



IPB University
— Bogor Indonesia —

SUSTAINABILITY REPORT 2019



SUSTAINABLE
DEVELOPMENT
GOALS

sustainability.ipb.ac.id

Book Title:
Sustainability Report 2019

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Published by Directorate of Scientific Publication
and Strategic Information,
IPB University, Bogor – Indonesia
2020

MESSAGE FROM RECTOR



Prof Dr Arif Satria

IPB University, a leading university in Indonesia, has a strong commitment to achieve SDGs. Contributions of IPB University in SDGs are apparent due to the strong commitment and the core businesses of IPB University related to SDGs in developing science and technology in tropical agriculture, ocean, and biosciences. Such an achievement has been acknowledged by The Higher Education Impact Ranking in 2020 in which IPB University was ranked 77th in the world, and more specifically was ranked 11th and 19th in the world for SDG 2 (Zero Hunger) and SDG 5 (Gender Equality), respectively. This rises challenges for IPB University to enhance its performance and contribution for the people, planet and prosperity through strong dedication and partnership.

Sustainability has become an important key words for IPB University which underlies all activities. In academic process, IPB university since many years has developed curriculum that inform the importance of sustainability in socio-economy and ecology aspects. There are many subjects in multi degree have been offered to students. In research, IPB University has encouraged interdiscipline and transdiscipline approach by establishing many research groups and concertiums involving various universities nationally and internationally. This has motivated IPB University to establish Center for Transdisciplinary and Sustainability Science in 2018 to develop sustainability science to enable producing strategic solution for complex problems of socio-economy and ecological issues. IPB University researches have contributed to knowledge and science through prominent publications, and some also have produced innovations that have been used by community and industries. Lastly, IPB University also actively involves in community development programs to empower and increase communities' prosperity.

This Sustainability Report 2019 is published as part of our commitment on SDGs. We hope it gives inspiration and spirit to the public and convince ourselves that together by Inspiring Innovation with Integrity, we can create a better world for us and future generations.

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IPB UNIVERSITY PROFILE

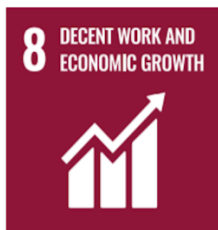
The Rebranding

The Agricultural Institute in Bogor was established on September 1, 1963, based on the Decree of the Minister of Higher Education and Science (PTIP) of the Republic of Indonesia Number 91, which was subsequently ratified on September 1, 1965, with the Presidential Decree of the Republic of Indonesia Number 279 to become Institut Pertanian Bogor (IPB). In early 2019, IPB officially launched its new brand: "IPB University". The name of IPB University and this new tagline has been ratified by the Board of Trustees (MWA) of IPB through the Decree No. 7 / IT3.MWA / OT / 2019 concerning Ratification of Rebranding of IPB with the Name of IPB University.

The decision to rebranding was carried out for several reasons, one of them is to eliminate the confusion due to dualism in the translation of the Institut Pertanian Bogor into English, especially in the writing of IPB as an affiliate of institution in international journals. Although a more suitable translation is "Bogor Agricultural Institute", IPB has long used "Bogor Agricultural University". Some even wrote it as Institut Pertanian Bogor. Moreover, since IPB are continuously expanding itself by developing and extending more study programs, the new "IPB University" brand will provide more context in building broader associations and promising higher value for the university.

Along with this new brand, IPB University also comes up with a new motto/tagline, namely "Inspiring Innovation with Integrity" (short version) and "Inspiring Innovation with Integrity in Agriculture, Ocean, Biosciences for a Sustainable World" (extended version). This motto indicates the readiness of IPB University to face a disruptive era and increasingly fierce competition.





"Food is a matter of the nation's life and death," said President Sukarno in his historic speech, when he laid the first stone of the Faculty of Agriculture at the University of Indonesia in Bogor in 1952. This faculty was the forerunner of the Institut Pertanian Bogor (IPB), established in 1963. The statement of the highest leader at the time emphasized that overcoming and preventing hunger for all people was IPB University's mission and purpose. Bogor Agricultural University developed so that Indonesia could achieve the second of the Sustainable Development Goals (SDGs), more than 60 years before the SDGs themselves were formulated. The SDGs are the ultimate humanitarian goals, which have existed since the beginning of civilization. Escaping poverty, eliminating hunger, maintaining health, and promoting quality of life are nations' basic desires, although the formulation can differ periodically. Therefore, since its establishment, IPB University has contributed to efforts to achieve these goals.

In the mid-1970s, IPB University, through Prof. Sajogjo and the Center for Development Studies, also made a real contribution to achieving SDG 2 by producing a short publication on calculating the Poverty Line, which later became a principle approach to count the number of poor people in Indonesia. The university also became one of the first institutions of higher education to conduct gender studies, which, in the 1980s, became a Center for Women's Studies. IPB University also developed a series of studies, discussions, and direct actions in the field of Social Forestry. It was one of the first universities to establish a Center for Environmental Studies and develop a series of studies, technological breakthroughs, and field practices in the development of ocean and coastal areas, marine and fisheries aquaculture studies, integrated pest control, conflict resolution, rural industrialization development, nutrition education, family science education programs, and agribusiness development to increase employment and economic growth.

There is a long list of IPB University's contributions to the achievement of humanitarian goals, which, in 2015, were formulated as the Sustainable Development Goals. Some of these efforts include recording quantitative data to monitor the achievement of specific goals. In addition, such objectives occasionally also get amplified by IPB University teaching staff and alumni, who occupy important decision-making positions executing programs, as well as influential positions, such as the president, ministers, deputy ministers, or CEOs of organizations and companies.

The above background provides a broad context of IPB University's role in supporting SDGs' achievement. There are also links between IPB University's activities and those conducted by other parties; recent achievements cannot be separated from what has been done in the past. Such contributions have been quite useful in boosting the achievement of the targets. However, it can be difficult to attribute one activity's contribution to a single and/or overall SDG achievement.

Humanitarian Goals and SDGs Contexts



**SUSTAINABLE
DEVELOPMENT
GOALS**

MANDATE AND VISION

IPB University has prepared a short-term vision for the period 2019-2023, which is "To become a research-based university and leading in innovation for national independence towards a techno-social entrepreneurial university that excels at the global level in agriculture, marine, tropical biosciences (Strategic Plan IPB 2019-2023)".

This vision has several objectives, as follows: 1) Produce superior techno-sociopreneur graduates who have noble character based on faith and piety to God Almighty, have high nationalism, professional competence, millennium softskills, soul of leadership, global outlook and become a trend setter of innovation and change, 2) Produce transformative science, technology and art to create quality of sustainable life, and concrete innovations for the people's economy and national industry, 3) Making IPB University a determinant of the latest sciences in agriculture, marine and tropical biosciences at the national and global level, 4) Making IPB University as a university that is proactively solve community problems and help to determine the national policy direction, 5) Making IPB University as a pioneer in the development of a modern management system of higher education.

To achieve the goal, various programs and activities will be carried out in a systematic, directed, and measured manner, all of which could also lead to the achievement of the SDGs agenda. Ten development areas have been formulated to achieve the target. Each field has program groups as described below: 1) Implementation of the Education Sector includes Structuring Study Programs and Curriculum, Strengthening Entrepreneurship Education and Character Education, Increasing Intake Quality, 2) Research Fields: Research Development, Scientific Development, Utilization Research, Development and Research Center Clusterization, 3) Community Service: Services and Role of IPB for Society and International Community Service Programs, 4) Innovation and Business Development: Innovation Development, Student and Alumni Entrepreneurship Development, Business Development and Endowment Fund Development, 5) Organization: Effectiveness and Efficiency of Organizational Systems and Increased Ranking of IPB, 6) Human Resources: Improving Human Resources Performance, and Improving the Quality of Human Resources, 7) Finance: Increasing Funding Resources, and Improving Financial Management, 8) Infrastructure and Facilities: Manager Facilities and Infrastructure, Adequacy and Quality of Facilities and Infrastructure, Development of Facilities and Infrastructure, 9) Technology and Communication: Capacity Building for IT Infrastructure, Development of Information Systems, and IPB University Database Management, 10) Student and Alumni Affairs: Character Building, Soft Skills, Leadership and Entrepreneurship, Improving Student Welfare, Developing Student Interest, Talent and Reasoning, Increasing Cross-Cultural Interaction, Fostering Career Graduates, Relationships with Alumni and Student Services.

The focus of the development of IPB University that has been implemented in 2019 is to build an innovation ecosystem that is conducive to the growth of innovation through: (1) fair and open incentive systems, (2) reliable information and communication systems, (3) curriculum reorientation, and (4) infrastructure development. The incentive system that is right on target, fair and transparent can create a comfortable, productive, and conducive atmosphere to support the emergence of quality innovations from all academicians at IPB. Reliable ICT support can simplify and accelerate campus academic activities processes and deliver new opportunities. Modern infrastructures and academic facilities as well as actual and advanced development of research and education systems are needed to optimize the potential of human resources in IPB.

The development of IPB University is carried out with 5 (five) strategies: 1. Strengthening IPB University as an anchor academic excellence that produces graduates with superior character techno-sociopreneurs. 2. Constructing an innovation ecosystem that is adaptive to the transformation of the digital society. 3. Capitalizing current achievements to strengthen IPB University's role as a strategic alliance in regional and national development. 4. Building a spirit of advancing together and transforming a culture of excellence by strengthening the engagement of the IPB University academic community within the framework of bureaucratic reform with the principles of learning organization. 5. Bridging and playing an active role in building local, national, and global connectivity.



2023
Local-global
interconnectivity

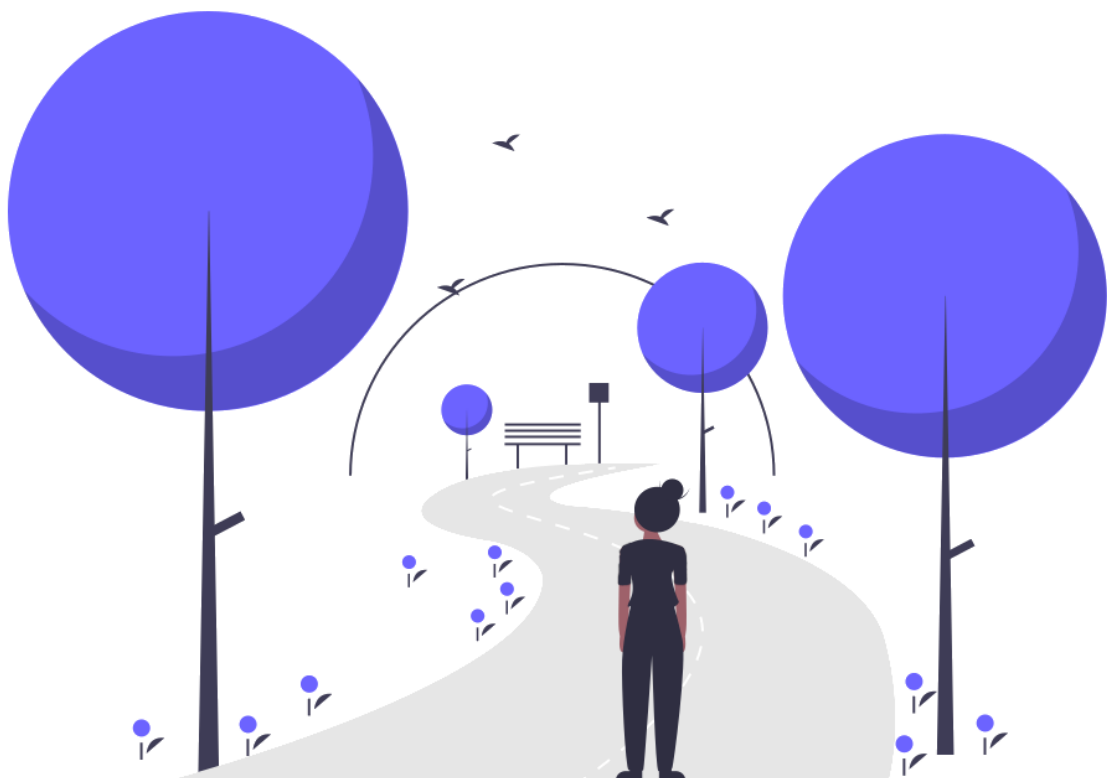
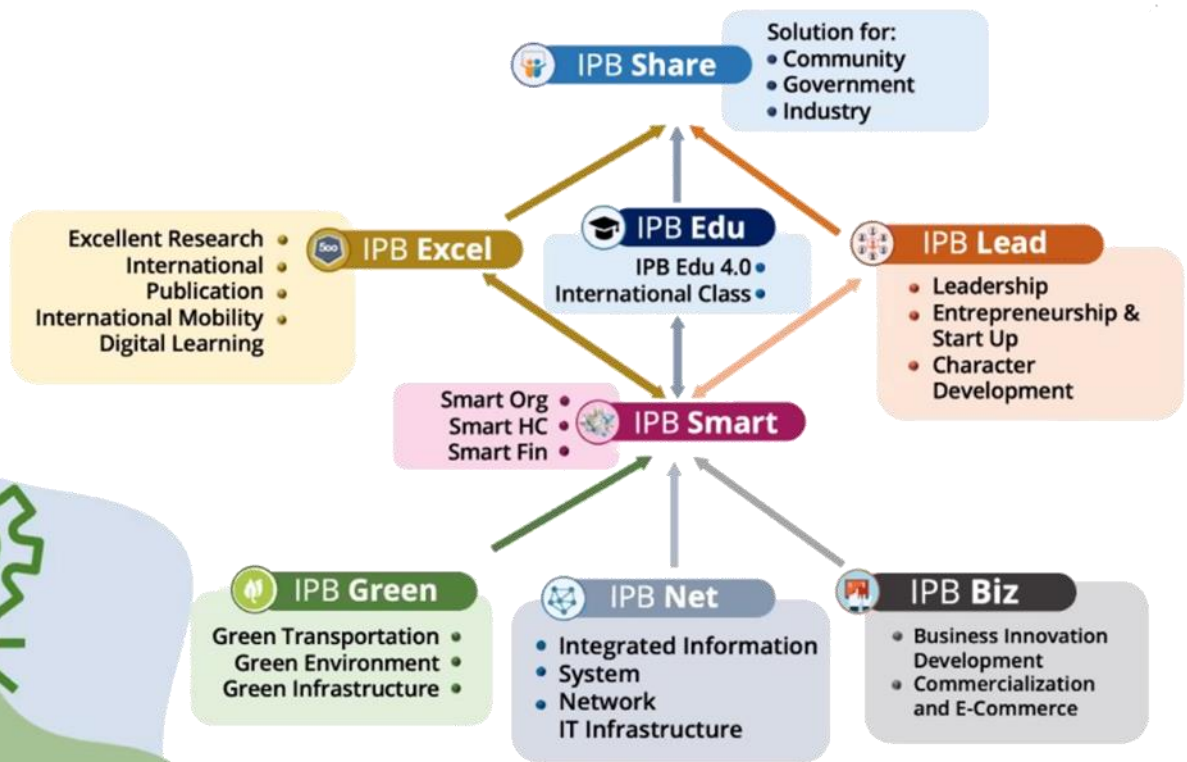
2022
Enriched &
empowered
society

2021
Excellent
innovation

2020
Engaged &
competent
human
capital

2019
Excellent
innovation
ecosystem

STRATEGIC INITIATIVES IPB 4.0

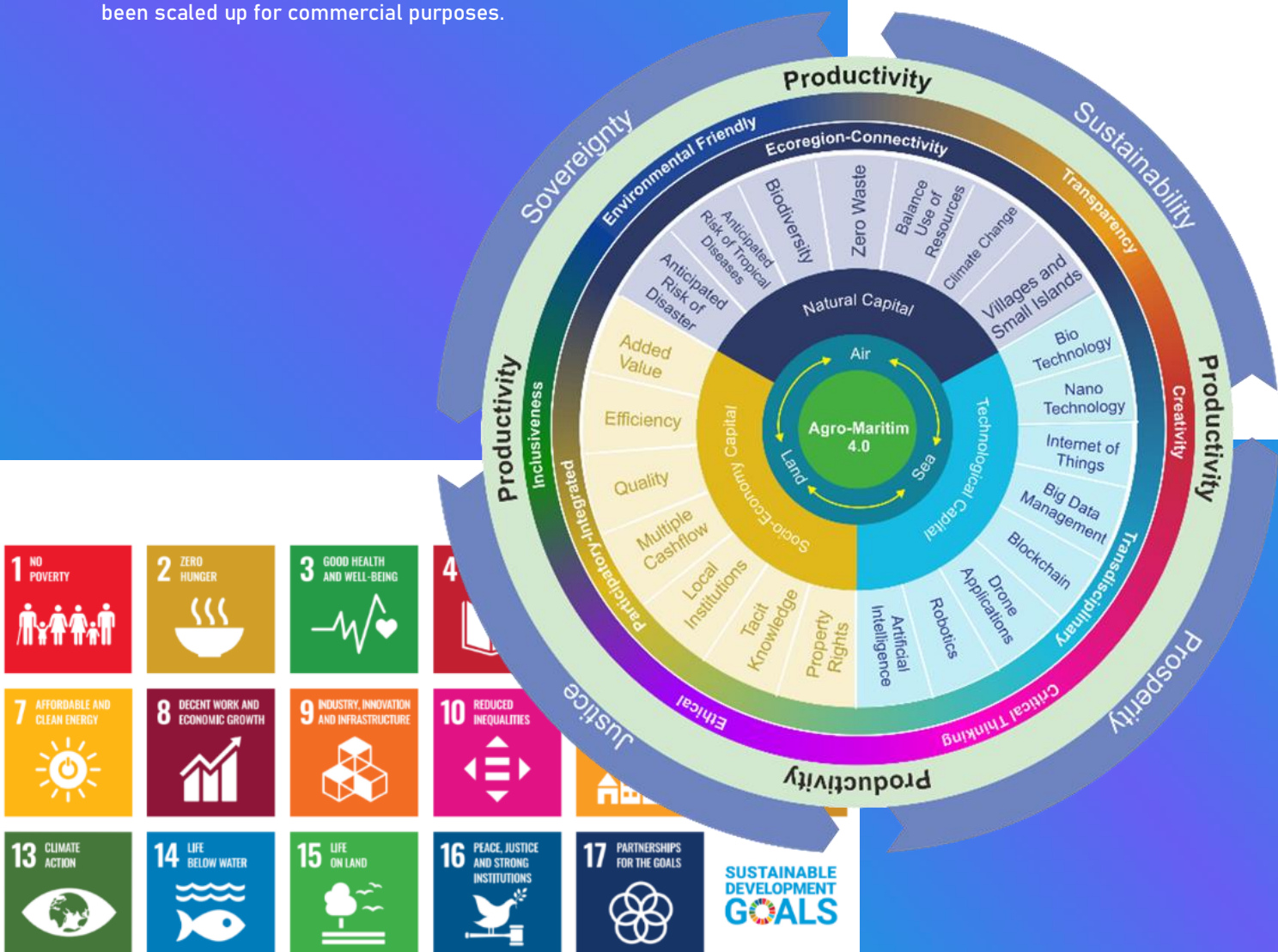


AGRO-MARITIME 4.0

Agro-Maritime considers agricultural, marine, and bioscience-based resources (called agro-maritime resources) to be the engine of future growth; therefore, the villages, small islands, and cities have critical roles as centers of growth. In particular, villages and small islands constitute frontier economies for an archipelagic country like Indonesia because of their crucial role making up an economic buffer zone, which provides raw materials, tourism, and maritime and environmental services, and biodiversity. Connectivity among regions and islands is indispensable to running the economy better, to eliminating inequity, and to securing national security and sovereignty. Agro-Maritime 4.0 is strongly in line with SDGs since it could potentially contribute in addressing solutions to major problems accommodated in the SDGs, especially in developing countries such as Indonesia.

Agro-Maritime 4.0 widely applies the IoT to create precision in agro-maritime resource management through AI, drone application, robotics, blockchain, genetical engineering, nanotechnology, and many other ways. Many advantages and benefits are created by applications of digital technology. IPB University did not start from zero with Agro-Maritime 4.0. Over the past few years, research studies and innovations in the application of digital technology in agriculture and marine related fields have been developed by IPB University scholars. Some of the research results and innovations have been published and some have been scaled up for commercial purposes.

Examples of the resulting innovations in support to Agro-Maritime 4.0 that contribute to SDGs goals, such as Fire Risk System (Figure 1), a web-based early warning system capable of predicting the risks of land and forest fires in Indonesia with up to 6 months lead time (contribute to SDG 13 and SDG 15), Underwater Television System (UTS) to digitally monitor ecosystems underwater (contribute to SDG 14), SIPINDO powered by Smart Seeds, an android application not only to help vegetable farmers but also building collaborations between university, private company and government (contribute to SDG 2, SDG 9, and SDG 12, and SDG 17).



Agro-Maritime 4.0 Innovation

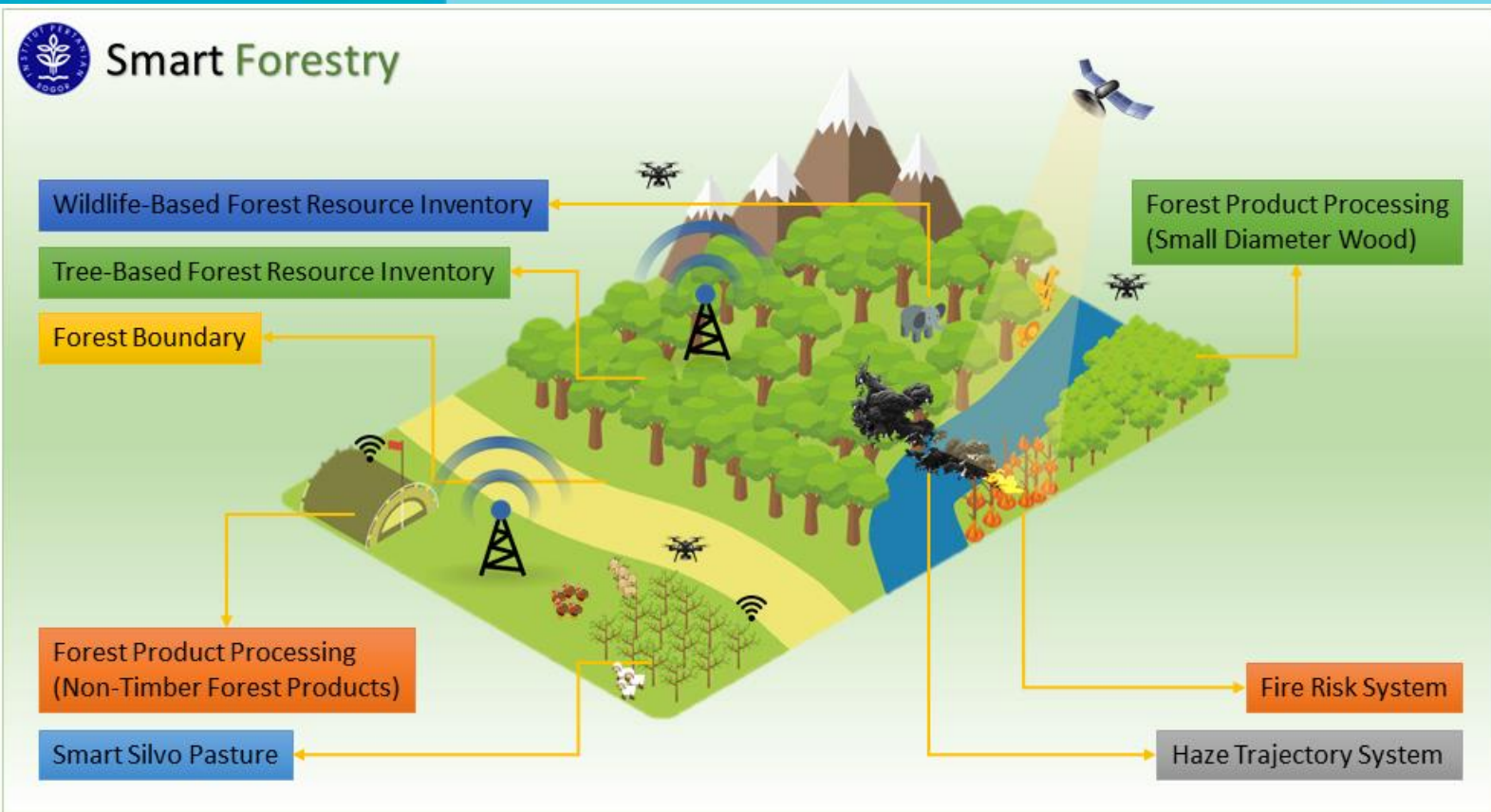
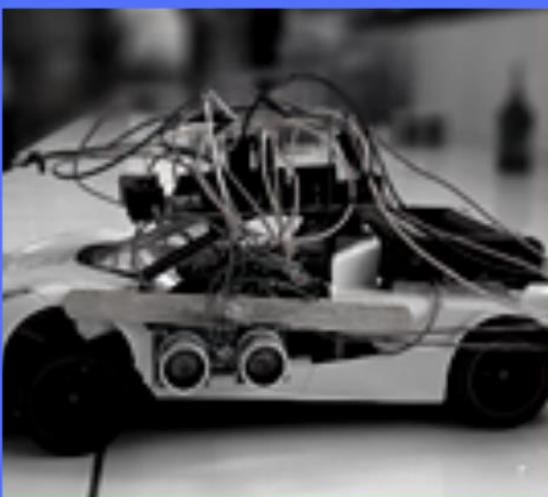
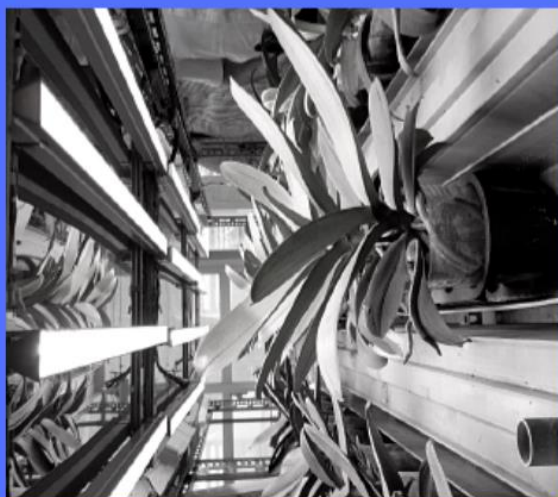


