



MATA SUNDRI COLLEGE FOR WOMEN

(University of Delhi)

VIKSIT BHARAT SECRETARIAT

in collaboration with

DEPARTMENT OF ENVIRONMENTAL STUDIES

organises

Lecture series on Viksit Bharat @2047

presents

SMART WASTE MANAGEMENT FOR SUSTAINABILITY



SPEAKER

DR. KAVITA SINGH



ASSISTANT PROFESSOR, DEPARTMENT OF EVS
MATA SUNDRI COLLEGE FOR WOMEN, UNIVERSITY OF DELHI



13 OCT 2025



1:30 PM



MATA GUJRI HALL

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REPORT ON SMART WASTE MANAGEMENT FOR SUSTAINABILITY

DATE – 13 OCTOBER 2025

TIME - 1:30 PM

VENUE – MATA GUJRI HALL

The lecture on Smart Waste Management for Sustainability was conducted under Viksit Bharat in association with the Department of Environmental Studies, Mata Sundri College for Women, University of Delhi. The lecture was presented by Dr. Kavita Singh, Assistant Professor, who talked about how new-age technology is transforming waste collection, segregation, and disposal. She described that smart waste management is all about efficiency and sustainability, underpinned by emerging technologies like Artificial Intelligence (AI), the Internet of Things (IoT), and Data analytics. These technologies assist in tracking waste levels, optimizing collection routes, and facilitating public engagement. Segregation of dry and wet waste, and efforts from state and government institutions, hold the key to having cleaner and greener cities.

Dr. Kavita supported her presentation with global examples from Sweden, Singapore, South Korea, and Barcelona (Spain). Sweden's waste management facility translates approximately 99% of waste into energy through sophisticated waste-to-energy plants, whereas Singapore utilizes pneumatic systems as well as sensor-based bins for ensuring cleanliness. Yet she also highlighted pitfalls such as the emission of toxic gases during energy conversion, as well as environmental and social costs of ash by-production. Conversely, India is moving forward with its own innovations like AI-based segregation technology, suggested decentralized waste management, and projects under Swachh Bharat and Smart Cities Mission, which seek to develop sustainable and effective waste systems.

The conversation also touched upon India's plan for sustainable development, referring to the GIFT City Project in Ahmedabad as a model for smart and green urban development. The initiative focuses on automated waste collection, underground networks for utilities, and eco-efficient systems. Dr. Kavita spoke of issues like inefficient rainwater harvesting in most residential pockets and the absence of community participation in upkeep of waste systems. She ended on the note that in order for India to shift towards a truly developed and sustainable country, it needs to integrate high-end technology with public consciousness, people's participation, and robust environmental ethics.