



IPB University
— Bogor Indonesia —



IPB UNIVERSITY SUSTAINABILITY DEVELOPMENT GOALS SDGs Report 2024



Book Titles:

SDGs Report 2024

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Published by Directorate of Strategic Studies and Academic Reputation, IPB University,
Bogor - Indonesia 2025

GLOSSARY

A

ASIIN : Accreditation Agency for Study Program in Engineering, Informatics, the Natural Sciences, and Mathematic

B

BAN-PT : Badan Akreditasi Nasional Perguruan Tinggi (National Accreditation Board for Higher Education)

BRIN : Badan Riset dan Inovasi Nasional (National Research and Innovation Agency)

H

HIMITEPA : Himpunan Mahasiswa Ilmu dan Teknologi Pangan (Student Organization of Food Science and Technology)

K

Kemendikbudristek : Kementrian Pendidikan, Kebudayaan, Riset, dan Teknologi (Ministry of Education, Culture, Research, and Technology)

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

L

LAM-PTKes : Perkumpulan Lembaga Akreditasi Mandiri Pendidikan Tinggi Kesehatan Indonesia (Indonesian Accreditation Agency for Higher Education in Health)

M

MPASI : Makanan Pendamping ASI (Weaning food)

P

PKM-K : Program Kreativitas Mahasiswa - Kewirausahaan (Student Creativity Program - Entrepreneurship)

S

SMKN : Sekolah Menengah Kejuruan Negeri (Vocational high school)



End hunger, achieve food security and improved nutrition and promote sustainable agriculture



Learning Program

IPB University proudly highlights its Nutrition Science and Agronomy and Horticulture programs as flagship contributors to SDG 2: Zero Hunger, reflecting excellence in education, research, and global collaboration. **The Nutrition Science Program**, accredited Unggul by LAM-PTKes, equips graduates with the ability to analyze and develop solutions to nutrition challenges through innovative, productive, and applicable science and technology. Supported by ISO/IEC 17025:2017-certified laboratories and highly qualified faculty with national and international reputations, this program offers English-taught classes, global exchange opportunities, and an impressive graduate employment rate of under three months. Meanwhile, the **Agronomy and Horticulture Program**, accredited Unggul by BAN-PT and internationally by ASIIN, prepares students to advance food production sustainability through precision cultivation, superior plant breeding, and high-quality seed development. Both programs embody IPB University's commitment to cultivating globally competent graduates and advancing food and nutrition security through innovation, excellence, and impact.



As a leading institution in sustainable food and nutrition education, IPB University continues to deliver impactful and innovative learning initiatives. One of its flagship programs, the **2024 Summer Course** themed **"Smart Agriculture for Sustainable Food and Bioenergy Production"**, introduces students to smart farming, precision agriculture, and bioenergy innovation. Another key initiative is the **Joint Summer Course on "Sustainable Agro-Industry in Rural Areas"**, a collaboration

between IPB University, Universitas Jenderal Soedirman (Unsoed), and Nong Lam University Vietnam. This program strengthens students' understanding of sustainable agro-industry development in rural communities, linking agricultural innovation with local empowerment and inclusive growth



At the postgraduate level, **IPB University's Graduate Program in Nutrition (GIZ)**, in collaboration with **Universiti Putra Malaysia** and supported by the **EQUITY Project**, trains 15 selected students and researchers to produce high-quality, internationally recognized research. This advanced program strengthens evidence-based nutrition policies and interventions, directly contributing to improved food security and the fight against malnutrition. Beyond the classroom, IPB University also promotes public awareness of healthy nutrition. Students from the Vocational School's Food Service Management and Nutrition Program held a National Webinar titled **"Clean Eating as a Healthy Lifestyle Practice"**, attracting over 360 participants from various regions and abroad. The webinar encouraged the public to adopt healthier and more sustainable eating habits as part of broader food security efforts.

IPB University's excellence in food and nutrition studies is further recognized nationally, ranking **second in Indonesia for food and nutrition programs** according to the 2023 EduRank. This achievement reflects the university's consistent commitment to quality education and research in advancing sustainable food systems.