Figure 1. IPB University's innovation for smart forestry Agro-Maritime 4.0

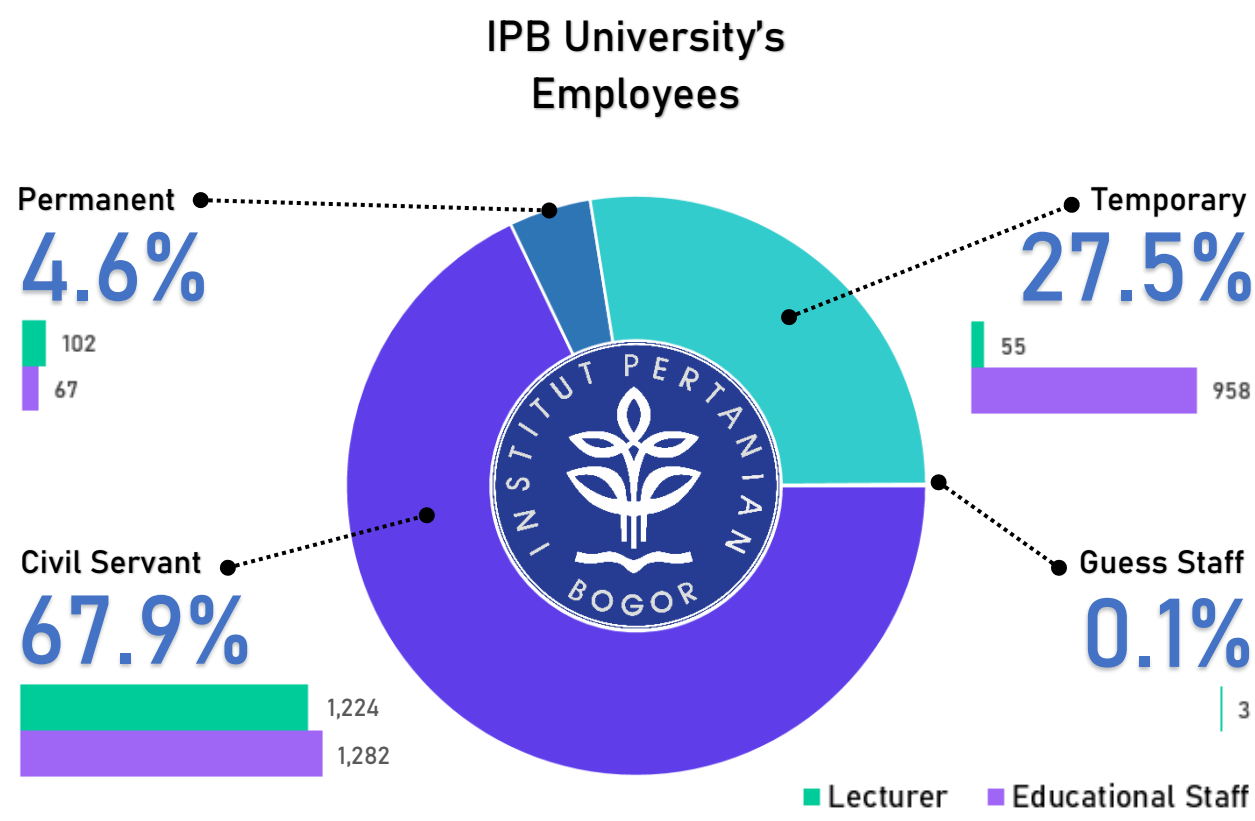
Furthermore, the innovation to support food security produced by IPB University, among others, Smart Seeder and SQUASH (Smart Quail House). Innovation such as Smart Aquaculture in Eel Production and Smart Irrigation IoT 3-layer Smart Irrigation IoT was used for Production Land Irrigation Automatic Control System. Innovation to support Urban Farming such as IoT-based SMIPY Smart Mini Plant Factory. IPB University also has the innovation to detect halal food, namely Ad-Toam Halal Detection for Food and Alcoholic Beverages Based on Ethanol Sensor Technology. Innovations to support plantation system consist of Smart Robotics of Seed Planter and Smart Fertilizing 4.0. In the biodiversity monitoring of palm oil plantation, there are some innovations, namely SMART Integrated Pest Management, smart robotics for harvesting, drone, and artificial intelligence. To support fruit quality detection, IPB University has innovation, namely the Non-Destructive Quality measurement method using NIR spectroscopy and Fluorescence with a cloud basis. In support of the Oil Palm Integrated Agrologistic system, IPB University produced two innovations, namely Smart Agrologistic, Artificial Intelligence, and Blockchain Application.

These innovations significantly contributed to the goals of SDG 4 (quality education), SDG 12 (responsible consumption and production), and SDG 15 (maintaining terrestrial ecosystems). Then it also contributed to SDG 16 (peace, justice, and strong institutions), SDG 17 (partnerships to achieve goals), SDG 9 (industry, innovation, and infrastructure), and SDG 2 (Zero hunger).

Agro-Maritime 4.0 Innovation



Human Resources

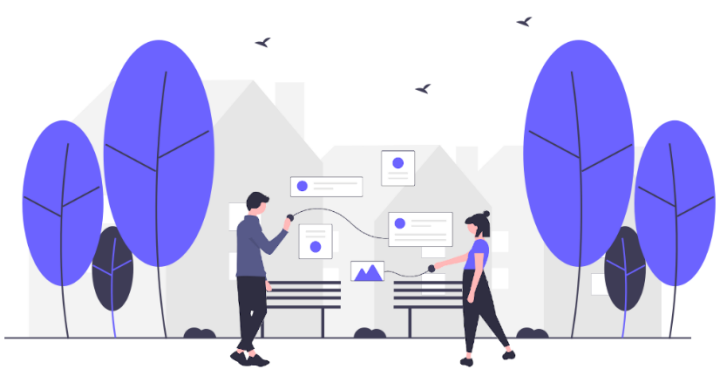


More than half of IPB University's employees are civil servants (67.9%), with an almost equal number of educational staff (1,282 persons) and lecturers (1,224 persons). The rest are permanent employees (non-civil servants, 4.6%) and contract-based employees (temporary, 27.5%).

IPB University never differentiates or discriminates in the employee recruitment process, because the main consideration is based on the needs and rationalization of employees. Admission of staff at IPB University, both educational staff and lecturers, is carried out in a transparent manner by following the applicable rules and mechanisms. Based on this, IPB University is committed to supporting the achievement of SDG goals, especially for the goals of SDG 5 (gender equality), SDG 8 (decent work and economic growth), and SDG 10 (reduced inequalities).



Campus Population



Based on functional positions, the lecturers of IPB University consist of 364 Lectors (Assistant Professor) and 367 Head Lector (Associate Professor), respectively representing 26.3% and 25.8% of the total number of civil servant lecturers in 2019 (1,326 people) (Data as of 31 December 2019, Figure 2).

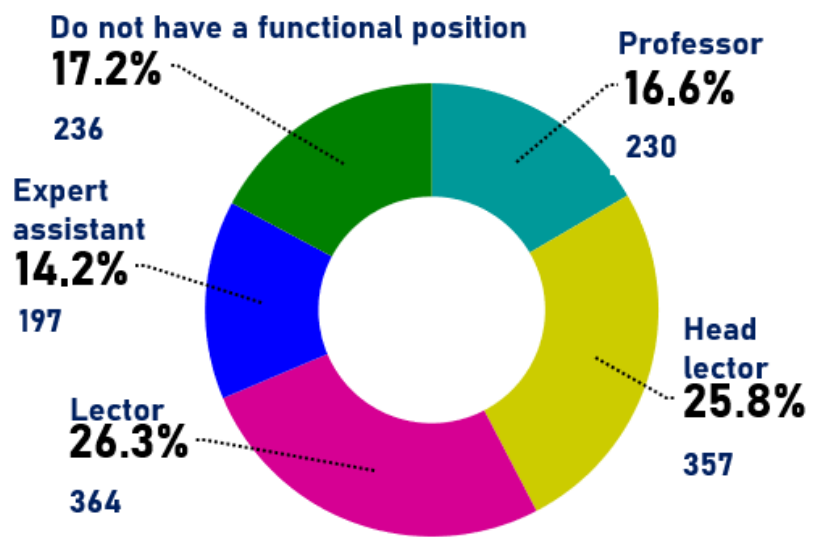


Figure 2. Compositions of IPB University lecturers based on functional positions

IPB University has 230 Professors (16.6%), 197 Expert Assistant (Assistant Professor) (14.2%), and 357 lecturers who do not yet have functional positions (25.8%). IPB University lecturers, based on their sex, consist of 804 males (58.1%), and 580 females (41.9%) (Figure 3). In educational personnel, there are 1537 males (66.7%) and 769 females (33.4%) (Figure 4).

Figure 3. Compositions of IPB University lecturers based on gender

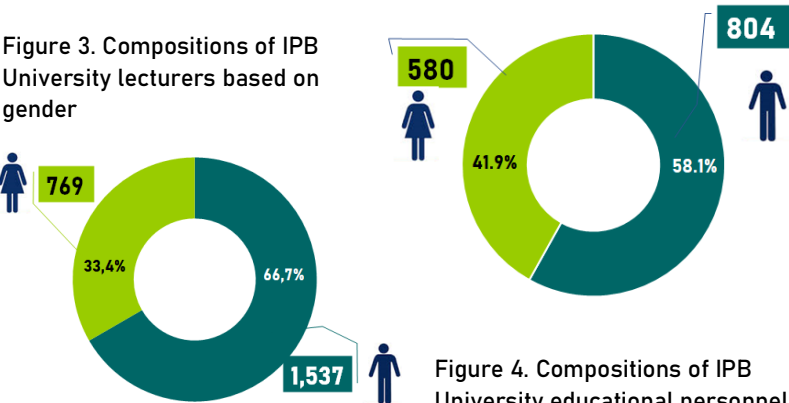


Figure 4. Compositions of IPB University educational personnel based on gender

The level of education of IPB University's educational personnel is mostly 1,234 people (53.5%) having a high school education (Figure 5), 562 bachelor degree (24.4%), 255 diploma/ vocational school (11.1%), 148 master degree (6.4%), junior high school 66 people (2.9%), primary school 36 people (1.6%), and doctorates 5 people (0.2%). IPB University lectures based on education level (Figure 6): 917 doctoral degree (66.4%), and the remaining 464 master degrees (33.6%). It proves that IPB University is very committed to achieving gender equality (SDG 5), decent work and economic growth (SDG 8) and also reduced inequalities (SDG 10).

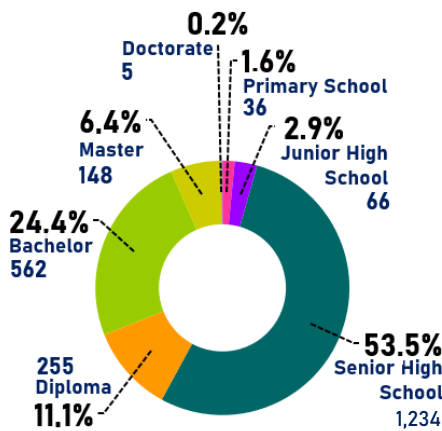


Figure 5. Compositions of IPB University educational personnel based on the education level



Figure 6. Compositions of IPB University lecturers based on the education level



IPB University Campus Population



Campus Population

Students composition



IPB University organizes four types of educational programs, i.e. vocational school (S0), undergraduate (S1), master (S2), and doctoral (S3). The number of IPB University students registered as of December 31, 2019 is 29,101 people (Figure 7), with 16,723 undergraduates (57.5%), 3,973 masters (13.7%), 1,455 doctoral (5%), and 6,950 vocational schools (23.9%) students.

If classified based on gender, most of IPB University students are women with a total of 17,168 females (59.0%). Each education level is dominated by women, except for the doctoral level with 760 males (52.2%), and 47 females (47.8%). The Composition of the student body based on gender in 2019 is shown in Figure 8.

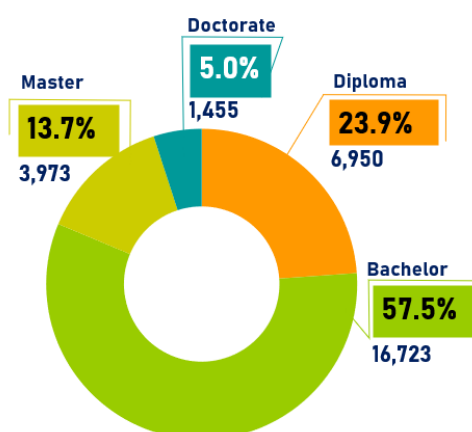


Figure 7. Composition of IPB University student based on the education level

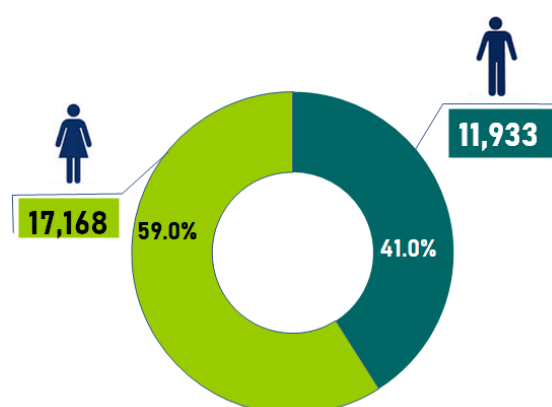


Figure 8. Composition of IPB University student based on gender



Campus Area

The IPB University campus has six campuses located, including Dramaga, Baranangsiang, Taman Kencana, Mount Gede, Cilebende in the City, and the Regency of Bogor new campus in Sukabumi. The six campuses have a special designation in their construction.

1. IPB University Dramaga Bogor Campus as the rectorate and teaching center for S1, S2, S3, and Professions. Also, social facilities and public facilities are provided. The facility is built on an area of 267 hectares.
2. IPB University Baranangsiang Bogor campus with 11.5 hectares, as a center for research and community empowerment activities and executive postgraduate education. Another facility is the IPB University International Convention Center.
3. IPB University Gunung Gede Bogor campus has 14.5 hectares, as a center for management and business education activities and a technopark.
4. IPB University Cilibende Bogor campus with an area of 3.2 hectares, as a center for educational activities and vocational teaching and learning diplomas.
5. IPB University Taman Kencana Bogor campus has an area of 3.4 hectares, as a center for innovation and commercial research (Science Park).
6. IPB University Sukabumi Campus as a Study Program Campus Outside the Main Campus (PSDKU).

IPB University supports its lecturers and students (undergraduate and postgraduate) in developing their research skills with as many as 385 laboratory facilities and 12 stations/experimental fields spread across Bogor, Sukabumi, Jakarta, Cianjur, and Pandeglang. Meanwhile, to facilitate complete and up-to-date information, there are libraries equipped with an e-library system, computer facilities, fiber optic networks and very adequate hot spots. Maintaining students' welfare on campus, IPB University provides dormitories for first-year students with a capacity of 4,000 people and dormitories for third-semester students and above with 500 people capacity. There are also polyclinic facilities, religious facilities, post offices, banks and ATMs, buses around the campus, campus bicycle tracks, and disability lanes. The Dramaga IPB University Campus provides a gymnasium, student activity center, sports hall, academic plaza, art equipment, printing center, café and bakery, IPB University shop, and international student dormitories.



