SDG 2 Zero Hunger

ITS SDG Report 2025



ITS contributes to SDG 2 by advancing food production technology, promoting urban agriculture, and supporting community food resilience. The university combines engineering expertise with practical interventions to address food-production challenges in both technological and community settings. In 2025, ITS launched the Sistem Aquaponik Pintar (SIAP) and I-Farm initiatives, integrating aquaponics, sensor monitoring, and digital technologies into agricultural production. These initiatives explore how data-driven systems can improve the management of water, crops, and fish. ITS also supports community-based urban farming in densely populated areas, where access to conventional agricultural land is limited. By connecting innovation with community participation, ITS contributes to the development of more resilient food systems. Further measurement of production, food access, and household benefits would help establish the scale of this contribution.

102
publications

38 tons
campus food waste

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Research

ITS conducts research and develops technological solutions relevant to sustainable food production and agricultural productivity. The SIAP and I-Farm initiatives demonstrate the application of sensors, digital monitoring, aquaponics, and data analysis to agricultural systems. Such technologies can support more informed decisions about water circulation, crop conditions, and fish feeding. Continued assessment of yields, resource consumption, operating costs, and system performance would help determine the effectiveness and scalability of these approaches.

Teaching

ITS provides opportunities for students to apply engineering and technological knowledge to food-production challenges. Projects involving smart agriculture and aquaponics allow students to engage with sensors, automation, data management, and environmental considerations in practical settings. Community-based agricultural programmes also expose students to the social and economic dimensions of food security. These learning experiences encourage interdisciplinary problem-solving and help students understand how technology can contribute to sustainable agriculture.

Stewardship

ITS can support food security by integrating agricultural innovation, resource efficiency, and sustainability into relevant campus activities and facilities. Demonstration systems such as I-Farm provide opportunities to test and showcase approaches to technology-assisted food production. Campus-based experiments can also support teaching and research on responsible water use and efficient resource management. Recording production volumes, water use, operational costs, and the utilisation of harvested food would strengthen evidence of institutional performance under SDG 2.

Outreach

ITS works with communities to explore practical approaches to food production in densely populated urban areas. Urban farming initiatives in Surabaya have involved residents in cultivating vegetables and using limited neighbourhood space more productively. These activities can connect food production with community cooperation and supplementary household income. Outreach evaluation should document participating households, harvest volumes, food use, and changes in livelihood opportunities to demonstrate the initiatives' contribution to food security.