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Research and Innovation

Since its release in 2016, **IPB University's rice variety IPB 3S** has remained one of Indonesia's most productive and in-demand seeds, yielding up to 12 tons per hectare and cultivated across 26 provinces. Its long-standing success continued through **the 2024 productive wakaf harvest** of IPB 3S and its newly developed successor, IPB 9G (Garuda)—a collaboration between BP Biswaf IPB, PT Botani Seed Indonesia, and PT BPRS Botani Bina Rahmah—demonstrating how agricultural innovation and social finance can synergize to empower farmers. Introduced as a **new innovation in 2024, IPB 9G**, led by Dr. Hajrial Aswidinnoor, represents a breakthrough in climate-smart rice technology. The variety is highly adaptable to acidic soils, saves up to 25% in fertilizer and water use, and achieves yields of up to 11 tons per hectare. Officially launched by the Minister of Agriculture and supported by Kemendikbudristek, BRIN, PRISMA (Indonesia–Australia Partnership), and university partners nationwide, this innovation cements IPB's leadership in strengthening national food resilience.



Further extending its innovation pipeline, IPB University also developed new superior varieties—IPB 11S, 12S, 13S, 14S, and 15S—in collaboration with the Government of Bolaang Mongondow Utara (Bolmut) in 2024. These varieties exhibit strong pest resistance, adaptability to local soils, and potential yields surpassing 10 tons per hectare—double that of traditional varieties. Together, these continuous breakthroughs reaffirm IPB University's commitment to advancing resilient, high-yield rice innovations that safeguard Indonesia's food future.



SORICE

Complementing rice innovation, researchers from the Department of Agronomy and Horticulture, Faculty of Agriculture, developed **IPB SORICE (Sorghum Rice)**—a high-yield, nutrient-dense sorghum variety designed to address Indonesia's double burden of malnutrition (DBM). Led by Dr. Desta Wirnas, the team produced two superior varieties—IPB SORICE Red and IPB SORICE White—yielding up to 7.25 tons per hectare. Rich in protein, iron, and vitamin B, SORICE provides a healthy, low-glycemic, and gluten-free alternative to rice, suitable for both undernourished and overnourished populations. Thriving in acidic drylands across Java and Sumatra, this innovation supports climate-resilient and sustainable food systems.



Sorghobis

Innovation at IPB also thrives among its students, who developed **Sorghobis**, a nutritious biscuit made from sorghum and grasshoppers. Combining drought-tolerant grains with protein-rich insects, this product represents an eco-friendly, high-protein snack that supports local food self-sufficiency. The success of Sorghobis reflects IPB's commitment to nurturing youth-driven, sustainable food innovation.



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Building on this foundation, IPB's Vocational School introduced a **personalized MPASI (complementary feeding) planning application** to combat stunting. By integrating nutritional science with digital technology, the app empowers families to design customized, nutritious meal plans for children, contributing directly to improved health and growth outcomes nationwide.

To enhance agricultural competitiveness and sustainability, IPB scientists have also developed **chemical-residue-free export technologies for fruits and vegetables using Vapor Heat Treatment (VHT)**, ensuring compliance with global food safety standards while protecting the environment. Parallel research on **gluten-free dough rheology and hydrocolloid applications** expands nutritious, inclusive food alternatives for consumers with diverse dietary needs.



In the area of food processing and agro-industry, IPB researchers created a **membrane reactor** that increases ingredient production efficiency and supports sustainable bioprocessing. Similarly, innovations utilizing **Beneng Taro** transform local biodiversity into high-value, nutritious food products, boosting rural livelihoods and agrobiodiversity. Complementing these efforts, IPB engineers developed a **portable lipase enzyme inactivation device** to improve palm oil quality—strengthening Indonesia's competitiveness in the global sustainable agro-industry.

Looking ahead, IPB University's **Smart Verticulture method** offers a futuristic approach to urban and peri-urban agriculture, optimizing vertical spaces with smart monitoring systems. This innovation ensures continuous, sustainable food availability in limited land areas—demonstrating IPB University's vision for an inclusive, climate-resilient, and hunger-free future.

Research in Number



1054 scholarly output in 2020-2024



94 FWCI in 2020-2024



6281 citation count in 2020-2024



21,14% of all Indonesian citation count



21,72% of all Indonesian scholarly output





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Campus Operations

Program	Daily Target	Schedule
Subsidized Canteen	350 servings/day	Everyday
Free Fruit and Milk	100 students	Everyday
Free Meal for Students in Need	35 pack/day	Weekday

IPB University demonstrates its commitment to student welfare through campus operations designed to make healthy and affordable food accessible for all. Its flagship initiative is the **Subsidized Canteen Program**, where students can enjoy a complete, nutritious meal including rice, vegetables, and protein for only Rp 10,000. Operated under the concept "Makan Kenyang, Harga Ringan" (full meal, light cost), this program ensures that every student, regardless of financial background, can meet their daily nutritional needs at an affordable price. The program has successfully increased its serving capacity to 350 portions per day.