MAIN GATE

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IPB University provides lifts for people with disabilities

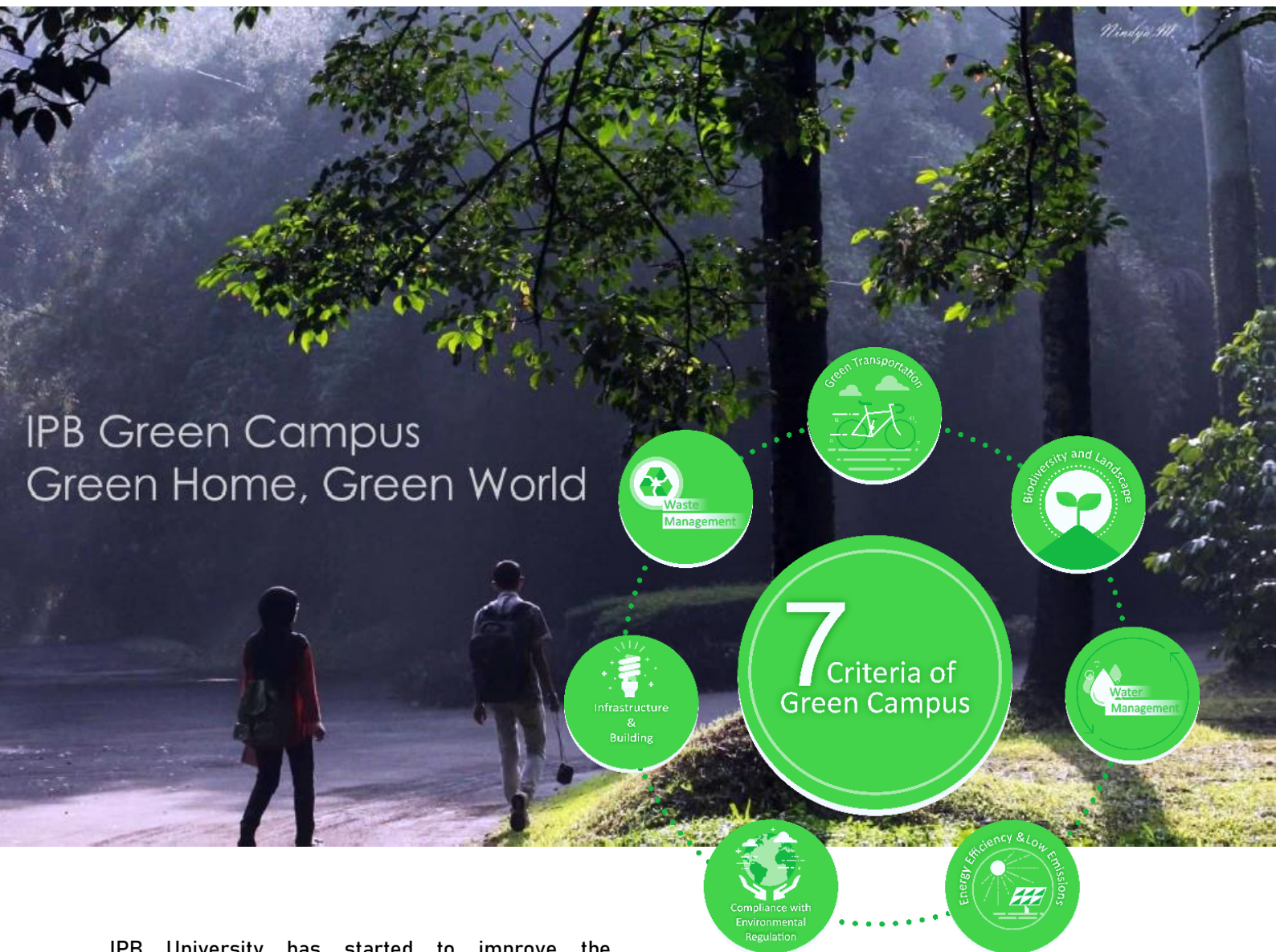
IPB University Dramaga Campus



IPB University provides pedestrian paths for people with disabilities



CAMPUS OPERATION



IPB University has started to improve the commitment to support SDGs goals through various campus operational activities for the last few years through the Green Campus program. Seven criteria form the basis for the preparation of the academic text for the Green Campus program, namely compliance with environmental regulations, water sensitive management, enhancement and protection of biodiversity and sustainable landscapes, energy efficiency and low emissions, green infrastructure and buildings, green transportation, and integrated and sustainable waste management.

These criteria for the implementation of the Green Campus program encourage increased contributions to specific SDGs goals such as good health and well-being (SDG 3), clean water, and sanitation. (SDG 6), affordable and clean energy (SDG 7), sustainable cities and communities (SDG 11), and peace, justice, and strong institutions (SDG 16). This broadens of IPB University contribution to SDGs, especially in addition to the main SDGs goals strongly related to IPB University.



BIODIVERSITY AND LANDSCAPE

IPB University has been declared as a Biodiversity Campus since 2011. This declaration was carried out considering the high biodiversity at the IPB University Campus. One of the high campus biodiversity is campus landscapes and the maintained proportion between the built and open-green areas. The existence of lakes, forests, arboretums, plantations, and three rivers that cross the campus area has contributed to the high diversity of habitats and, consequently, biodiversity.

At least 22 species of mammals, 99 species of birds, 12 species of amphibians, 38 species of reptiles, 128 species of butterflies, 173 species of woody-plants, 40 species of bamboos, and 127 species of medicinal plants have been recorded inhabiting the 257 ha of the campus area. Biodiversity has a significant role as objects for the students, lecturers, researchers, and tourism, such as for bird watching, picture hunting, outbound, and other recreational activities. Therefore, the campus functions for education and tourism, thus eco-ecotourism for academic community and community around the campus. To maintain biodiversity, IPB University issued several policy innovations. The first policy innovation is the monitoring of the population and distribution of biodiversity regularly. Second, habitat management for biodiversity. Third, on-site and offsite socialization to campus and off-campus communities. Fourth, conserving the habitats of flora and fauna. Fifth, rare tree planting. Sixth, the movement to plant fruit trees by each faculty. Seventh, the conservation of biopharmaceutical medicinal plants. Eighth, building a garden for food sovereignty. Ninth, researching campus biodiversity. These policies involve the academic community, experts, alumni, and the community around the campus.

IPB University Dramaga campus covering an area of approximately 267 ha is one of Indonesia's largest campus areas and has a large green open space. IPB University has a total area on campus covered in planted vegetation around 74% of the campus area. The campus is surrounded by three rivers, namely the Ciapus River in the north and west, the Cihideng River in the south, and the Cisadane River in the west. The three river ecosystems make the Dramaga IPB University campus have a unique landscape and ecosystem, living space, and habitats for various wildlife and plants.

Eco-edu tourism plays an essential role in raising awareness of green campus development, motivating people to conserve the environment, and teaching the importance of conserving biodiversity for human livelihood. It provides economic, social, and cultural incentives for the academic community while staying an environmentally friendly way to conserving high biodiversity value consistent with commitments to nationally determined contributions (NDCs), Convention on Biological Diversity (CBD), Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), Millennium Development Goals (MDGs), Sustainable Development Goals (SDGs), among others.

ENERGY EFFICIENCY AND LOW EMISSION

IPB University green campus was described as a campus of IPB University with a high commitment to build a culture of increasing energy efficiency, conserving resources, and improve the environment's quality by educating to create healthy living and a conducive learning environment sustainably.

IPB University has many building areas. Only less than 30% of the total building area has implemented a smart building implementation. However, the effort to increase efficiency in the use of energy has been started. The campus also produced renewable energy with around 2,350 kW from biodiesel and 10.56 kW from solar power. There was a small increase in electricity usage per year from around 17,933,931 kWh in 2018 into 18,392,522 kWh in 2019.

The greenhouse emission reduction program has been initially started through the initial measurement of gas emission reduction. The total carbon footprint divided by the total campus population was around 80,45 metric tons per person in 2019.

One of the targets of Green Campus is to implement green energy through reducing the use of electricity derived from fossil fuels and replacing with alternative energy sources such as solar cells, micro-hydroelectric power plants (MHPP), biogas, and biomass-based bio-energy. The green movement is also needed as it will be able to create a green culture among the academic community by prioritizing environmental behavior by saving electricity, saving water, reducing paper, and reducing plastic waste.





Green building



Green park



Automatic water trap

INFRASTRUCTURE AND BUILDING

Landscape and infrastructure are two main essential aspects that play a significant role in IPB University in achieving environmental, social-behavioral, or aesthetic outcomes. In 2019, the rector mandated that all new construction and major renovations on campus achieve a green ship certification. The leader's commitment creates policies concerning the arrangement, utilization, and control of land and buildings.

Green building standards guide IPB University in a continued discovery of the role that construction, design, and operations play in our sustainable campus future. Four things are priorities of IPB University: The existing building does not meet the green building concept standard, designing a new building with a green building concept, revitalizing drainage, and normalize the campus ring road inspection. IPB University is also committed to apply building standards to minimize water use, such as automatic water trap.





GREEN TRANSPORTATION

IPB University is working hard to encourage more sustainable methods of transportation. A range of alternative transportation choices is available to students, faculty, and staff. Transportation methods play an essential role in the level of pollutants and carbon emissions in the campus environment. Transportation policies to limit the number of motorized vehicles, use of campus buses, and bicycles will encourage creating a healthier environment. The pedestrian and corridor policy will trigger and encourage students and staff to preferably walk within the campus area and avoid using private vehicles.

IPB University has tried to reduce the number of cars actively used and managed by the university, i.e., from 78 in 2018 to 62 in 2019. However, this is not followed by reducing the number of motorcycles and cars entering the university daily. The number of motorcycles entering the university daily has increased from 1,155 in 2018 to 1,813 in 2019 and the number of cars entering the university daily has also increased slightly from 1,921 in 2018 to 1,936 in 2019.

In 2019, IPB University was operating regular and free 11 shuttles with 12 passengers per shuttle. Each shuttle service's total trips per day have decreased from 275 in 2018 to 238 in 2019. In order to support efforts in emission reductions, IPB University has provided free Zero-Emission Vehicles (ZEV) with 29 electric cars and 690 bicycles in 2019. In addition, the campus also provided pedestrian paths designed for safety, convenience, and in some part, with disabled-friendly features.

Green transportation comprises those modes of transportation that do not depend on diminishing natural resources like fossil fuels. These transportation modes rely on renewable energy sources. This initiative will be part of the Green Campus program in 2019-2023. For this reason, efforts are needed to maximally reduce the use of private motor vehicles that produce greenhouse gas emissions by encouraging a culture of walking and facilitating the development of public transportation infrastructure with the lowest possible emission levels.





• SELAMAT DATANG •
••••• *di area* •••••
GREEN CAMPUS
• IPB DARMAGA •

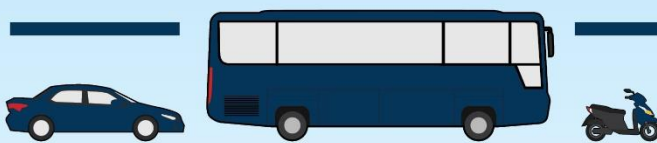
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PEJALAN KAKI & PESEPEDA

LEBIH DIUTAMAKAN

••••• *dari pada* •••••
KENDARAAN BERMOTOR



WATER SENSITIVE MANAGEMENT



Water conservation program implementation at IPB University is at an early stage, including initial measurement of potential water conserved and potential surface runoff volume. For the water recycling program, the implementation is also early through the initial measurement of potential water recycling and feasibility study and promotion. There is an increase in water-efficient appliances (water tap, toilet flush, etc.) at IPB University, more than 50% installed in 2019.

IPB University is expected to become a Water-Friendly Campus. This campus can manage its water well to meet its environment's needs and sustainability, with a water-friendly culture for all its academic community. By adopting "water sensitive city", IPB University has identified six stages need to be implemented to achieve this goal, i.e. i) Water supply campus, ii) Water sewerage campus, iii) Water drainage campus, iv) Waterway campus, v) Water cycle campus, and vi) Water-friendly/sensitive campus.

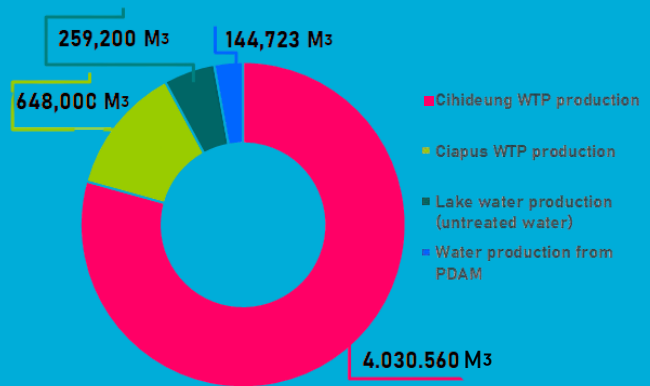


Figure 9. Total of water used in IPB University during 2019

As part of the Green Campus initiative, IPB University has identified several programs for the Water Friendly/Sensitive Campus goal. The alternative programs needed are water network repairs, bathroom equipment replacements, education campaigns to conserve water use, making drinkable water stations, making okay points according to ecological concepts, and constructing pilot areas for water reuse. IPB University also processes water use from rivers, lakes, etc. with a total of volume usage of 4,823,283 m³ (Figure 9). These programs are expected to be implemented based on the 2019-2023 road map.



WASTE MANAGEMENT



IPB University has two eco incinerators, which are used to destroy campus waste since 2019. Starting in 2019, IPB University does not throw waste into Galuga TPA. So far, the university has conducted a recycling program to reduce the use of paper and plastic on campus, such as i-letter policy, double-sided-printing policy, the use of tumbler, the use of the reusable bag, and print when necessary. Organic waste has been partly composted, while the inorganic waste was partly recycled where less than 50% partially recycled in 2018 into more than 75% in 2019.

There was an increase in the university effort in inorganic waste treatment, where more than 50% (50-70% treated) partially recycled in 2018 into more than 75% in 2019. Toxic waste is well treated, wholly contained, inventoried, and handled by the university. Meanwhile, sewerage disposal is treated individually in a septic tank and put in centralized treatment before disposal.



Figure 10. Number of waste management in 2019

IPB University has developed a roadmap on waste management as part of the Green Campus initiative covering details on planned activities, milestones, deliverables, and risks for the next five years starting from 2019 to 2023. It is targeted that in 2019, the activities will be focused on: 1) setting waste management goals, 2) assessment of waste identification and characterization (substantial, liquid, gas, B3) throughout the IPB University campus, and 3) development of short-, middle-, and long-term waste management programs. Through these activities, IPB University will identify the arranged waste's identity and characteristics and have a legal basis and regular budget for its waste management program. Number of waste management in IPB University during 2019 is shown in Figure 10.



