

Cleaning and Rehabilitation of East Delhi Drains: PSA's Sentinel Project on Urban Waste Management under Waste to Wealth Mission

Indian cities and urban centers generate 6.2 crore tonnes of municipal solid waste (MSW) a year, of which approximately 50% ends up at landfill sites.¹ Delhi generates about 14,000 tonnes of solid waste per day, of which only 6,100 tonnes can be processed through incineration and composting. The remaining waste ends up in three landfills—Okhla, Bhalswa and Ghazipur.² In addition to the mounting waste at Delhi's landfills, several canals and drains across the city are overflowing with waste. These drains originally built as irrigation canals and flood control measures, lead directly into the river Yamuna, polluting it with leachate and sewage.

Su-Dhara is a sentinel project on urban waste management under the Principal Scientific Adviser (PSA) to the Government of India's new Waste to Wealth mission. The project follows a multi-disciplinary model to address urban waste wherein science and technology applications will tackle and treat waste onsite and social science approaches will enable long term behaviour change in the community. The key objective of Su-Dhara is to develop and demonstrate an integrated scientific model that rids the 52-Cusec and Gokulpur drains of urban waste and can be scaled up across other urban geographies around India.

Currently 2,500 tonnes of sludge and 2,500 tonnes of floating waste is recovered from each of the two drains annually during EDMC's pre-monsoon cleaning. Majority of this floating waste is organic, which has the potential of being converted to compost. In addition, recyclable waste such as plastic, paper, glass, metal and textile scraps are also part of this waste mix. Diverting this waste from the drain into recycling value chains can generate economic benefit and incentive for communities while reducing burden on landfills and pressure on our natural resources. Su-Dhara project began with the installation of DESMI's Enviro-enhancer waste collection unit at the 52-Cusec drain in June 2019.



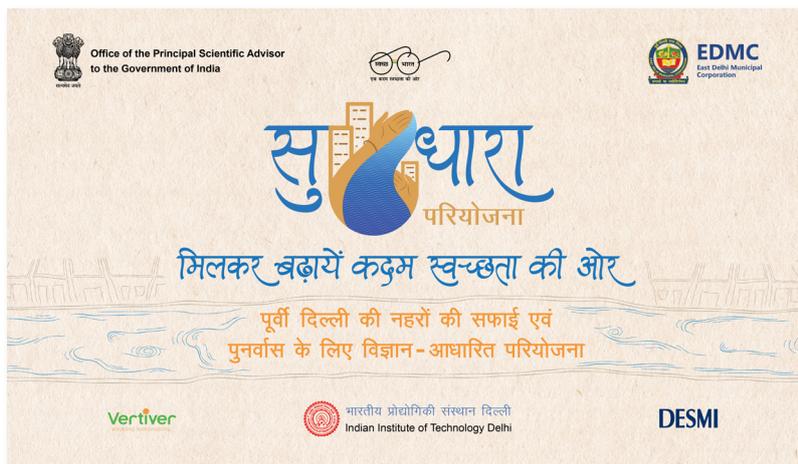
¹ <https://www.downtoearth.org.in/blog/waste/india-s-challenges-in-waste-management-56753>

² <https://www.downtoearth.org.in/news/governance/delhi-gets-it-new-byelaws-on-solid-waste-management-59559>

This automated unit outfitted with a conveyor belt will retrieve between one to five tonnes of waste from the drain every day. DESMI and EDMC's team will manage and maintain this equipment. The retrieved waste will be processed in a plasma pyrolysis unit being implemented by Indian Institute of Technology-Delhi. This unit will have the capacity to process one tonne of unsegregated waste a day and the syngas produced as a by product will be used for electricity generation to power the unit. In addition to this scientific model for collecting and processing waste the project will work closely with the community members around the drain to raise awareness and build capacity to reduce, reuse and recycle waste in the area. The project will engage in a sustained community-focused behaviour change process led by Vertiver to ascertain the issues and needs of the community, then design and develop responsive interventions.

The Su-Dhara project meets several national and international priorities for sustainable development and climate change as it addresses the goals of the Swachh Bharat Abhiyan, National Mission for Clean Ganga, National Biodiversity Targets and the Aichi Biodiversity Targets, while directly supporting several Sustainable Development Goals (SDGs). The project directly relates to SDG 14 (Life below water) which has as one of its targets the prevention and significant reduction of pollution in rivers and oceans, from land-based activities, including plastic and nutrient pollution. Additionally, Su-Dhara will also contribute to SDG 3 (Good Health and Wellbeing), SDG 6 (Clean Water and Sanitation), SDG 11 (Sustainable Cities and Communities), SDG 12 (Responsible Consumption and Production), SDG 13 (Climate Action) and SDG 17 (Partnerships for the Goals).

Su-Dhara is setting the stage for an innovative partnership-led model for integrated urban waste management. Multi-sectoral partners will play a critical role in co-creating knowledge and supporting the scale up of interventions designed under the project, ranging from waste collection and treatment to community engagement and behaviour change. We invite public and private sector stakeholders to join hands with Su-Dhara and help tackle the enormous issue of urban waste while co-creating a solutions model that can be replicated across India.



Su-Dhara Implementing Partners:

