

**POLLUTION | WATCH****High contamination found 40 metres below river**

# Musi water unfit even for agri

**MADDY DEEKSHITH | DC**  
HYDERABAD, MARCH 28

Water of Musi river is unfit even for irrigation, said researchers from Osmania University's Centre Of Exploration Geophysics who made a recent study of the water quality.

The researchers tested groundwater samples in the 60 km stretch of the river from Peerzadiguda on the city outskirts to Valigonda, where the Musi meets River Krishna, and found that till a depth of 40 metres the dissolved oxygen (DO) and biochemical oxygen demand (BOD) were way beyond prescribed parameters, due to the very high levels of contamination.

Researchers have noticed

● **RESEARCHERS TESTED** groundwater samples in the 60 km stretch of the river from Peerzadiguda on the city outskirts to Valigonda, where the Musi meets River Krishna

that indiscriminate disposal of urban and industrial waste water into open nalas (drains) or other water bodies has been common practice in the agglomerated metropolis of Hyderabad. This has a negative impact on the plants, animals and human life and also the agrarian produce, they stressed. The elevated concentrations of chemical oxygen demand (COD) and BOD have shown organic matter presence in Musi

river, and can have disastrous effects on aquatic life and human health. High COD concentration was noticed in all the sites of the river selected for the study, and this was above the permissible limits set by WHO and BIS:19500, indicating pollution by degradable organic waste from various sources.

Groundwater samples were collected from the Hyderabad urban periphery (Peerzadiguda), the downstream areas of Musi up to 60 km (Valigonda) to ascertain the BOD and COD concentrations from pre- and post-monsoon seasons.

Researchers found that BOD in the study area varied from 60 to 197mg per litre (mg/l) before and after

the monsoon in the southern part of the river. In the northern part, it was 27 to 162 mg/l.

During the pre-monsoon period, the lowest BOD value was recorded in Jampally village on the northern part, it being 40.2 mg/l; and the highest value noticed was 192 mg/l at Varkatpally village on the southern part.

In the post monsoon period, the lowest BOD value of 28 mg/l was noticed at Edulabad junction on the northern side, and the highest value 190 mg/l at Jalukaluva village in the southern part with a mean value of 108.3 mg/l.

■ **Page 2: WHO permissible levels breached: Prof**



Deccan Chronicle 30-March-2021

# WHO permissible levels breached: Prof.

From Page 1

Seasonal variations in biochemical oxygen demand (BOD) were observed with a general increase during the pre-monsoon period. The mean value for 46 borewells was 109mg/L in the pre-monsoon term, while it was 108 mg/l during the post-monsoon period.

A higher concentration of COD was noticed, compared to BOD, in ground water samples along the Musi. The average COD content was 180 mg/l and 172 mg/l, and 185 mg/l and 171 mg/l respectively in the pre-and post-monsoon seasons in the northern and southern regions.

The mean COD concentration during the pre-monsoon term was 177.67 mg/l, with a low value of 56 mg/L at Poddutur village on the northern side of the river and the high value of 428 mg/l in Korremula village's bore well water.

The low COD noticed during post-monsoon was 22 mg/l at Bacharam village and a high value of 430 mg/l was found at Korremula village with an average of recording of 166.9 mg/l. A high COD was noticed during the pre-monsoon period may be due to prolonged accumulation of seeped organic leachate into the aquifer.

● A HIGHER concentration of COD was noticed, compared to BOD, in ground water samples along the Musi. The average COD content was 180 mg/l and 172 mg/l, and 185 mg/l and 171 mg/l respectively in the pre-and post-monsoon seasons in the northern and southern regions.

Prof. G. Ramadass, retired professor of geophysics, Osmania University, who conducted the study said the COD and BOD were at abnormally high levels compared to the WHO's permissible limits for drinking, irrigation and waste water.

He said that the BOD to COD ratio was supposed to be less than 0.3. In reality, it was very high and indicates a high level of pollution.

Prof. Ramdass said the BOD/COD ratio may be treated as an indicator in characterizing the intensity of pollution. The eventual aim should be the treatment of waste water before it is used in agriculture downstream of Hyderabad.

"The natural remediation efficiency of the river system may be improved with the construction of bunds for waste stabilisation along the river," he added.