Green Campus



HEALTH AND WELL-BEING

Good health depends on a combination of both mental and physical well-being. Therefore, it seeks to maintain a healthy and safe working environment by setting policies and procedures designed to support all its employees' health and well-being. IPB University is committed to encouraging staff and students to live healthier lifestyles and be Fit-4-Life. IPB University supports health and well-being contributes to SDG 3 (good health and well-being). IPB has 2 polyclinics, i.e. in the Baranangsiang IPB Health Unit and the Dramaga IPB Health Unit.

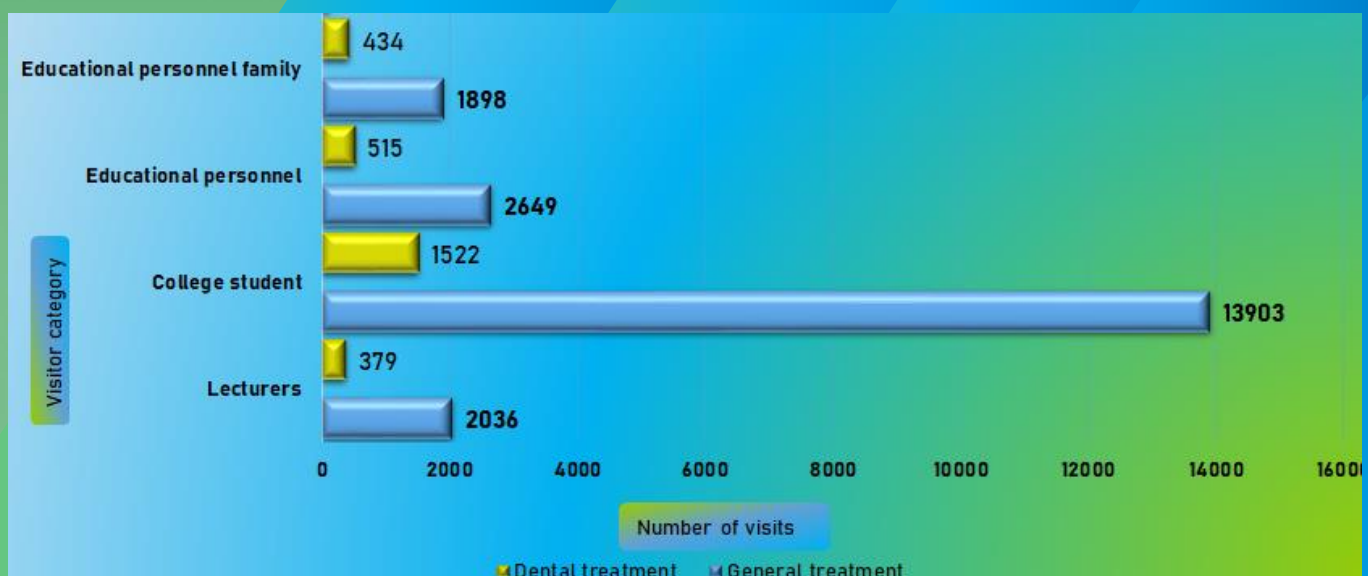
IPB Health Unit has the task of serving the health care needs and necessary medical treatment of lecturers, teaching staff, main family of lecturer and teaching staff, and students. Its functions mainly as the coordinator of all clinics in the IPB environment for: i) planning and developing the health service system; ii) health unit resource planning and development; iii) guidance and development of functional health personnel; iv) providing essential health services and first aid, including examinations, treatment, and actions of general practitioners and dentists; v) providing health services for new students of IPB (S0, S1, S2, and S3), and vi) the implementation of a referral system to hospitals for patients in need.

The Health Unit has conducted general health services held at the Darmaga pratama clinic and the Baranangsiang Clinic. Health service activities include:

1. Examination, treatment, and actions by general practitioners.
2. Dental examinations, treatments, and actions.
3. Laboratory examination.
4. Midwifery Examination
5. Field Services.
6. HR Development
7. Equipment Procurement

The number of people treated for general and dental treatment in 2019 totaled 23,690 people, with a composition of 20,651 people taking general treatment and 3,039 dental treatment. The number of people treated according to identity is presented in Figure 11.

Figure 11. Number of visits that treated to IPB University Health Unit in 2019





IPB UNIVERSITY

HEALTH UNIT

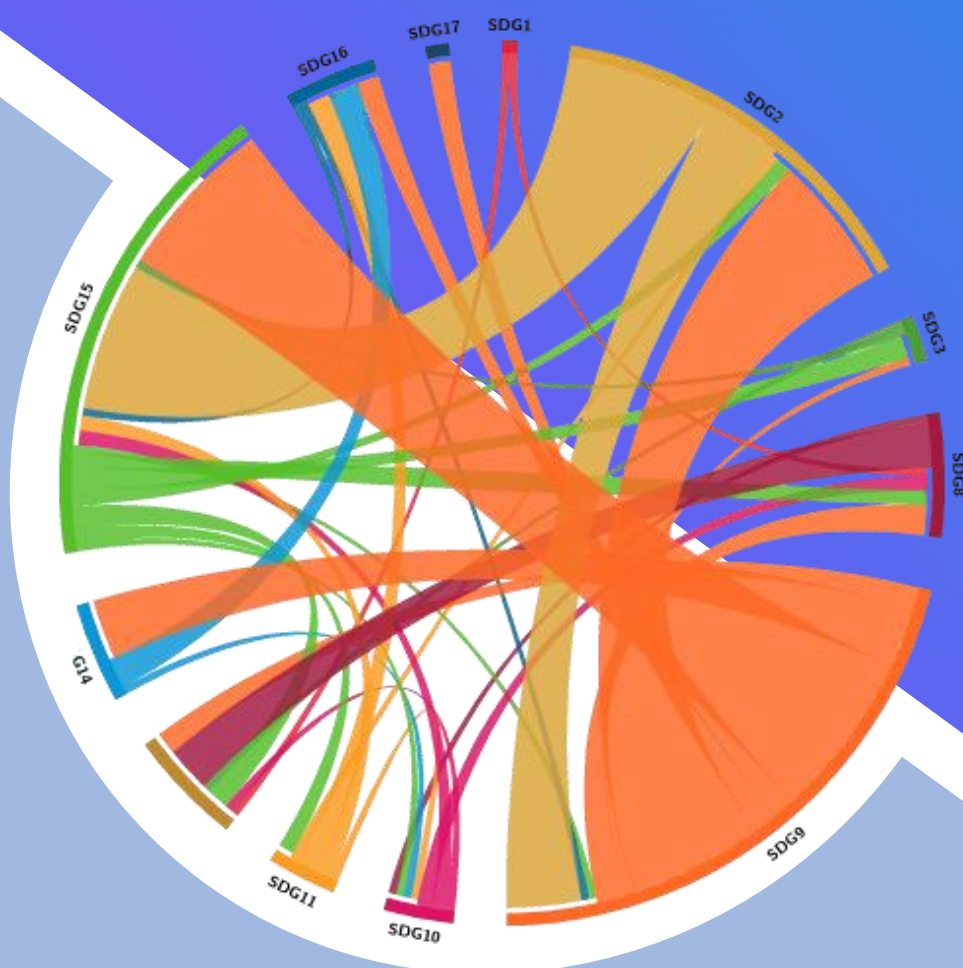
SOURCE: [HTTPS://UNITKESEHATAN.IPB.AC.ID/](https://unitkesehatan.ipb.ac.id/)

EDUCATION

Study Program

IPB University has 180 study programs, consisting 23 Vocational Schools study programs, 39 Undergraduate study programs, and 116 Postgraduate study programs (Magister and Doctorates). Study programs at IPB University have contributed to Sustainable Development Goals (SDGs), with the highest proportion in SDG 9 (industry, innovation, and infrastructure). There are 58 study programs (35.3%) that contributed in building vital infrastructure, promoting sustainable industries, and encouraging innovation.

The second highest contribution to SDG 15 (life on land) with 43 study programs (26.1%) focusing to manage forests sustainably, fight land conversion, stop and rehabilitate land damage, and/or stop biodiversity extinction. In SDG 2 (zero hunger), the study program at IPB University contributed 13.3% (22 study programs). Furthermore, SDG 14 (conserve and sustainably use the oceans, seas, and marine resources for sustainable development) contributed 6.7% (11 study programs). IPB University also has 2 Professional programs, and each contributed to SDG 9 and SDG 15.



Number of study programs by targeted SDGs (primary and secondary).

Student Final Project

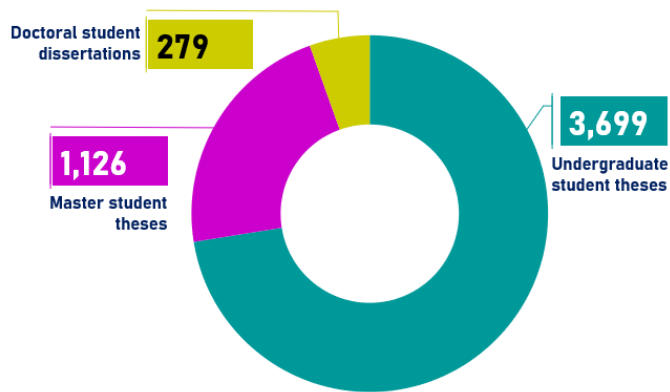


Figure 12. Student final project produced in 2019

The number of final projects of IPB University students in 2019 is 5,014, combination of theses and dissertations, i.e. 3,699 undergraduate theses, 1126 master theses, and 279 doctoral dissertations (Figure 12). The number in 2019 is lower than the previous year (5,790 final projects in 2018).

Based on the combination of the three types of student final projects, the highest contribution came from the Department of Computer Science, the Faculty of Mathematics and Natural Sciences, after that from the Department of Food Science and Technology, the Faculty of Agricultural Technology, and then from the Department of Food Products Technology, Faculty Fisheries and Marine Science.



Student Achievements

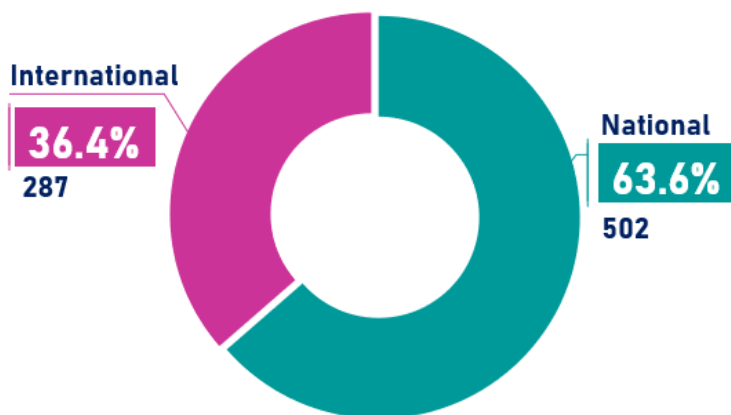


Figure 13. Level of student achievement in 2019

In 2019, IPB University students had many national and international achievements. There were 63.6% in National level (Figure 13) achievements in 31 categories, mostly in scientific writing competitions (LKT), essays, and sports categories. Meanwhile, other achievements that have also been measured by IPB are in the data analysis competition, business plan, quiz contest, debate, design and infographics, social projects, soil judging contest, application development, Ideas and innovations, photography, new and renewable energy, leadership, posters, art, Quran Recitation Competition (MTQ), and many others.

At the international level, IPB University has managed to carve 36.4% achievement in 10 competitions. The highest achievement was achieved in paper competitions sessions and debates. Meanwhile, other achievements compete for cybersecurity, entrepreneurship, research projects, art, robotics, and the ASEAN meeting model, as well as the unite meeting model.

Student Admission

Bogor Agricultural University in 2019 is rebranding to IPB University because the institution has offered broader study programs, and IPB is a brand, not only an abbreviation. It is one of the ways to attract prospective students to study at IPB University. According to the government rules, there are two admission schemes for prospective undergraduate students: the national and university schemes. The national schemes are SNMPTN (National Selection Entrance to State Universities) and SBMPTN (Joint Selection Entrance to State Universities). IPB University, as the best state university in Indonesia, considers accepting prospective students who should be approved of good in academics. SNMPTN and SBMPTN have already been proven the best selection medium to get the appropriate students. In 2019, the quota of new students of each scheme was 40% SNMPTN, 40% SBMPTN, and 20% of the University scheme.

For university schemes, IPB University considers that prospective students should have good academic skills and be talented in specific fields such as leadership, outstanding academic achievement, etc. Hence, several university schemes are Computerized Test of Selection Entrance IPB (UTMBK), Regional Envoy Scholarship Pathway (BUD), OSIS (intra-school students organization) Chairperson Path, International and National Achievement Path/PIN (including Hafizh Quran Path).

UTMBK is an entrance test which is organized by internal IPB University. Since IPB University concerns about developing Information Technology since 2019, the entrance test was based on computers. Another scheme is OSIS, an outstanding program, and IPB University was a pioneer for this scheme in all state universities in Indonesia. Since 2018, the OSIS scheme for senior high school students who had become the student council president also had good academic capabilities. IPB University is concerned with finding and educating prospective students who will become leaders in the future. IPB university also gives opportunities to students who received awards in academic fields nationally or internationally. In 2019, IPB universities opened an International class for three study programs for undergraduate students. IPB University commits to improving international circumstances; lectures are delivered in English.

New student's admission to IPB University is based on the principle of education for all as long as the prospective students meet the requirements. For undergraduate students, all program study belong to the Science and Technology group. However, some program studies can be categorized as Soshum (Social humanities) groups such as Syariah Business and Economics. An outcome of the curriculum of IPB is IPB University students should have logical thinking and a quantitative approach to solve the problem. As the requisite is the prospective students should have good academic capabilities, it opens females, disabled people, and underprivileged families to register. More than 50% of new students were females, and around 20% of new students came from low-income families. The government and IPB University have a scholarship called "*Beasiswa Bidik Misi*" to help the students financially. Furthermore, IPB University, through the "Affirmation program," which is organized by the Ministry of Research and Technology and Higher Education, also accepted 15-20 students from the underdeveloped area.

Besides, IPB University also took action to alleviate poverty as one of the government programs. It was proven by around 35.2% of the new under-graduates students in 2019, and they were the first child who studied in the university. In specific, around 57% of them were females. So, IPB University is very open for female students without any barriers.

