



IPB University  
— Bogor Indonesia —



SUSTAINABLE  
DEVELOPMENT  
GOALS



# IPB UNIVERSITY

## SUSTAINABILITY DEVELOPMENT GOALS

### SDGs Report 2024





## **Book Titles:** SDGs Report 2024

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# GLOSSARY

## B

**BDP** : Departemen Budidaya Perairan (Aquaculture Study Program)

**BKSAP** : Badan Kerja Sama Antar-Parlemen ( Inter-Parliamentary Cooperation Agency)

## G

**GORASI** : GORASI-Gotong Royong Rawat Irigasi (Community-Based Irrigation Maintenance Initiative)

## H

**HIMASPER** : Himpunan Mahasiswa Agrometeorologi (Agrometeorology Student Association)

**HIMAGRETO** : Himpunan Mahasiswa Sumberdaya Akuatik (Aquatic Resources Student Association)

## K

**KKN** : Kuliah Kerja Nyata (Thematic Students Community Service Program)

## P

**PPKO** : Program Penguatan Kapasitas Ormawa (Student Organization Capacity Strengthening Program)

**PKK** : Pemberdayaan dan Kesejahteraan Keluarga (Local Women's Group)





# Ensure availability and sustainable management of water and sanitation for all



## Learning Program

The Faculty of Fisheries and Marine Sciences (FPIK) of IPB University emphasizes sustainable water resource management through its academic programs. In the **Aquaculture Study Program (BDP)**, students study courses such as Aquaculture Water Quality, Aquaculture Quality Management Systems, and Water Quality Management, which focus on maintaining optimal and sustainable water conditions in aquaculture systems. Complementing this, the **Marine Science and Technology Study Program (MSP)** offers courses like Water Pollution and Treatment, Aquatic Productivity, and Aquatic Environmental Risks and Impacts to strengthen students' understanding of pollution control and aquatic ecosystem health.



Meanwhile, the **Faculty of Forestry and Environment (FAHUTAN)** incorporates courses such as Integrated Watershed Management, Ecohydrology and Forest Landscape Conservation, Forest Hydrology linking forest hydrology and ecosystem restoration to freshwater sustainability. Similarly, the **Faculty of Agricultural Technology (FATETA)** advances the Clean Water and Sanitation agenda through courses like Water Resources Management, Irrigation Engineering, and Wastewater Treatment Technology, which emphasize practical approaches to water treatment, pollution control, and sustainable resource use.



Additionally, the **Vocational School's Environmental Engineering and Management program** trains students to assess water quality, manage sanitation systems, and formulate sustainable water resource strategies.



Complementing these academic efforts, IPB University collaborated with **Nuffic Southeast Asia and Wavemakers United** to host the International Student Workshop on **"Creating a Sustainable Water Resources Future"**. The program empowered youth as water ambassadors and promoted global collaboration for sustainable water resource management ahead of the 2024 World Water Forum. Through these initiatives, IPB University strengthened its educational framework for water sustainability, promoting a multidisciplinary understanding of clean water management that integrates science, technology, and environmental stewardship.







# Ensure availability and sustainable management of water and sanitation for all

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## Research and Innovation

IPB University strengthened its contribution to sustainable water management through various research and innovation initiatives in 2024. The **Department of Landscape Architecture** introduced eco-friendly design concepts emphasizing water conservation in households, with **Dr. Nizar Nasrullah** promoting rainwater harvesting, greywater reuse, and sustainable landscape design to reduce water waste.



