

CSIR-NEERI commissions CFSST plant for sustainable faecal sludge treatment at KKSU, Ramtek

प्रविष्टि तिथि: 28 NOV 2025 12:46PM by PIB Mumbai

Mumbai, 28 November 2025

In a major milestone towards sustainable sanitation and waste management, the CSIR–National Environmental Engineering Research Institute (CSIR-NEERI) has designed, developed, and demonstrated a patented and trademarked technology — the Compact Faecal Sludge/Septage Separation and Treatment (CFSST) Plant — of 1000 litres per day capacity at Kavikulguru Kalidas Sanskrit University (KKSU), Ramtek. The initiative has been carried out under the E3OW scheme of the CSIR–Fast Track Commercialisation (FTC) project. The plant was inaugurated jointly by Dr. S. Venkata Mohan, Director, CSIR-NEERI, and Dr. Atul N. Vaidya, Vice Chancellor, KKSU.

CFSST is a compact, low-energy, nature-based solution for decentralised treatment of faecal sludge. It employs media- and plant-assisted solid–liquid separation, followed by treatment through an Upflow Anaerobic Baffled Reactor (UABR), constructed wetland, upflow dual media filtration, and disinfection, ensuring compliance with national discharge standards. The treated effluent is suitable for fodder cultivation, gardening, floriculture, cleaning, and waterbody rejuvenation, while the stabilised solids can be reused as processed manure for agriculture and soil enrichment.

Promoting resource recovery and sanitation, the CFSST Plant supports Sustainable Development Goal 6 (Clean Water and Sanitation) and SDG 11 (Sustainable Cities and Communities). The technology has also been listed under CSIR Technology Transfer Commitments 2030 by the Government of India, reinforcing CSIR-NEERI's contribution to national sanitation missions. The CFSST technology has been developed, upscaled, and executed by Dr. Ritesh Vijay, Er. Abhishek Bisarya, Er. Aakash Patwa, and Er. Satyendra from CSIR-NEERI.

The event was attended by senior CSIR-NEERI officials - Shri Rajiv Kumar Verma (COA), Shri Bhaskar Ravi (CoFA), Shri S. P. Mehta (SPO), Dr. Sunita Shastri (In-charge BDPM Sub-Vertical), and Er. M. Karthik (In-charge ESU), along with the Wastewater Management (WWM) Sub-Vertical team. Representatives from KKSU present at the programme included Prof. Harekrishna Agasti (Director, KKSU), Dr. Roshan Alone (Registrar, KKSU), Shri Santosh Wadikar (Deputy Engineer), and Prof. Prasad Gokhale (Director, B.P.D).

The commissioning of the CFSST Plant marks a significant step toward scalable, affordable, and environmentally responsible faecal sludge management in India, offering a model solution for urban and rural sanitation challenges.



CFSST plant was inaugurated jointly by Dr. S. Venkata Mohan, Director, CSIR-NEERI, and Dr. Atul N. Vaidya, Vice Chancellor, KKSU.



CFSST plant



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