For graduate and doctoral programs, the admission schemes are available in regular and non-regular classes. A regular class is held on weekdays; meanwhile, a non-regular class is organized at the weekend. The non-regular class is one alternative for students who cannot join on a weekday because of specific reasons. Start in 2019, and another admission scheme is available. A new perspective student can join graduate or doctoral programs under research circumstances. It is proof that IPB University accommodates the needs of the stakeholders to study at university. International students also accept the Graduate School of IPB University. The foreign master students are accepted into various Indonesian-language programs through the scholarship program under the Ministry of Research and Technology and Higher Education. Start in 2019. The admission system was already developed online; hence, prospective international students can easily register as a new student.



Education Activities



RESEARCH

Research Activities

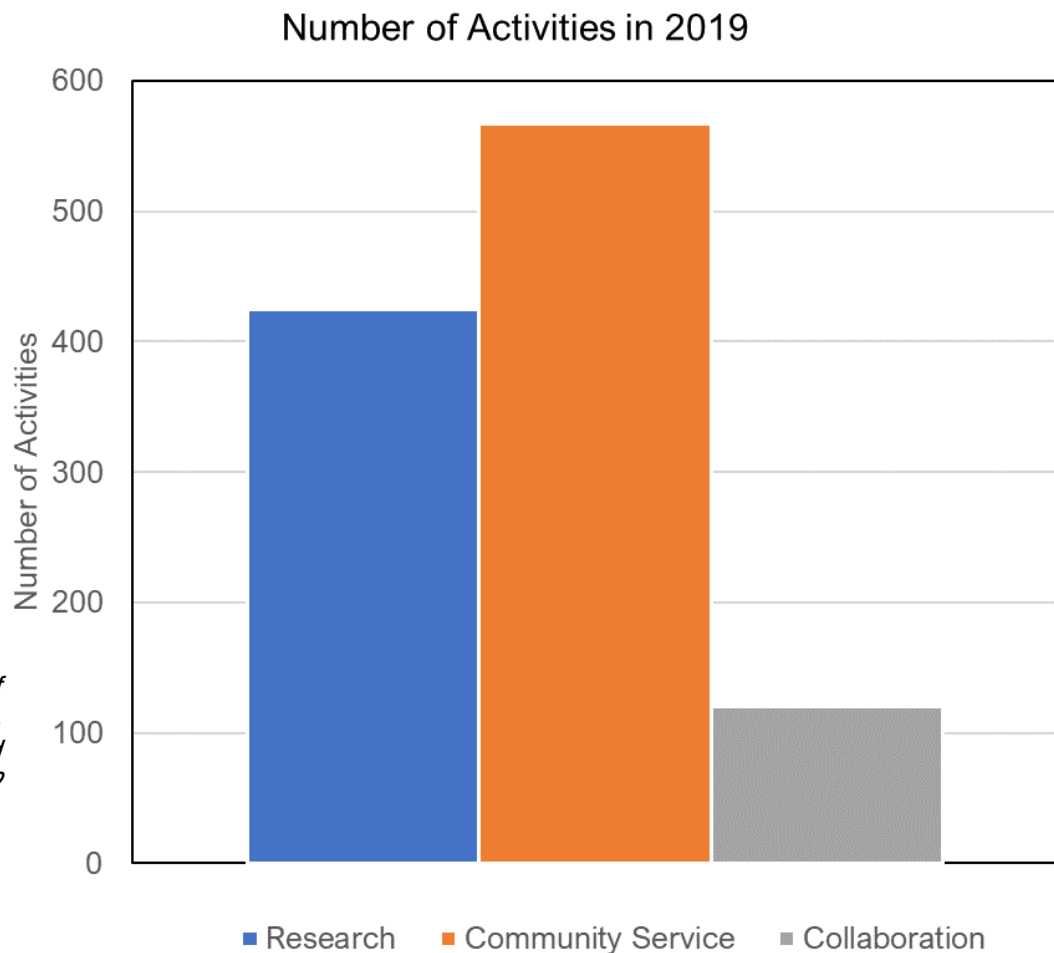


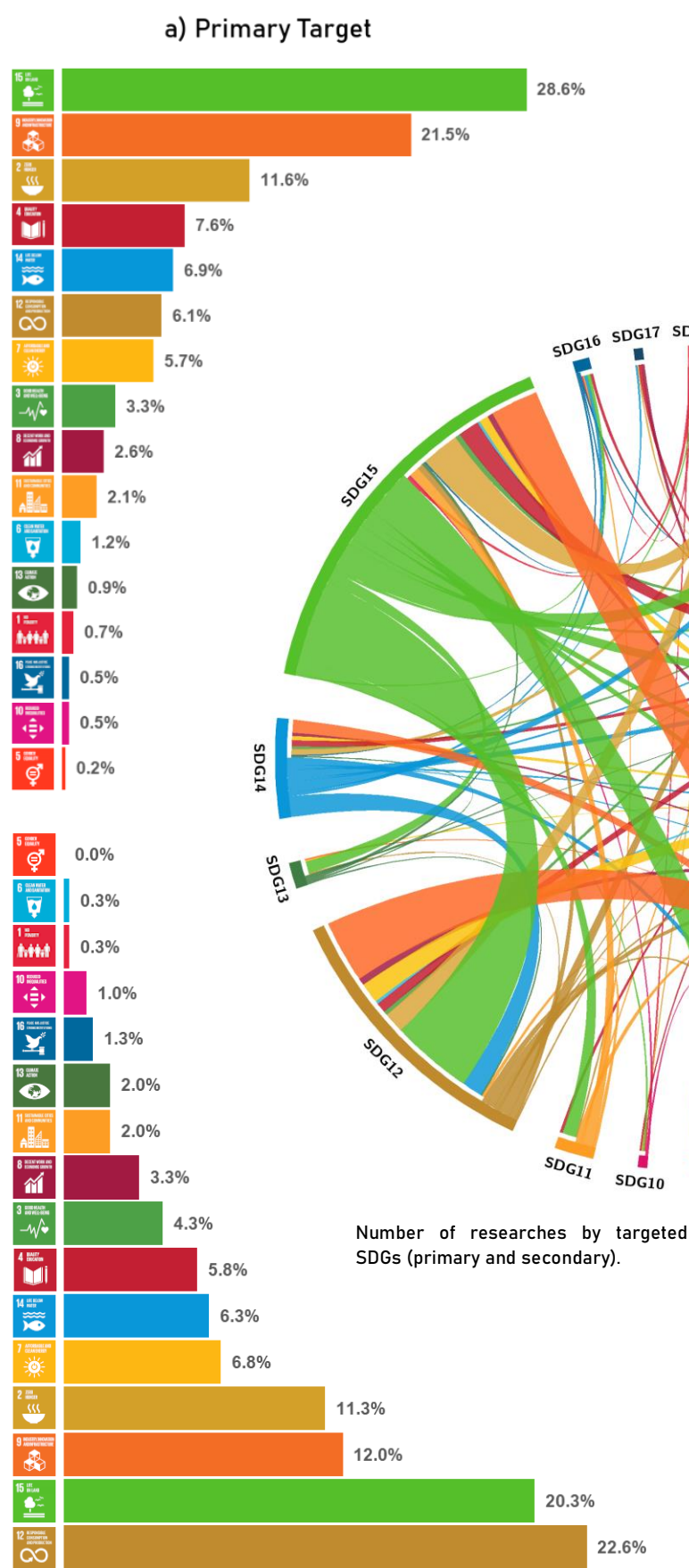
Figure 14. Number of activities in Research, Community Service and Collaboration in 2019



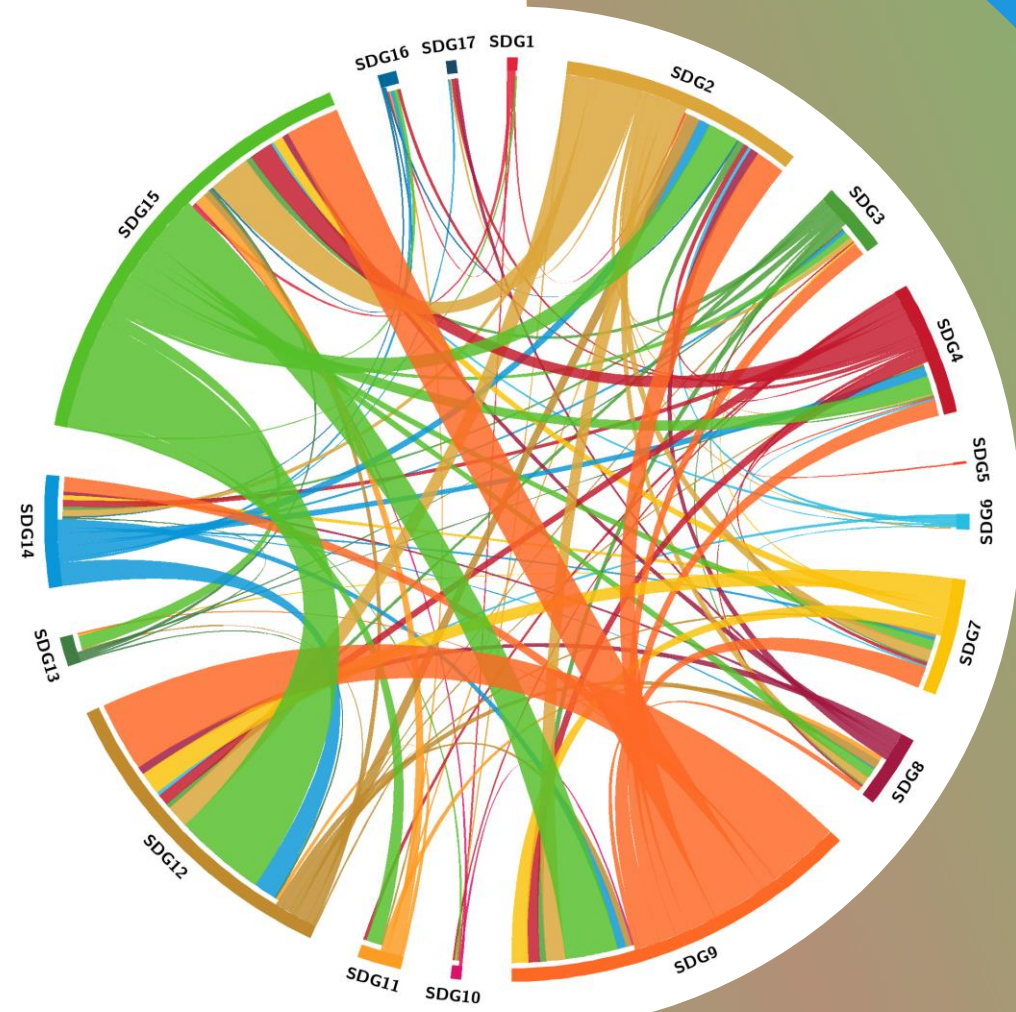
IPB University is a research and innovation-based university with a strong commitment to community development. In 2019, more than half of its activities were related to community services, supported by healthy research ecosystems. Research activities in IPB are conducted by faculty members mainly through research centers coordinated by the *Institute of Research and Community Empowerment (Lembaga Penelitian dan Pengabdian Masyarakat, LPPM)*, with 425 activities (Figure 14) in total within the year.

Other research activities were also conducted through faculty and departments or individual activities. Some of them are delivered by collaborating with national and international partners, strengthening SDG 17.

Research Related to SDGs



Research activities in IPB University are closely related to SDGs. By identifying the targets into primary and secondary priorities, the dominant goals on those two priorities and their linkages can be identified. Dominant goals are shown in bar charts, while linkages between primary and secondary target priorities are shown in a circular diagram.



In 2019, IPB was strongly committed to addressing its research activities related to SDG goals of life on lands (SDG15), industry, innovation and infrastructure (SDG 9), and zero hunger (SDG 2) as the top three primary targets. Each of them contributes to 28.6%, 21.5% and 11.6%, respectively. For the secondary target priority, the research activities are dominantly related to SDG 12 (responsible consumption and production), SDG 15 (life on land), and SDG 9 (industry, innovation, and infrastructure), consecutively contributing around 22.6%, 20.3%, and 12%.

STUDENT Research Activities

2 ZERO
HUNGER



9 INDUSTRY, INNOVATION
AND INFRASTRUCTURE



15 LIFE
ON LAND



INDONESIA WITHOUT HUNGER AND POVERTY

IPB University is committed to alleviating poverty and famine in the world through scientific development and research that will produce new innovations benefitting mankind.



Research in number

Of the 425 research projects conducted by IPB University researchers, many are relevant to more than one SDG. All research topics are classified based on their related SDGs, as seen in Figure 15.

The largest number of research projects (122 researches) at IPB University are related to SDG 15 (life on land), following by SDG 9, regarding industry, innovation and infrastructure (91 projects), and SDG 2, regarding zero hunger (49 projects).

