ITS
Institut
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Sepuluh Nopember

15 LIFE ON LAND

Life on Land

Sustainable Development Goals
Report *2023*

"This is the second of two SDGs that look at the broader ecosystem – the other being SDG 14: Life Below Water. Life on land is a precious resource – we need to ensure that it is passed on to future generations, at a time when loss of biodiversity is an increasing concern. Different universities will have responsibility for very different landscapes and the life within, but all have a responsibility as stewards of their environment."

THE Impact Rankings

Life on Land

Sustainable Development Goals
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STATISTICS

123

Number of publications 2019-2023

ITS' Agricultural Innovation: Leading East Java's Sustainable Farming Revolution

ITS demonstrated agricultural sustainability through four groundbreaking initiatives that strengthen East Java's farming capabilities while promoting environmental stewardship: First, Lumajang's Automated Fermentation System revolutionizes organic fertilizer production through advanced technology integration. The system features temperature control, pH monitoring, and mobile supervision capabilities, maintaining optimal conditions at 45°C and pH 6.5. This innovation effectively converts water hyacinth and organic waste into high-quality liquid fertilizer, transforming waste management challenges into agricultural opportunities.

Second, Kediri's Waste Processing Initiative combines immediate practicality with future sustainability through an innovative grinding system. Initially powered by diesel for immediate community adoption, the program includes plans for solar transition. This system efficiently processes dried cattle waste into fine-textured fertilizer, enabling agricultural self-sufficiency and reducing dependency on government subsidies.

Third, Bangkalan's Sustainable Farming Program, in partnership with Ben Giat Farmers Group and BRIN, introduces advanced organic fertilizer production using an MA-11 decomposer solution. The initiative optimizes local microbe utilization and climate-suitable crop selection, establishing a foundation for a high-value agricultural industry while reducing chemical fertilizer dependency.

Lastly, Blitar's Rapid Fertilizer Production System, demonstrates efficient waste-to-resource conversion. The streamlined 7-14 day process combines manure with rice husk charcoal and decomposer solution, creating valuable agricultural resources while opening new economic opportunities through potential commercialization.

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ITS Takes Action: From Forest Crisis to Community Conservation

In a significant week of environmental initiatives, ITS mobilized both academic and student resources to address Indonesia's land conservation challenges. The activities highlighted urgent environmental concerns while demonstrating practical solutions. At the research front, ITS environmental expert Amien presented alarming findings on mountain forest degradation, revealing how tourist developments and residential expansion have severely compromised ecological systems. His research exposed how converted mountain areas have lost their natural disaster prevention capabilities, emphasizing the urgent need for the restoration of protected forests and water catchment zones.

Taking immediate action, ITS' Student Executive Board (BEM) launched a hands-on Earth Day campaign in Surabaya. Led by Social Affairs Minister Agil Wahyu Ramadhan, students distributed 300 seedlings at Flora Park and conducted mangrove planting at Gunung Anyar's Mangrove Botanical Garden. The initiative, supported by twenty student volunteers, earned praise from garden administrator Ani Shofiatun for its practical approach to environmental conservation.

Smart Forest Conservation through Educational Innovation

ITS' Community Service Program has launched a pioneering forest monitoring initiative at Sumber Pawon Forest, Kediri. Led by Iska Desmawati, a Biology lecturer, 28 students from diverse scientific backgrounds implemented a smart barcode system that serves dual purposes: training local forest managers in digital monitoring while documenting biodiversity. The system tracks 890+ trees across 17 species, including rare specimens, providing real-time data on distribution, status, and characteristics through quarterly updates.

Using a barcode system, the management team of Sumber Pawon Forest can monitor the area's flora online. Barcodes are placed in front of trees or plants to simplify the scanning process. Once scanned, information about each plant—such as species name, distribution, rarity status, age, general description, and benefits—is displayed. Additionally, the information provided after scanning is real-time, as the plant data is regularly updated. Updates and data checks are planned every three to six months.

It is hoped that the barcode system will contribute to conservation efforts in the Sumber Pawon Forest area, potentially reducing the risk of certain plant species being taken. The digitized monitoring system in this forest could also support the development of Tempurejo Village, located near Sumber Pawon Forest, as a digital village.