



University : KARUNYA INSTITUTE OF TECHNOLOGY AND SCIENCES
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[3] Waste (WS)

[3.18] Planning, implementation, monitoring and/or evaluation of all programs related to Waste Management through the utilization of Information and Communication Technology (ICT) (WS.7)

Karunya Institute of Technology and Sciences is committed to promoting sustainable campus practices through effective implementation of the 3R principles — Reduce, Reuse, and Recycle. This document outlines the structured approach adopted by the university for waste management, emphasizing planning, implementation, monitoring, and evaluation stages. While current practices focus on digital documentation, data collection, and reporting systems, Karunya envisions the gradual integration of advanced ICT-based waste tracking and monitoring technologies in the future. Through this initiative, the university aims to minimize waste generation, enhance recycling efficiency, and move steadily towards its goal of a cleaner, greener, and more sustainable campus.

Stage	Activities / Programs	ICT Utilization	Evidence	Timeline	Responsible Team / Department
Planning	Develop a comprehensive 3R (Reduce, Reuse, Recycle) strategy and set measurable waste reduction goals aligned with Karunya's Green Campus policy	Use of digital documentation tools for planning and baseline waste audits	Strategic plan documents, waste audit records	Jan 2024 – Feb 2024	Sustainability Office, ICT Department
Implementation	Install color-coded recycling bins, strengthen segregation of biodegradable and non-biodegradable waste, and promote 3R	Online reporting forms for waste collection records	Awareness program documentation	Mar 2024 – Apr 2024	Sustainability Office, ICT Department



Stage	Activities / Programs	ICT Utilization	Evidence	Timeline	Responsible Team / Department
	awareness campaigns				
Monitoring	Record and track waste collection, segregation, and recycling rates periodically	Spreadsheets	Periodic monitoring reports, waste tracking summaries	Ongoing	Sustainability Office, ICT Department
Evaluation	Evaluate the performance of 3R initiatives and identify areas for improvement through annual reviews	Sustainability Report	Annual evaluation reports, stakeholder feedback summaries	Annually	Sustainability Office, ICT Department

To strengthen waste management through technology, Karunya Institute of Technology and Sciences can gradually integrate ICT systems in four stages. Initially, digital tools such as online databases and dashboards can be used for data collection and reporting. In the next phase, smart bins with sensors and RFID tags can enable real-time waste tracking. Over time, data analytics and AI can be applied to predict waste trends and improve efficiency. Eventually, these systems can be integrated into Karunya's Smart Campus platform, creating a fully digital, sustainable, and data-driven waste management ecosystem.