। वह कहती हैं कि यदि इलाके का पता हो तो बाद में उस इलाके के खाने के सामान या पानी आदि को ट्रीट किया जा सकता है।

पंजाब को देश-दुनिया सैकड़ों अच्छी वजहों से जानती है, लेकिन कुछ नकारात्मक खबरों के कारण भी पंजाब चर्चित है। इनमें से एक है-कैंसर। हालांकि कैंसर तमाम दुनिया में भी उसी गति से बढ़ रहा है, लेकिन पंजाब में रोजाना चलने वाली कैंसर ट्रेन इलाके में बीमारी की गंभीरता बयां करती है। और इसकी मुख्य वजह है यहां का दूषित पानी। कुछेक इलाकों का पानी पेस्टिसाइड से इतना प्रदूषित हो चुका है कि कैंसर जैसे कई गंभीर रोगों की मुख्य वजह है। पंजाब की डॉ. नेहा सिंगला ने जब कैंसर से अपने नन्हे भांजे को खो दिया, तब उन्होंने ठान लिया कि इस इलाके में कैंसर की मुख्य वजह पेस्टिसाइड के डिटेक्शन पर काम करेंगी। अब पंजाब यूनिवर्सिटी की डॉ. नेहा सिंगला और उनके तीन साथी वैज्ञानिकों की टीम ने पेस्टिसाइड का पता लगाने वाली डिवाइज बनाई है। वैज्ञानिकों की डिवाइज को हाल ही पेटेंट भी मिला है। जल्द ही इसका व्यावसायिक स्तर पर उत्पादन भी शुरू हो सकेगा। खास बात है कि यह डिवाइज महज पांच से सात रुपए में उपलब्ध हो सकेगी।

डॉ. नेहा ने पीएचडी में ब्रेन कैंसर और न्यूरो जेनेरेटिव बीमारियों पर काम किया तो इसका बड़ा कारण पेस्टिसाइड ही रहा। अपने शोध के दौरान उनकी मुलाकात नैनो टेक्नोलॉजी में माहिर डॉ. गुरपाल सिंह से हुई। इसके बाद

पंजाब यूनिवर्सिटी के डॉ. रवि प्रताप बरवाल ने केमिकल फाइनल करने में मदद की तो डॉ. विशाल अग्रवाल ने बाइंडिंग में। चारों के अथक प्रयासों के बाद तीन साल में डिवाइज का पेटेंट मिला। डॉ. नेहा इंसपायर फैक्ट्री भी हैं। इसमें भारत सरकार देश की सर्वोत्कृष्ट वैज्ञानिकों को देश की किसी भी यूनिवर्सिटी में रिसर्च का मौका देती है। वह बताती हैं कि सिर्फ पंजाब ही नहीं देश

के बहुत से इलाके ऐसे हैं, जहां पर पेस्टिसाइड का अत्यधिक उपयोग हो रहा है। इनमें पंजाब के अलावा हरियाणा और महाराष्ट्र भी हैं। ऐसे में इन इलाकों की निगरानी जरूरी है ताकि समस्या की गंभीरता का पता लग सके और उस हिसाब से कदम उठाए जा सकें। अभी डिवाइज से सिर्फ पेस्टिसाइड का पता लग सकेगा, उनकी टीम इसके निराकरण पर भी काम कर रही है।



Dainik Bhaskar- 23- August-2021

# दिल्ली में भारी बारिश वजह से वायु प्रदूषण के स्तर में हुआ सुधार राजधानी में जलभराव से बढ़ी मुश्किलें, एक दिन की बारिश से टूटा 13 साल का रिकॉर्ड

