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## Wastewater treatment technology that could reduce metal pollutants

Special Correspondent

**NEW DELHI:** The Indian Agricultural Research Institute (IARI), a multi-disciplinary research institute, has developed an innovative eco-friendly wastewater treatment plant based on a technology that could improve efficiency as well as reduce costs significantly. The wastewater treatment plant, which utilises emergent wetland plants and micro-organisms present in wastewater, is operational on the IARI's Delhi campus where three cells are treating 2.2 million litres of water per day sourced from the Krishn Kunj colony.

IARI scientists pointed out that while conventional wastewater treatment plants degrade only organic pollutants and do not reduce metal pollutants, the new technology will reduce metal pollutants present in waste water. "Metals in waste water and sludge, which currently do not get treated at wastewater plants, seep into natural ecosystems and contaminate ground water. In comparison, the new system reduces metal pollutants besides degrading organic and inorganic pollutants. Its energy requirement is 1 per cent of conventional wastewater treatment plants use as it does not require operating aerators 24x7, but relies on vegetation and plants to do this," said Ravinder Kaur, project director, Water Technology Centre at the IARI.

"We have engineered the natural treatment processes and have relied on solar radiation, native micro-organisms and plants, and have integrated a "Cash for Trash" business model in this leading to an annual saving of about Rs.1.8 lakh," said Ms. Kaur. IARI experts said that the waste water treatment

plant can be harvested every two months to yield 12 tonnes of dry biomass per annum per cell that can be transformed to 3,000 sq. m. particle boards, which sell for Rs.200-250 sq. m. or sold to particle board manufacturers at Rs.2,000 per tonnes as dry matter.

According to the IARI, freshwater availability per capita in the country decreased from 5,177 cubic metre in 1951 to 1,869 cubic metre in 2001 to 1,588 cubic metre in 2010. The IARI calculates this may further drop to 1,140 cubic metre by 2050. Class I and II cities, which account for 72 per cent of the population, are generating 98 litres per capita per day. In Delhi, users generate a much higher amount of 220 litres per capita per day. Of current total availability 85 per cent water is diverted for irrigation. About 70 to 80 per cent of water supplied to homes gets converted into waste-water.

At present, as per the Central Pollution Control Board, Class I and II cities generate 40 billion litres of water per day, while installed sewage treatment capacity is 30 per cent of this.

प्रतिक्रिया :-

1. निदेशक कार्यालय
2. संयुक्त निदेशक (प्रसार)
3. आचष्टा/संयुक्त निदेशक (शिक्षा)
4. प्रभारी पी.पी.आई.
5. प्रभारी कैंट
6. प्रभारी यू.एस.आई

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