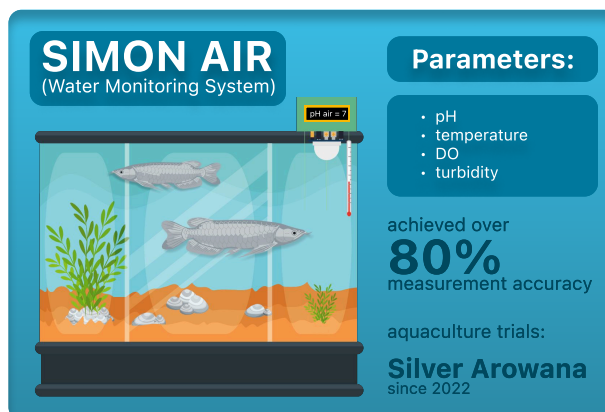
Additionally, **Prof. Budi Indra Setiawan**, a water security expert from the Faculty of Agricultural Technology (FATETA); **Prof. Tridoyo Kusumastanto**, a maritime economics expert; and **Prof. Luky Adrianto**, Dean of the Faculty of Fisheries and Marine Sciences (FPIK) and Chairman of the Indonesian Marine Council, collaborated with **Indonesia's Inter-Parliamentary Cooperation Agency (BKSAP)** to discuss strategies for water security and maritime economic resilience, highlighting the integration of scientific research into policy development.



Supporting technological innovation, **IPB University** launched **Nutriferads**, an automatic fertigation and irrigation system that integrates IoT-based monitoring to optimize water and nutrient use in agriculture, thereby enhancing productivity while minimizing environmental impact.



Complementing these efforts, **Dr. Dwi Andri Yulianto** from the School of Vocational Studies developed **SIMON AIR (Water Monitoring System)**—a real-time IoT-based device that monitors key water quality parameters such as pH, temperature, dissolved oxygen, and turbidity to support sustainable freshwater aquaculture.

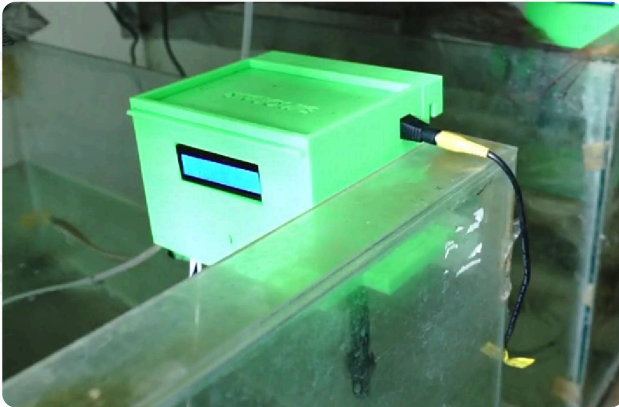


The innovation enables fish farmers to track water conditions remotely and respond quickly to prevent declines in water quality that could affect fish health. The SIMON AIR prototype achieved over 80% measurement accuracy in aquaculture trials and has been tested for silver arowana cultivation since 2022, supporting real-time monitoring of key water quality parameters. At the international level,





## Ensure availability and sustainable management of water and sanitation for all



IPB University participated in the **5th East Asian Seas Congress in Xiamen, China**, presenting research on marine sustainability, water quality management, and blue economy development. The university also expanded global cooperation through the Sister Mangrove Station Program with Xiamen University, focusing on mangrove conservation, coastal water management, and joint research to strengthen ecosystem resilience. Through these innovations and collaborations, IPB University demonstrated its strong commitment to advancing sustainable water resource management and achieving SDG 6.

### Research in Number



**404**

scholarly output  
in 2020-2024



**86**

FWCI in  
2020-2024



**1926**

citation count  
in 2020-2024



**8,32%**

of all Indonesian  
citation count



**6,48%**

of all Indonesian  
scholarly output

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### Campus Operation

IPB University continues to strengthen its sustainable campus infrastructure through initiatives that **promote efficient water use, waste management, and environmentally responsible development.**

the university has installed:

**23**

free drinking  
water stations



**14**

strategic locations on its  
Dramaga and Gunung  
Gede campuses



providing students and staff with easy access to clean water while significantly reducing plastic waste from single-use bottles.



