

Urban Youth Perspectives on AI-Driven Solutions for Food Waste Management: Evaluating the Smart Food Waste Accelerator Prototype in Colombo

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As part of the Youth Leadership for Climate Action (YLCA) initiative, carried out by Biodiversity Sri Lanka (BSL) and funded by the British Council, this study investigated how to empower young leaders in climate action by tackling the critical issue of food waste management. Our community intervention involved creating an AI-led Smart Food Waste Accelerator prototype. The first phase of our study involved a baseline survey in the Dehiwala Municipal Council region, employing a mixed-methods approach using key informant interviews (KIIs) and structured questionnaires to gather data from youths aged 18 to 29 on their perspectives on food waste management. A total of 567 responses were collected, revealing significant concerns about the absence of proper food waste disposal methods, with 91% of respondents acknowledging it as a household issue. Alarmingly, 89.45% of participants indicated the lack of appropriate disposal methods, with over 93% relying on local government waste vehicles. Our findings showed an average daily accumulation of 0.67 kg of food waste per household, predominantly comprising meal leftovers. Importantly, 89% of respondents expressed a willingness to purchase the Smart Food Waste Accelerator for their homes, and 96% were eager to understand its features and market availability. The AI-driven solution in this prototype exemplifies the potential for innovative technology to transform food waste management, promoting sustainability and reducing environmental impact.

Keywords: *Smart Food Waste Accelerator, youths, food waste management, innovations, Youth Leadership for Climate Action (YLCA).*