Deccan Herald 30-March-2021

# Jal Shakti mission for water conservation kicks off in state

BENGALURU, DHNS

Drawing up plans for water conservation in Karnataka, Rural Development and Panchayat Raj Minister K S Eshwarappa flagged off the Jal Shakti programme on Monday.

The programme was recently launched by Prime Minister Narendra Modi on World Water Day.

As part of this, water conservation initiatives including recharge of wells, kalyanis, borewells and construction of check dams will be taken up across the state.

The 100-day programme will be implemented with the MNREGS funds, under which



**Rural Development and Panchayat Raj Minister K S Eshwarappa releases booklets on 'Catch Rain, Jal Shakti' campaign at Vikasa Soudha in Bengaluru on Monday. Karnataka Forest Development Corporation chairperson Tara Anuradha is also seen. DH PHOTO/S K DINESH**

65% is reserved for natural resources management. The government will make use of

its Dishaank app or Google to identify water sources for the lakes and rejuvenate them.

The programme will also include desilting of lakes, lake bund development and development of canals from lakes that flow into agricultural fields. New lakes will be developed on government lands and in forest areas, an official release said.

The government is also looking at rejuvenation of kalyanis and nalas at the gram panchayat level. Importance will be given to recharging borewells in gram panchayats for ensuring drinking water.

"Even though rainwater harvesting has been made mandatory, not many are following it. In these 100 days, we will ensure that buildings in gram panchayat limits take

up rainwater harvesting," MNREGS commissioner Anirudh Sravan said.

Speaking to *DH*, Sravan said the entire campaign was being implemented in coordination with gram panchayat members.

"We have an action plan ready in all gram panchayats for groundwater recharge. Gram panchayat members have been involved in mapping kalyanis and other water sources that need rejuvenation in their vicinity," he said.

District incharge ministers, MLAs and DCs will be in charge of monitoring the implementation of the programme.



Telangana Today 30-March-2021

# TS has only two contaminated sites

Seven other sites in State listed Probable Contaminated Sites

SIDDHARTH RAO  
HYDERABAD

Among the 21 States assessed by the Waste Management Division of the Central Pollution Control Board (CPCB), Telangana is among those with a low number of contaminated sites. The State has just two, the Noor Muhammad Kunta Lake in the Katedan Industrial Area and Patancheru in Medak.

Apart from these two sites, seven other sites in the State have been listed as Probable Contaminated Sites (PCS) in a December 2020 report. This is in stark contrast with States like Uttar Pradesh, Odisha, Karnataka, Gujarat and Madhya Pradesh, which have more than 20 PCS and CS each. Odisha has the highest number of contaminated sites, with 23 CS, while UP has 21 CS. Interestingly, UP has also the highest number of PCS, with 21 sites. Considering its area, the Union Territory of Delhi has perhaps the highest density of contaminated sites with 11 and a probable CS number of 12.

According to the CPCB, a contaminated site may include production area, land-fill, dumps, spill sites, mine tailings etc., with some being sites where waste has been dumped historically. In such sites, there is contamination of soil, ground and surface water, with severe health and environmental risks.

Interestingly, some of these sites were developed when there were no regulations on the management of hazardous wastes and it resulted in industrial wastes being disposed of in an unscientific manner.

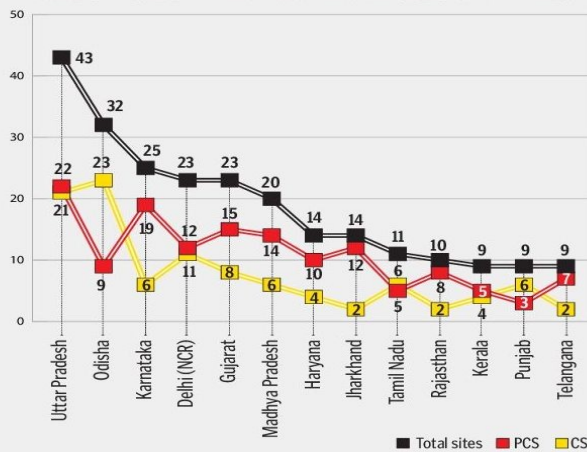
These sites pose a threat to health and the environment in a multi-faceted manner, adversely affecting soil, water, ecology and ultimately people in the areas with exposure to toxic substances.

