

In bid to save water, BITS Pilani installs novel sewage treatment facility at Bogmalo Beach

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VASCO: Already reeling under a scarcity of fresh water, the country is witnessing a continuous destruction of water bodies due to water pollution, caused primarily by untreated sewage water entering rivers and streams. Now, researchers at BITS Pilani, K K Birla Goa Campus have devised a simple decentralised wastewater treatment facility for toilets, that would treat and disinfect sewage on site. The treated water can be used for non-drinking purposes like toilet flush water, gardening and car-washing, amongst others. This treated sewage gets reused in the same facility and does not enter the main sewage system. First installed in the Pilani campus, the wastewater treatment facility has



The facility makes it possible to reuse sewage for gardening, car-washing and toilet flushing purposes

now been installed along with the public toilets at Bogmalo beach.

Headed by Srikanth Mutnuri, Professor, Department of Biological Sciences, this system has been developed at an expenditure of about Rs 22 Lakh as part of the Central Government's Biotechnology Research Assistance Council (BIRAC) and the Bill & Melinda Gates

Foundation Biotechnology project awarded to the institute's Goa Campus.

This decentralised treatment system with Vertical Flow Constructed Wetland (VFCW) and Electrochemical Disinfection System is a collaborative project with Prof Korneel Rabaey, Ghent university, Belgium.

"In this technology, the septic tank effluent passes

through VFCW and then to an electrochemical cell and sequentially goes through high and neutralizing pH regimes (indicator of toxicity of a solution). It is shown that both bacteria and helminth eggs (parasites) can be killed with this approach," Mutnuri told Herald.

According to the Central Pollution Control Board

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(CPCB), India will need 1.5 trillion cubic meters of water to meet the water demand by 2030. In order to meet the water demand, recycling and reusing wastewater can be a beneficial alternative so as to reduce the stress created on the water reserve that is available for use today.

"In developing countries like India, there are chances of waste getting dumped off somewhere else into the environment rather than being taken to the treatment facility," the BITS project head said.

"Our treatment system has been demonstrated for a single household, for 100 people equivalent to a student hostel and currently for public toilets at the Bogmalo Beach. It can be further scaled up for big commercial and residential complexes," Prof Mutnuri added.