Wakaf Air Minum IPB help student to  
save their monthly expenses up to

**IDR 73,000**

The program, supported through the Wakaf Air Minum IPB, has helped students save up to IDR 73,000 per month on bottled water expenses and encouraged behavioral change toward sustainable water consumption. In addition, IPB operates **two integrated wastewater treatment plants (WTPs)** and applies **IT-based systems for real-time water monitoring** to ensure long-term water sustainability.



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## Ensure availability and sustainable management of water and sanitation for all

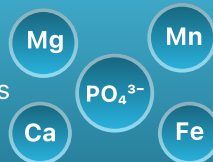
In line with this commitment, IPB University inaugurated several new facilities to enhance education, research, and innovation capacities. Among them are the **Co-Creation Lounge, Aqua Feed Mill, Teaching Feed Industry, Student Hall of Veterinary and Biomedical School, Joint Laboratory (Isotope), and IPB BioVet Science**, along with the groundbreaking of the Halal Business Incubator Building at Science Techno Park. The Halal Business Incubator is equipped with a **communal wastewater treatment plant** to ensure sustainable waste management, while the new laboratories and learning facilities support the advancement of research and student engagement. These developments reinforce IPB University's strategic role in promoting sustainable development and modernizing infrastructure to foster a more eco-conscious academic environment

Similarly, in **Nganti Village**, Bojonegoro, a community service team introduced **Multimedia Filter (MMF)** technology to process raw water from local reservoirs. The project involved socialization, installation, and water quality testing.

### Multimedia Filter (MMF)



reduced  
contaminants  
such as :



by **25.8–97.8%**,  
improving local access to clean  
water during the dry season.

Meanwhile, students from IPB University collaborated with the **Institut Ilmu Al-Qur'an (IIQ) Jakarta** through the **Biopore Infiltration Well Program** in Sukanegara Village, Jonggol. This program enhanced groundwater absorption, reduced organic waste, and produced compost for home gardens, promoting sustainable sanitation practices among local residents. Through these initiatives, IPB University demonstrates its strong commitment to advancing water security, community empowerment, and environmental sustainability, reinforcing its role as a driver of innovation and social impact in achieving the SDGs.



## Community Engagement

In 2024, IPB University strengthened community-based water conservation through the **Kedaireka Matching Fund program** in Pagerjuran Village, Boyolali. Led by **Dr. Ahyar Ismail**, the project implemented **microcatchment systems to reduce drought and erosion** on the slopes of **Mount Merapi** while introducing the SPACES digital platform to provide economic incentives for environmental protection.





## Ensure availability and sustainable management of water and sanitation for all

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### Student Activities

IPB University students actively supported SDG 6 through hands-on initiatives promoting sustainable water management and clean environments. The **Aquatic Resources Student Association (Himasper)** organized the **Ciliwung Care Day** in Kedung Halang, Bogor, collecting **450 kilograms of plastic waste** with support from local communities and the Environmental Agency of Bogor City, raising awareness of river conservation.



Students from the **Community Service Program (KKNT)** launched the **GORASI Project (Gotong Royong Rawat Irigasi)** in Jati Village, Cianjur, engaging villagers to rehabilitate irrigation channels and ensure sustainable agricultural water systems. The **Agrometeorology Student Association (Himagreto)** also carried out the PPK Ormawa program in Cibunian Village, developing a **Climate Village** that integrates disaster mitigation with sustainable agriculture through participatory workshops.



In Sirnaresmi Village, Sukabumi, student Sunda Galih led the **E-Mission Program** in collaboration with **Siam Cement Group (SCG)**. The program empowered **31 members** of the local women's group (PKK) to transform used cooking oil into scented candles. The first production phase yielded **125 candles from 10 liters of waste oil**, generating profits that funded the installation of a **water filter serving 20 households**.



Through these diverse initiatives—from river restoration and irrigation maintenance to climate adaptation and community-based water filtration—IPB University students exemplify applied learning and social responsibility in advancing clean water and sanitation goals.





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"Sustainable water management begins with awareness, grows with science, and succeeds through community action"



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