Complementing this effort, the university's Student Welfare Subdirector runs the **Free Fruit and Milk Program**, which provides healthy refreshments to about 100 students every day in the morning. Students simply present their student ID card to receive fresh fruit and milk, encouraging a campus culture of balanced nutrition and healthy living habits.

Strengthening this ecosystem of care, IPB alumni from 18 and 19 graduation organize the **Free Meal for Students in Need Program**, which distributes 35 meal packages daily from Monday to Friday for active students who require food assistance. Entering its third year in 2024, this alumni-led initiative exemplifies the spirit of solidarity within the IPB community in ensuring that no student goes hungry.

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Community Engagement



IPB University demonstrates its strong commitment to food security through direct engagement with communities, local schools, and government partners. One key initiative is the **collaboration between IPB University and students of SMKN Comprang in Subang**, where students and researchers work hand in hand to safeguard rice production in local agricultural areas. This initiative not only enhances students' field experience but also empowers farmers to adopt better cultivation practices, resulting in a recorded:



Building on this momentum, IPB launched the **Kampung Inovasi Subang (Subang Innovation Village)**, a model of sustainable rural development that promotes agricultural innovation, entrepreneurship, and food diversification.



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Through this program, communities are encouraged to transform local potential into food resilience and economic independence. To further strengthen national agricultural capacity, IPB collaborated with the Ministry of Agriculture to develop **IPB 9G, a superior rice variety** known for its high productivity and resilience. This innovation helps farmers increase yields while supporting national goals for food sovereignty and sustainable farming.

Complementing these large-scale efforts, IPB lecturers also bring knowledge back to their hometowns through the **Dosen Pulang Kampung Program**. By introducing technologies such as the Automatic Weather Station (AWS), they help local farmers make data-driven decisions and adapt to changing weather patterns. Beyond land-based agriculture, IPB also plays an active role in advancing sustainable aquatic food systems. Through the **Blue Food Transformation Partnership** with Regal Springs Indonesia and FAO, IPB promotes "blue foods" as a vital solution to global hunger and nutrition challenges.



Finally, in ensuring the safety and quality of food supply chains, IPB collaborated with the National Food Agency (NFA) through a **training on fresh food safety supervision**. This initiative enhances the capacity of local stakeholders to monitor and ensure the safety of food from farm to market.



Student Activity

IPB University students continue to demonstrate strong leadership and creativity in advancing sustainable food systems through diverse innovations and community projects. One of the flagship student initiatives is the **Food Product Development Competition (FPDC) 2024** organized by HIMITEPA IPB. This international-level competition serves as a platform for young innovators to develop novel and functional food products that address modern nutrition challenges and promote sustainable consumption patterns.



Complementing this effort, IPB students also participated in the **World Food Forum (WFF) Indonesia Chapter Satellite Event** themed "Sustainable Agrifood Revolution: Green Innovation for Brighter Tomorrow." The event brought together youth voices from various institutions to discuss green innovations and the role of young generations in reshaping the agrifood sector toward sustainability.





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In the realm of product innovation, students developed **Dioco Diameals**, an instant porridge made from gadung tubers and taro leaf extract, designed as a functional food for diabetes prevention.



This creation, emerging from the PKM-K entrepreneurship program, reflects IPB students' ability to merge scientific research with market-ready health innovations. Collaboration between academia and industry is also highlighted through the **100-Day Nutrition Assistance Program**, a partnership between IPB and Nestlé aimed at reducing stunting. The program provides continuous nutrition education and mentoring for families, emphasizing balanced diets and maternal health during the critical first 1,000 days of life.



At the grassroots level, IPB students participating in the **KKN-T Community Service Program** have implemented various projects to directly improve local food security. In Desa Bojong Jengkol, students encouraged farmers to plant IPB 9G rice seeds, helping communities respond to potential food crises through resilient crop varieties.



Other KKN-T teams in Desa Bojong Jengkol also conducted programs such as "Ayo Olah Ubi" to educate farmers and housewives on processing sweet potatoes into various products with an economic value of up to Rp 25,000 for each creative dish contest. In Brebes, students developed **egg floss (abon telur)** as an affordable, protein-rich product to combat child malnutrition. Meanwhile, other KKN-T teams **distributed nutritious meals to pregnant women and toddlers**, raising awareness about the importance of balanced nutrition for early childhood development.





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“Food security is national security.”



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