अगस्त में आज एक दिन में सबसे अधिक रिकॉर्ड 184 मिमी बारिश होने का रिकॉर्ड

भास्कर न्यूज़|नई दिल्ली

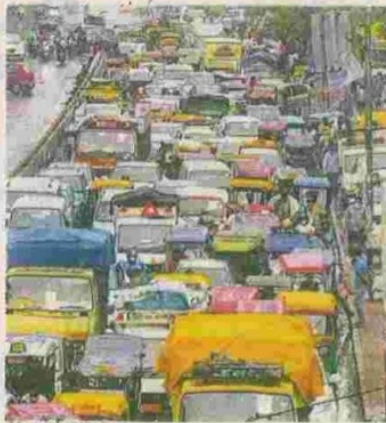
दिल्ली में आज एक दिन में कई बारिश ने 13 साल का रिकॉर्ड तोड़ दिया है। जलभराव के कारण दिल्ली में मुश्किलें बढ़ गई हैं। अब तक दिल्ली में अगस्त माह के दौरान एक दिन में हुई सबसे अधिक बारिश होने का रिकॉर्ड 184 मिमी है जो दो अगस्त 1961 को दर्ज की गई थी। मौसम वैज्ञानिकों का पूर्वानुमान है कि आगे भी दिन में भी आसमान में बादल छाए रहेंगे और मध्यम दर्जे की बारिश हो सकती है। मौसम विभाग (आईएमडी) के अनुसार शनिवार को दिल्ली में 139 मिलीमीटर बारिश दर्ज की गई है, जो गत 13 साल में अगस्त महीने में 24 घंटे के भीतर सबसे अधिक बारिश है। अधिकारियों ने बताया कि राष्ट्रीय राजधानी क्षेत्र के कई हिस्सों में भारी बारिश दर्ज की गई जिससे पारा लुढ़क गया और दिल्ली वालों को उमस भरी गर्मी से राहत मिली है। उन्होंने बताया कि दिल्ली के लिए मानक माने जाने वाले सफदरजंग वेधशाला के आंकड़ों के मुताबिक राष्ट्रीय राजधानी में शुक्रवार सुबह आठ बजकर 30 मिनट से लेकर शनिवार सुबह आठ बजकर 30 मिनट (24 घंटे की समय) के बीच 139 मिमी बारिश दर्ज की गई है जबकि रिज केंद्र में 149.2 मिमी बारिश दर्ज की गई। उन्होंने बताया कि यह कम से कम 13 साल में पहली बार हुआ है जब अगस्त महीने में एक दिन में इतनी बारिश दर्ज की गई है।

बारिश के कारण गिरा दिल्ली का तापमान, 23.8 डिग्री दर्ज किया गया



आईएमडी के अधिकारियों के अनुसार बारिश की वजह से राष्ट्रीय राजधानी का न्यूनतम तापमान सामान्य से तीन डिग्री सेल्सियस कम, 23.8 डिग्री दर्ज किया गया। दिल्ली में सापेक्षिक आर्द्रता 100 प्रतिशत है। मौसम वैज्ञानिकों का पूर्वानुमान है कि शनिवार दिन में भी आसमान में बादल छाए रहेंगे और मध्यम दर्जे की बारिश हो सकती है। दिल्ली में भारी बारिश वजह से वायु प्रदूषण के स्तर में सुधार हुआ है। केंद्रीय प्रदूषण नियंत्रण बोर्ड के मुताबिक शनिवार सुबह वायु गुणवत्ता सूचकांक 67 दर्ज किया गया जो 'संतोषजनक' श्रेणी में आता है।

इधर, रविवार की सुबह भी कई जगहों पर बारिश, जाम के कारण रेंगते रहे वाहन



नई दिल्ली। दिल्ली में रक्षा बंधन पर भी बारिश ने दिल्ली को जमकर भिगोया। रक्षाबंधन के दिन भी दिल्ली में कई जगहों पर जमकर बरसात हुई तो कई जगहों पर बूदाबूदी जिसके कारण बहनों को भाई को राखी बांधने जाने में भारी परेशानियों का सामना करना पड़ा। इससे तापमान कम होने से गर्मी से राहत तो मिली पर सड़कों पर जलभराव के कारण दो दर्जन से अधिक जगहों पर जमकर बरसात हुई सड़कों पर वाहनों का लंबा जाम लग गया, वाहन चालकों को भी परेशानी हुई, वाहनों रेंगती हुईं दिखी। डीटीसी बस स्टॉप पर बसें के गाँवब होने और बरसात के कारण बसों की कमी, जो बसें आई उसमें भारी भीड़ के कारण बहनों ने ऑटो, ओला का सहारा लिया जिसमें बहनों

का आरोप है कि मजबूरी का फायदा उठाकर ऑटो चालकों ने मीटर से नहीं जाकर दो गुना किराया वसूला। बता दें कि दिल्ली में रविवार को भी कई जगहों पर बारिश हुई जिसके कारण न्यूनतम तापमान में कमी दर्ज की गई। भारत मौसम विज्ञान विभाग के मुताबिक दिल्ली में रविवार को न्यूनतम तापमान 24.5 डिग्री रहा, जो इस मौसम के सामान्य तापमान से दो डिग्री कम है। मौसम विभाग के मुताबिक शहर में सुबह 8:30 बजे सापेक्षिक आर्द्रता 92 प्रतिशत दर्ज की गई। राष्ट्रीय राजधानी में पिछले 24 घंटों के दौरान 9.2 मिलीमीटर बारिश दर्ज की गई। मौसम विभाग के मुताबिक, राजधानी में अधिकतम तापमान 33 डिग्री सेल्सियस के आस-पास रहने का अनुमान है।