NEERI develops eco-friendly Phytorid Technology Sewage Treatment Plant

New Delhi, December 03 (India Science Wire)- A Niti Aayog report states that 21 major cities in India (including New Delhi, Chennai, Bengaluru, and Hyderabad) are all set to run out of groundwater. India’s per capita water availability is expected to further decline to 1465 cubic metre by 2025. By 2030, the country’s water demand is projected to be twice the available supply, implying severe water scarcity for hundreds of millions of people.

Given the impending water crisis, the treatment and recycling of 62 billion litres of wastewater that India produces per day could be an effective way out. The Council of Scientific and Industrial Research- National Environmental Engineering Research Institute (CSIR-NEERI), Nagpur has developed an efficient Phytorid Technology Sewage Treatment Plant (STP), for wastewater reuse.

The plant has been installed at CSIR-National Chemical Laboratories (NCL), Pune. While inaugurating the plant through virtual medium Union Minister of Science and Technology, Earth Sciences and Health and Family Welfare, Dr Harsh Vardhan said that treatment of sewage water is essential to meet the challenge of water scarcity in coming years. He called upon CSIR scientists to scale up their sewage treatment technology for broader use, and install it in all their campuses across the country.

Phytorid is a subsurface mixed flow constructed wetland system, developed and internationally patented by CSIR-NEERI, Nagpur with the successful demonstration in the field for more than 10 years of continuous operation as a stand-alone sewage treatment system.

Phytorid is a self-sustainable technology for wastewater treatment that works on the principle of natural wetland. It uses certain specific plants that can absorb nutrients directly from wastewater but do not require soil. These plants act as nutrient sinker and remover.
Using Phytorid Technology for the treatment of sewage, it is possible to recover and reuse the treated water for gardening purposes. It is a zero energy and zero operation and maintenance sewage treatment technology.

CSIR-NCL is the first CSIR laboratory to use NEERI Phytorid water treatment technology. Compared to the conventional processes, this natural system based Phytorid Technology for sewage treatment is zero energy and zero operation & maintenance (O&M).

Dr Harsh Vardhan observed that it was a natural treatment method by which treated water could be utilised for various purposes including for drinking. He also outlined several other such projects by the Department of Biotechnology, Department of Science & Technology and other departments under the Science & Technology Ministry where wastewater is being treated for good use.

Dr Shekhar C. Mande, DG, CSIR & Secretary, Department of Scientific and Industrial Research was present on the occasion, while Dr. S. Chandrasekhar, Director CSIR- Indian Institute of Chemical Technology (IICT) and additional charge, Director CSIR-NCL; Prof. Ashwini Kumar Nangia, Ex-Director, CSIR – NCL; Dr Rakesh Kumar, Director, CSIR-NEERI, Nagpur; Shri K. D. Deshpande, CSIR- NCL and scientists from various CSIR laboratories joined the function online. (India Science Wire)

Keywords- sewage water, waste water management, NEERI, NCL