At the two sites in Telangana, the Telangana State Pollution Commission Board (TSPCB) has initiated



Noor Muhammad Kunta Lake in the Katedan Industrial Area. The TSPCB has already initiated remedial activities at the lake.

## State-wise contaminated sites



## WHAT IS A CONTAMINATED SITE?

A contaminated site is where hazardous or other wastes have been dumped, resulting in contamination of soil, groundwater and surface water. These are listed as 'Point Sites', such as dumps of waste; 'Area Sites', where a broader area of contamination with on-going or historical contamination is seen; 'Municipal Dumps', which are dumps before the municipality took over and 'Brown Fields', which may or may not have clear ownership and have development potential if the contamination problems are solved.

remedial activities. At the Noor Muhammad Kunta Lake, once called the Pink Lake because of the pink colour of the contaminated surface water, the TSPCB submitted a detailed project report under the World Bank aided Capacity Building for Industrial Pollution Management Project and is awaiting action on the project. At the other site, i.e. Patancheru, there has been a proposal to build a massive sewage treatment plant (STP), with

a capacity of handling 30 million litres per day (MLD). The sampling of soil and surface water here showed no contamination.

In a similar manner, the PCS, Musi River, Asanikunta Lake, Maheshwaram, Chevella Industrial Area, LB Nagar Industrial Area, Moula Ali Industrial Area and Gundlapochampally Industrial Area have been studied with some areas showing chromium, lead, nickel and other metal contamination in the soil.

The Hans 30-March-2021

THE  
HANS INDIA

# CHEAP SOLUTION TO WATER EVAPORATION LOSSES

A farmer from city uses discarded edible oils to arrest water loss in farm ponds

BEGUMPET

NORMALLY pools see  $\frac{1}{4}$ - $\frac{1}{2}$  inch loss of water a day due to evaporation; roughly 2-4 inches a week. For a normal-sized pool, you will lose 25,000 to 50,000 gallons in a year. A farmer, M S Subrahmanyam Raju from the city, is using a unique technique to arrest water evaporation losses in farm ponds. However, he cautions that the technique is not meant to be used in general pools. "By arresting water loss, we can keep project cost under control. Otherwise, we end up using more water, more energy," he said

Raju, who is general secretary of Telangana State for Go Aadharitha Prakriti Vyavasayadarula Sangham, has carried out many experiments in connection with soil reclamation. He has many innovations to his credit. He says farmers should adopt simple techniques to prevent evaporation. Raju is planning to create more awareness through seminars, social media/traditional media as service to the farming community. He has been steadily imparting them several techniques without any motives. He can be reached on mobile 76598 55588

"I undertook two experiments – one at Gingurthy village with Ekalavya Organic Polytechnique



MS Subrahmanyam Raju experimenting at one of the farm ponds to arrest water evaporation

School and the other with Krishi Vignan Kendra. The procedure developed by me yielded good results. My experiment was to reduce water evaporation losses in farm ponds exclusively for agriculture purpose. We could reduce losses up to 70 per cent with eco-friendly treatment and edible materials. The materials are user-friendly and easily available. No need to purchase any branded or commercial product. They are available everywhere; farmers can procure and do their own."

Physical properties of materials to be selected should be edible, less dense than water and

higher evaporation point when compared to water. The material is any edible (cooking) oil. Once used or discarded oils are better for reducing expenditure. "Edible oils are less dense (0.92) than water density (1). So, oil floats on water always and does not easily dissolve. The edible oils evaporation point (120C) is far higher than water evaporation point (5C) approximately. Evaporation point varies due to several parameters. Oils make a thin film on water and reflects heat, so radiation is less, naturally evaporation is less," he informs.

"Cost of discarded edible oil is

Edible oils are less dense (0.92) than water density (1). So, oil floats on water always and does not easily dissolve. Oils make a thin film on water and reflect heat, so radiation is less, and, naturally, evaporation is less. However, the technique is not meant to be used in general pools

Rs50 a litre. For thousand sqm, we use 25 litres first time. Then 13 litres a month. March-August is critical for water as temperature varies from 30 to 45 centigrade.

April, May, June months have high temperatures and March, July, August have above normal temperature. So, on an average, as per my experience, 5 mm to 15 mm water evaporates a day," says Raju. As per his calculations, for a pond with 1000 sqm area, a farmer can save 10,000 litres a day, 18,00,000 litres in six months with an investment of Rs4,500.