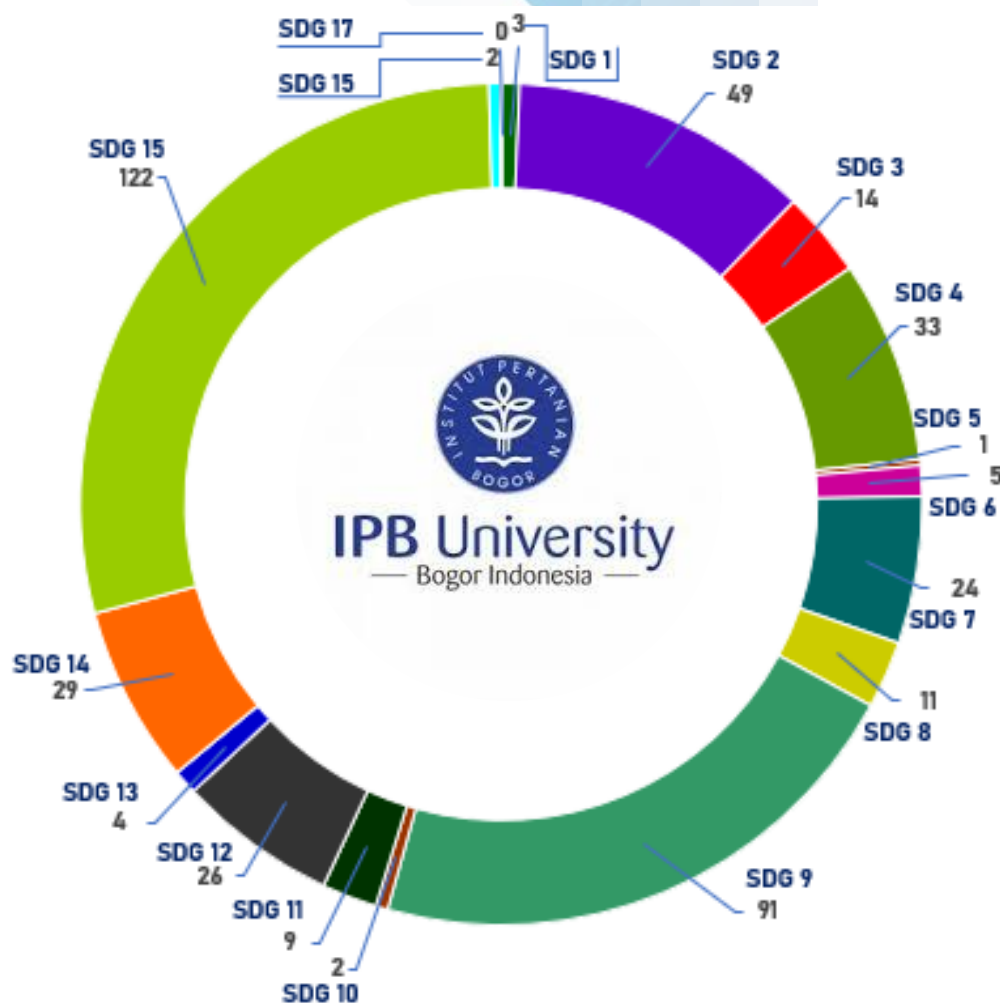


Figure 15. Research projects at IPB University That are relevant to the 17 SDGs

PUBLICATION

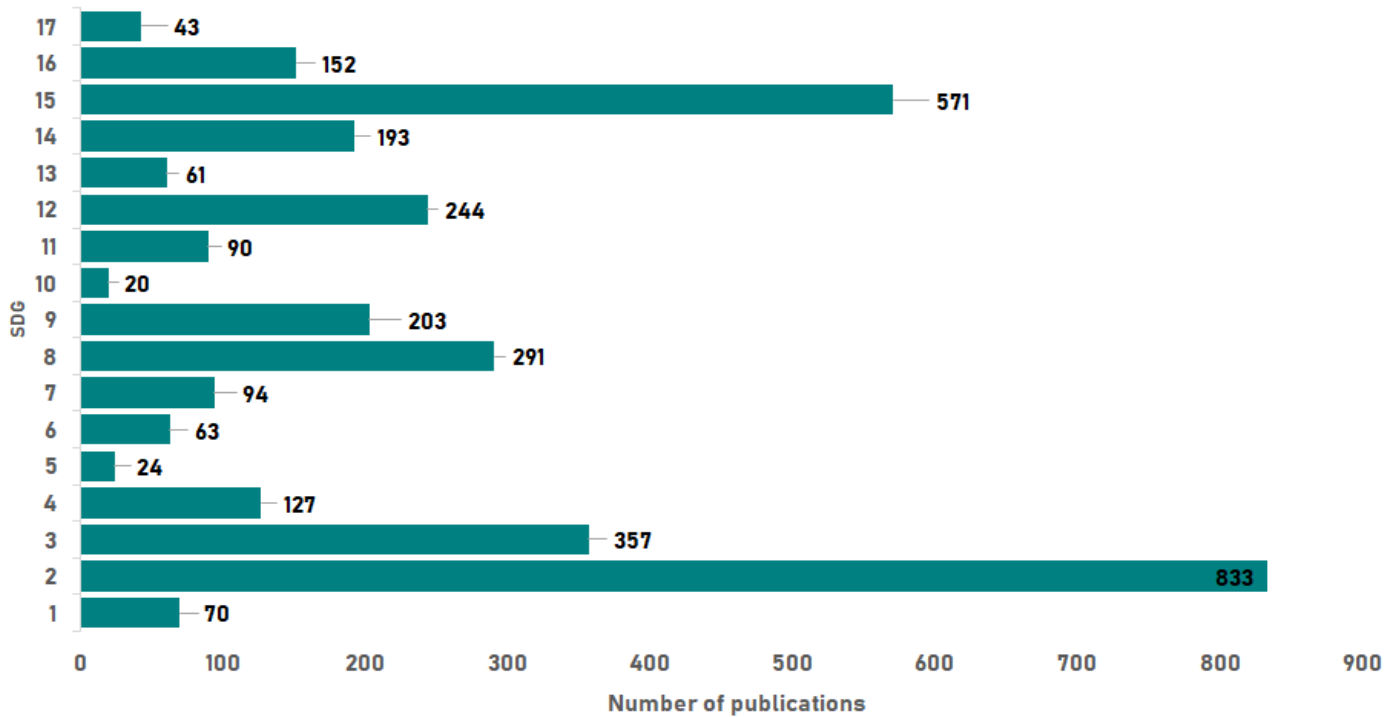


Figure 16. Publication produced at IPB University and their relevance to the 17 Sustainable Development Goals

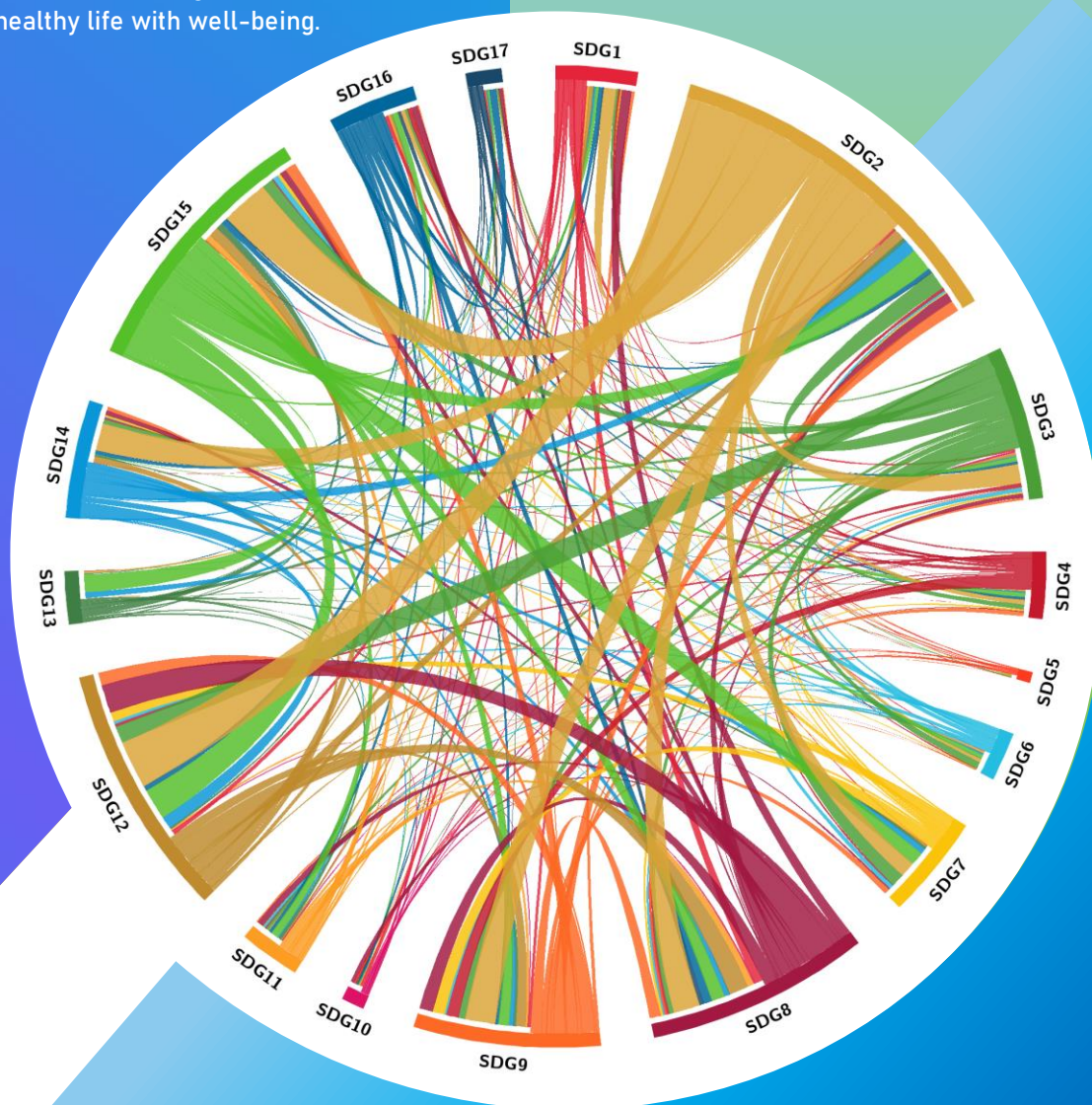
IPB University produced 3,436 publications (Figure 16) in national and international journals (65.5%), books (3.1%), scientific proceedings (19.5%), newspapers and magazines (4.2%), seminar (6.1%) and other media (1.6%) in 2019.

About 643 (18.7%) publications were published in reputable international journals indexed in Scopus. SDG 2 was most relevant to these international publications (25.7%), followed by SDG 15 (15.2%) and SDG 3 (14.9%).

Publication

Related to SDGs

IPB University is very committed to developing research and innovation, resulting in changes in society and industry to enable sustainable development. Most of IPB University's scientific publications focus on SDG 2, 15, and 3. This result shows that IPB University is concerned about supporting food security programs to end hunger and improve nutritional value and sustainable agriculture. IPB University is also concerned in the research related to reducing the loss of natural habitats and healthy life with well-being.



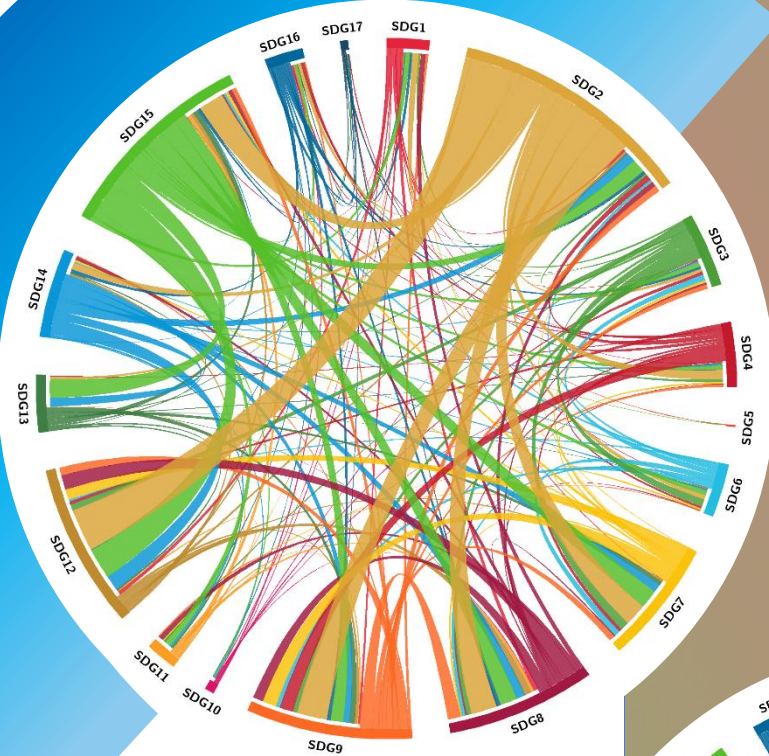
Number of publications by targeted SDGs (primary and secondary).

Publication

Journal & Proceeding

Proceeding

IPB University proceedings related to SDG 2, SDG 15, and SDG 14. It should be seen from the SDG 2 linkage that is connected to other SDGs, namely SDG 7, 8, 9, and others. Then, the SDG 15 linkage is connected to other SDGs, especially SDG 2, 7, 8, and others. Furthermore, the SDG 14 linkage was also connected to SDG 2, 7, 8, and others. IPB University excels in 3 SDGs, namely SDG 2 (zero hunger without hunger) is 289 proceeding, SDG 15 (life on land preserving the land ecosystem) with 223 proceeding, and SDG 14 (life below water maintaining marine ecosystems) by 103 proceedings.



Number of proceedings by targeted SDGs (primary and secondary).

Journal

In journal publications, IPB University focus on SDG 2, SDG 15, and SDG 8. It can be seen from the SDG 2 linkage that is connected to other SDGs, such as SDG 1, 3, 4, and others. Then, the SDG 15 linkage is connected to SDG 1, 2, 3, and others. So, in terms of journal publications, IPB University was being excelled in SDG 2 (zero hunger without hunger) with 479 journals, SDG 15 (life on land maintaining land ecosystems) with 226 journals, and SDG 8 (decent work and economic growth) with total is 213 journals.



Number of journal publications by targeted SDGs (primary and secondary).

Publication

Book Chapter & Seminar

Book Chapter

The most published book chapter of IPB University is found in SDG 2, SDG 8, and SDG 13. It can be seen from the linkage of SDG 2, which is connected to SDG 1, 3, 8, 12, and 14. Furthermore, the SDG 8 linkage is connected to SDG 1, 2, 3, 9, 10, and 16. The SDG 13 linkage is also connected to other SDGs, such as SDG 1 and 2. IPB University excels in 3 SDGs, especially SDG 2 (zero hunger 'without hunger') with 25 book chapters, SDG 8 (decent work and economic growth) with a total of 10 book chapters, and SDG 13 (climate action handling climate change) with a total of 4 book chapters.

Number of book chapters by targeted SDGs (primary and secondary).

Seminar

Seminar publications that produced in 2019 focus on SDG 3, SDG 2, and SDG 15. It can be seen from the SDG 3 linkage that is connected to SDG 2, 6, 7, and others. Meanwhile, the SDG 2 linkage is connected to SDG 3, 7, 9, and others. Thus, in terms of seminar publications, IPB University excels in 3 SDGs, namely SDG 3 (good health and well-being a healthy and prosperous life) with 75, and SDG 2 (zero hunger without hunger) with 58, and SDG 15 (life on land maintaining terrestrial ecosystems) with a total of 47 seminar publications.

