



IPB University
— Bogor Indonesia —



IPB UNIVERSITY SUSTAINABILITY DEVELOPMENT GOALS SDGs Report 2024



Book Titles:

SDGs Report 2024

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GLOSSARY

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- BAPPENAS** : Badan Perencanaan Pembangunan Nasional Republik Indonesia (the Ministry of National Development Planning)
- BPBD** : Badan Penanggulangan Bencana Daerah (Regional Disaster Management Agency)

D

- DAS** : Daerah Aliran Sungai (Watershed)

P

- PKM-PM** : Program Kreativitas Mahasiswa - Pengabdian Masyarakat (Student Creativity Program - Community Service)



Make cities and human settlements inclusive, safe, resilient and sustainable

Learning Program

IPB University demonstrates a strong commitment to SDGs 11 through its flagship programs in **Landscape Architecture (ARL)** and **Civil and Environmental Engineering (SIL)**.



The ARL program, recognized as a **leading landscape architecture** study in Indonesia, emphasizes **tropical biodiversity, landscape character, and cultural heritage**, preparing graduates as professional planners, designers, managers, educators, researchers, and entrepreneurs. Meanwhile, **SIL** equips students with **engineering expertise that respects ecological and environmental sustainability**, supported by advanced laboratories and field facilities. Together, these programs empower students to **design, manage, and innovate sustainable urban environments, while pursuing careers in construction, government, research, education, entrepreneurship, or advanced studies.**



Led by Rector Prof. Dr. Ir. Arif Satria, IPB is exploring the establishment of a **Master's Program in Disaster Studies** in collaboration with ARM HA-IPB, aiming to strengthen disaster response capacity through practical experience and academic research.

In 2023, ARM HA-IPB conducted

23
activities
including 7 emergency responses

mobilized
250
volunteers

building
86
temporary shelters

assisted
4,771
beneficiaries

raised
Rp 549 million

4
clean water facilities

2
emergency classrooms

1
permanent prayer facility

This initiative equips students with the skills to design effective disaster mitigation, preparedness, and recovery strategies, while fostering active community engagement. The Department of Landscape Architecture also pioneered Indonesia's first **i-Tree Eco training** at Hutan Kota Srengseng in collaboration with the **United States Forest Services (USFS)**. This hands-on program **trained students and youth to conduct forest inventories and assess urban ecosystem services**, such as oxygen production, carbon absorption, pollution removal, and water conservation. By mapping dozens of strategic plots now permanently monitored, the i-Tree Youth Community transforms environmental data into actionable insights, nurturing the next generation of environmental leaders while promoting sustainable urban forest management.



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IPB further strengthens future urban leadership through programs like the **Training on Regional Spatial Plan (RTRW) Preparation, providing advanced skills in spatial planning to design cities** that balance economic growth, environmental preservation, and social inclusivity. Complementing this, Sustainable Infrastructure Development workshops translate planning knowledge into practical solutions for urban projects, including flood-resilient housing and climate-adaptive transport systems.

It integrates cutting-edge technologies such as Sherpa Ray dynamic lighting that reduces energy use by up to **55%**, real-time automated fertigation systems, and low-emission hybrid cooling powered partly by solar energy—fulfilling **20%** of its operational needs. Enhancing photosynthetic efficiency by **30%**, the Smart Greenhouse serves as a national hub for research, training, and certification in modern agriculture, cultivating high-value crops like Korean strawberries, melons, and tomatoes.



Complementing this high-tech advancement, IPB University also promotes sustainable land rehabilitation and eco-innovation through its collaboration with PT Kaltim Prima Coal (KPC) in developing the **Telaga Batu Arang Ecotourism Area** in East Kalimantan.

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Research and Innovation

IPB University continues to lead sustainable innovation through international collaboration and advanced research. Its most prominent achievement is the establishment of the **Smart Greenhouse and Plant Factory** at the Leuwikopo Experimental Farm, inaugurated on October 17, 2024. Developed in partnership with the Korea Institute of Planning and Evaluation for Technology in Food, Agriculture, and Forestry (IPET) and the Korea Smart Farm R&D Foundation (KosFarm), this facility represents one of Indonesia's most advanced Controlled Environment Agriculture (CEA) research centers.



The **270-hectare** reclaimed mining site, featuring a **12.43-hectare** lake, has been transformed into a thriving ecotourism destination

Research by IPB confirmed the lake water's Class A quality safe for aquaculture using floating net cage (KJA) systems while supporting biodiversity and local livelihoods through sustainable fisheries, tourism, and environmental education.





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Further reinforcing its role in biodiversity conservation, the Center for Transdisciplinary and Sustainability Sciences (CTSS) of IPB University, in collaboration with the Ministry of Environment and Forestry's Directorate of Biodiversity and Genetic Resources, has designed a master plan for the **Nusantara Biodiversity and Germplasm Center (PKHPNN)** in Penajam Paser Utara. This initiative aims to create a national hub for biodiversity research, germplasm conservation, and scientific tourism—celebrating Indonesia's rich natural heritage while advancing future innovation in environmental sustainability.



Research in Number



456

scholarly output in 2020-2024



99

FWCI in 2020-2024



2225

citation count in 2020-2024



9,40%

of all Indonesian citation count



7,49%

of all Indonesian scholarly output

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Campus Operation

IPB ensures that its campus serves as a model for sustainable settlements. Through the **P4W (Center for Regional System Analysis, Planning, and Development – CrestPent, LPPM IPB)**, the university conducts advanced research in spatial planning, regional development, resource optimization, and institutional systems. P4W supports education, disseminates research via publications, seminars, and workshops, and develops comprehensive geospatial information systems, linking academic expertise with practical regional planning



Campus Area
1,669 ha



Campus Building Area
196 ha



Open Space
96%
of Total Area



18 sites



Green Space
94%

54%
Forest

41%
Planted



177
Program Studies

9
Faculties

5
Schools





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Animal Biodiversity



12
amphibians



99
birds



22
mammals



38
reptiles



128 butterflies

The university's physical environment further reflects this sustainability vision through the integration of **green and blue open spaces**, such as Danau SDGs, Taman Inovasi, Telaga Inspirasi, Taman Hutan Kampus, Taman Kolaborasi, and Taman Konservasi.



These areas are designed to conserve biodiversity, enhance creativity, and promote well-being. Complementary initiatives—such as energy efficiency programs and training in environmental and social risk management—reinforce IPB's role as a living laboratory for resilient and eco-friendly urban development.

As a result of these integrated efforts, IPB University achieved a remarkable milestone by ranking 29th in the world and 4th nationally in the **2024 UI GreenMetric World University Rankings**, improving from 34th position in 2023. The ranking, which involved 1,477 institutions from 95 countries, reflects IPB University's consistent efforts in implementing eco-friendly initiatives such as clean energy use, waste recycling, water conservation, and green transportation



Community Engagement

IPB University continues to strengthen its community engagement through collaborative programs that integrate urban sustainability, spatial planning, and environmental awareness. In February 2024, IPB partnered with **PT LRT Jakarta** to develop an urban farming initiative on a 12-hectare depot area in Pegangsaan Dua, Kelapa Gading. Supported by IPB agricultural experts, the program transformed the depot into a productive and eco-friendly green space. Since the establishment of a **351 m² greenhouse** in January 2024, the collaboration has successfully harvested **361.74 kg of produce** — including **167.79 kg of chili and 193.95 kg of assorted vegetables such as tomatoes, spinach, and eggplants** — and released **10,000 tilapia fish** into the depot's pond.



IPB University also strengthens its role in shaping sustainable cities through intellectual collaboration. On October 17, 2024, the university's Directorate for Strategic Studies and Academic Reputation hosted the **46th IPB Strategic Talks on Spatial and Urban Planning**, in collaboration with the Urban and Spatial Planning Forum. The discussion, attended by policymakers and urban planners including the Acting Mayor of Bogor, focused on challenges in spatial regulation, regional financing, and equitable development. As highlighted in the session, Indonesia's urban population has grown from 56.7% in 2020 to 58.6% in 2023, and is projected by Bappenas to reach 72.8% by 2045 — emphasizing the urgency of sustainable spatial design and urban governance.





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Student Activities

One of IPB's flagship initiatives is the KKN-TI Suka-AsMin (Sukaresmi Asri Mitigation) program along the Ciliwung Watershed (DAS) in Bogor, which exemplifies ecological-based disaster mitigation. As reported by **Fusilat News**, students collaborated with 45 local residents to plant 125 tree saplings sourced from the Rumpin nursery. This initiative helps reduce erosion, improve water infiltration, and restore the watershed's ecological balance while involving communities directly in conservation efforts.



Further east in Kelurahan Dampyak, Kabupaten Tegal, students carried out a mangrove restoration project to strengthen coastal resilience. Together with the Paser Mania Tegal community, BPBD, and local fish farmers, they planted 1,500 mangrove seedlings as part of disaster mitigation and community empowerment efforts, as highlighted by **SMPantura News**. This initiative creates natural barriers against tidal flooding, protects marine biodiversity, and enhances local livelihoods through ecotourism potential. Also In Desa Petir, Dramaga, Bogor, the **LandMit PKM-PM Team** collaborated with the Disaster-Resilient Village (Destana) to create a low-cost Early Warning System (EWS) for landslides. This device—built from basic materials such as iron poles, alarm sensors, and wires—adapts technology used by BPBD Magelang and enables real-time alerts when ground movement occurs. It has become a practical prototype for other rural areas vulnerable to landslides.



Meanwhile, in Desa Pasawahan, Kabupaten Kuningan, IPB students spearheaded an **urban farming initiative** by distributing 1,015 vegetable seedlings of chili, cucumber, long beans, and eggplant to the community. The project promotes sustainable consumption and local food security through hydroponic and verticulture systems, encouraging residents to convert idle spaces into productive green areas. Through these initiatives, IPB University has mobilized hundreds of students and community members to plant over 2,600 trees and seedlings across multiple regions, develop early warning systems, and advance urban agriculture. Collectively, these programs demonstrate IPB's holistic approach to building resilient and environmentally sustainable settlements





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"Sustainable cities are built where nature, culture, and human needs coexist in balance"



SDGs Report 2024 : Supplementary Report