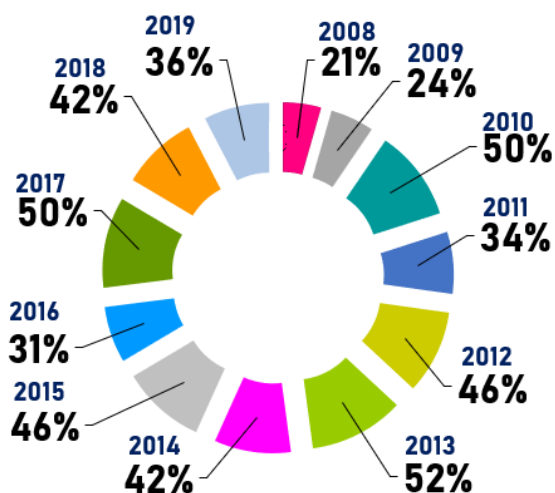
Number of seminars by targeted SDGs (primary and secondary).

INNOVATION

In the past twelve years, 2008-2019 (Figure 17), IPB University has dominated the list of Most Prospective Indonesian Innovative Works selected by Business Innovation Centre (BIC). IPB University's contribution during the last eleven years has reached 501 innovations from 1226 Indonesian innovations or 39.57%. The achievements achieved can be said that IPB University can be categorized as an innovation campus. In 2019, IPB University again received the "2019 Widyapadhi Science and Technology Award" in the category of innovation products from the Ministry of Research, Technology, and Higher Education.

The award is an award or appreciation to universities for their research and development achievements into innovative products through strengthening institutions, human resources, and innovation networks. However, not all of these innovations have had an impact on economic development. It can be seen through innovative works which always dominating compared to other universities in 2008-2019. Thus, IPB University is considered as the most productive university that produces innovative works.

Source: <https://ipb.ac.id/page/helmetsawit>



Between 2008-2019, the total number of innovations produced by IPB University was 501. Indeed, all the innovations produced by IPB University were its contributions to the realization of SDG goal number 9 (Industry, Innovation, and Infrastructure). In 2019 there are 36 innovations (90%) that support SDG 9, SDG 13; there is one innovation (2%), and SDGs 3, there are three innovations (8%).

Figure 17. Development of IPB University innovation contribution to the national (%) in 2008 - 2019

Innovation with Integrity



Figure 18. IPB University innovation for promotion

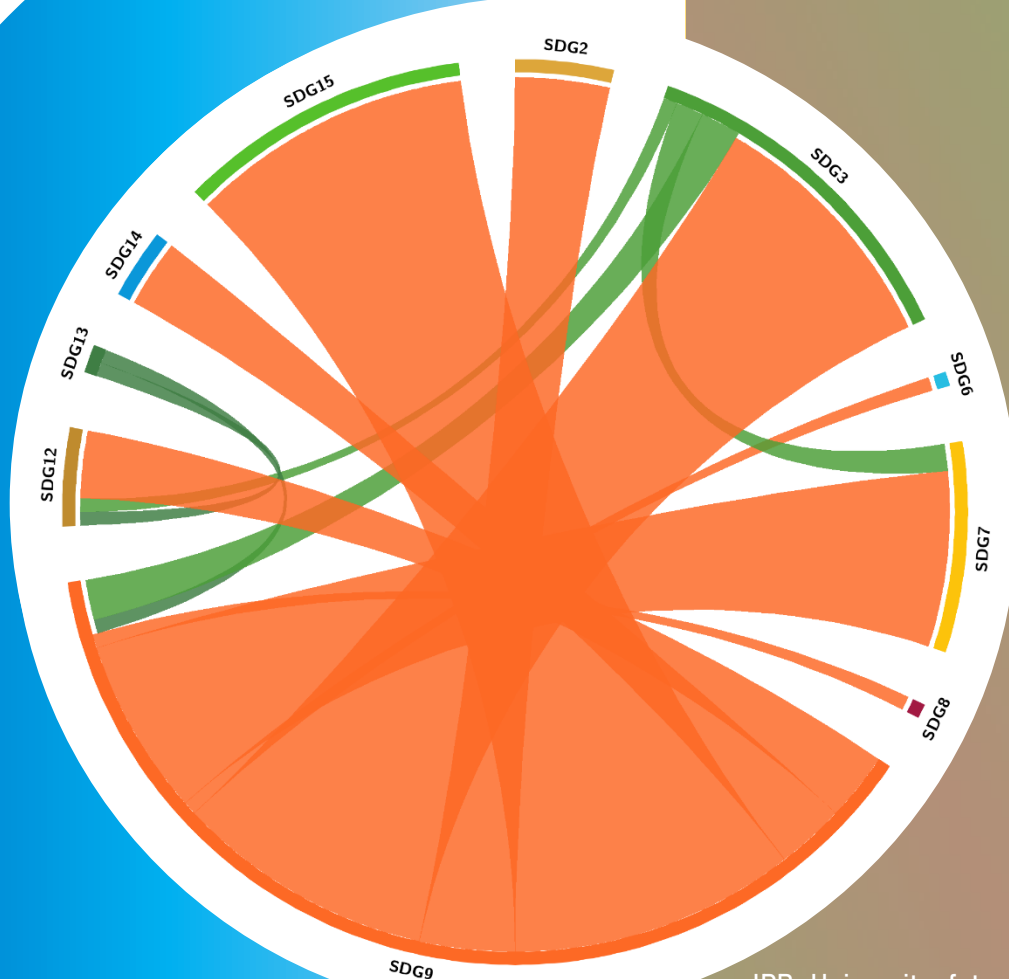
To give innovators appreciation for the royalties received, IPB University held an IPB University royalty ceremony for six innovator teams whose innovations had been commercialized. The six innovator teams with commercialized innovations and received royalties, namely: 1) Prof Dr Ir Slamet Budijanto and team (Analog Rice), 2) Prof Dr Drh Agik Suprayogi (Katulac: Animal Feed Pellets), 3) Dr Ir Desrial and team (Fastrex: Transporters of Oil Palm Bunches), 4) Dr Uus Saepuloh and team (InventPro Polpfu Polymerase Enzyme), 5) Dr Hajrial Aswidinnoor and team (IPB 3S rice), and 6) Dr Enisar Sangun, who represented Prof Dr Sriani Sujiprihati (late) and team (*Callina papaya*). IPB University will not only focus on the number of innovations but quality, and award and royalty are instruments that need to be applied to stimulate more innovations. Royalty is a form of appreciation for innovators' innovations. Giving appreciation to innovators for the royalties received is expected to spur other innovators' enthusiasm within IPB University to develop their innovations further. The importance of giving awards to innovators is an encouragement to continue to innovate that is beneficial to society. Don't just look at the great or small value because this is a form of appreciation for innovators. IPB University will continue to pursue royalties from other innovations that have been implemented commercially.

Increasing the commercialization of innovation requires increasing knowledge flow both inside and outside IPB University through strategic networks and partnerships. Increasing knowledge flow into IPB University is needed to obtain information about the industry's innovations while increasing knowledge flow outside of IPB University is carried out to promote/offer IPB University innovation to the public, especially industries in technology transfer or commercialization of innovation. With the smooth flow of knowledge, the research agenda of IPB University will be formulated more sharply, according to industry needs or in line with efforts to overcome economic problems while increasing income-generating IPB University.

IPB University Innovation is designed to promote/offer innovations produced by the IPB University academics to the community, especially the industry and prospective innovation users of IPB University. The promotion of innovation also promotes the expertise and competence of its innovators. IPB University Innovation also functions as a medium of online communication between innovators and potential technology users or potential business partners. It Innovation provides profile features or innovation descriptions, open and closed discussion and review forums, and rating ratings on technology from IPB University Innovation users. The description of innovation will provide an overview of the innovations offered, including the technology's value and readiness (Figure 18).

Innovation

Related to SDGs

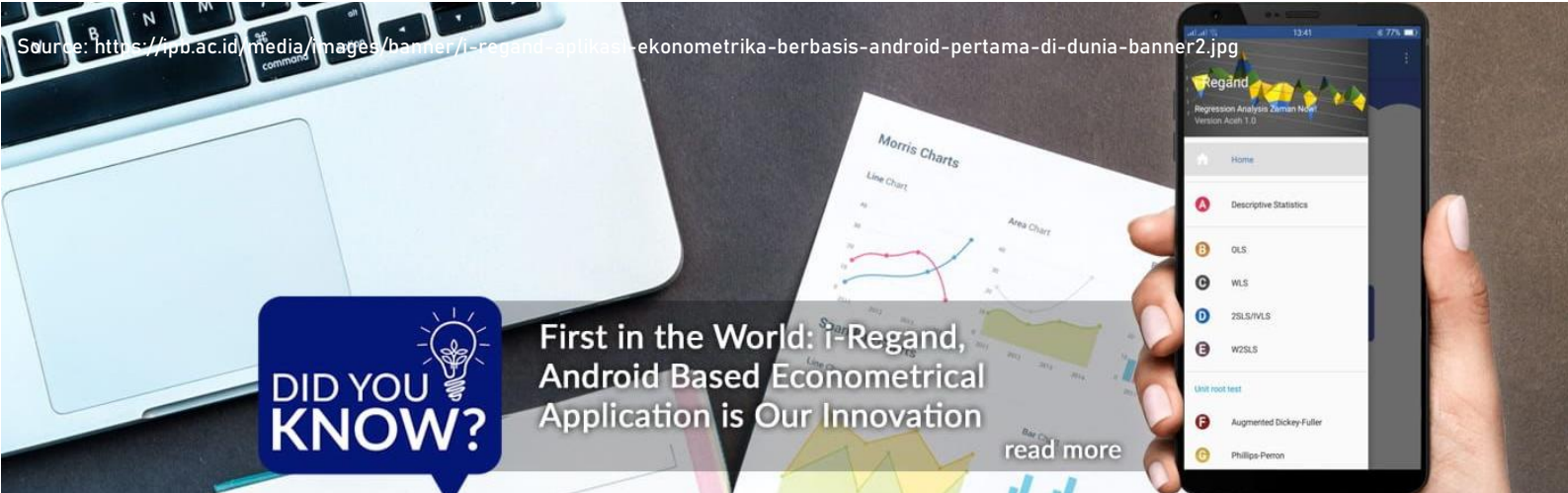


Number of innovations by targeted SDGs (primary and secondary).

The vision formulation of IPB University 2045 is to become a techno-socio-entrepreneurial university at the forefront in strengthening the nation's dignity through superior higher education at the level of global agriculture, marine, and tropical biosciences.

IPB University future is designed to be a techno-socio-entrepreneurial university with the first phase of development (2019 - 2023) is strengthening research-based university and strengthening research-based university conducted through strengthening research culture, improving research performance, and strengthening relevance, which gave birth to innovations that have been recognized for their reputation as well as innovation and business development with strong support from research management systems, education and research infrastructure, funding, management information systems, incentive systems for publication, and management innovation and intellectual property rights.

Source: <https://ipb.ac.id/media/images/banner/i-regand-aplikasi-ekonometrika-berbasis-android-pertama-di-dunia-banner2.jpg>



DID YOU KNOW?

First in the World: i-Regand, Android Based Econometrical Application is Our Innovation

[read more](#)

Source: <https://ipb.ac.id/media/images/banner/asura-smart-assisting-robot-untuk-meningkatkan-kapasitas-pemanenan-banner.png>



Innovation product

DID YOU KNOW?

ASURA Smart Assisting Robot for Greenhouse is Our Innovation

[read more](#)



DID YOU KNOW?

Rosella Probiotic Yogurt Antidiabetic Functional Drink is Our Innovation

[read more](#)

Source: <https://ipb.ac.id/media/images/banner/yogurt-probiotik-rosela-banner.jpeg>

Innovation activities



Recipient	Amount
Farpet	Rp. 1,722,000.00
Farpet	Rp. 1,090,320.00
Farpet	Rp. 7,611,178.62
Farpet	Rp. 4,844,727.26

Intellectual Property Rights



Between 2015-2019, the total number of innovations produced by IPB University was 517. Indeed, all the innovations produced by IPB University were its contributions to the realization of SDG goal number 9 (industry, innovation, and infrastructure). Other than that, all the innovations have the linkage to achieve some of the other SDGs, SDG 2, 12, and 15 (Figure 19).

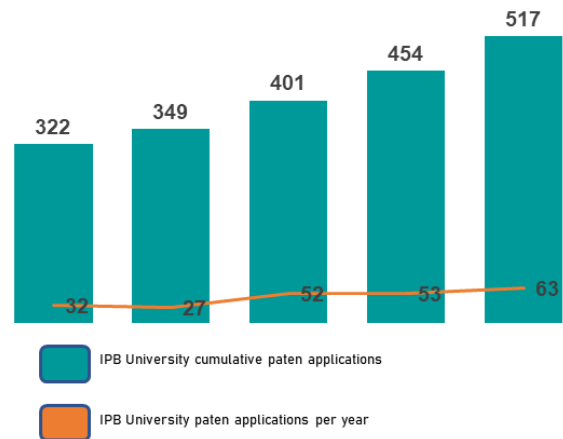


Figure 19. Development of intellectual property rights contribution to the national in 2015-2019



Recognition of SINTAi award and Widyapadhi award

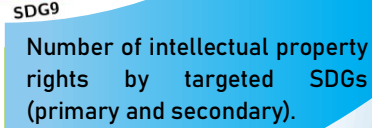
Source: <https://ipb.ac.id/media/images/banner/mini-plant-factory-berbasis-internet-of-things-iot-banner.png>



DID YOU KNOW?

Mini Plant Factory Internet of Things Based is Our Innovation

[read more](#)



COMMUNITY SERVICE & PARTNERSHIP

Community Service

Community service, assistance, and training programs in IPB University reached a total number of 3,034 activities (Figure 20). As many as 61 agencies, study centers, and departments have contributed to the programs. The most productive Department is the industrial agriculture technology (TIN) Department with 214 activities, while the research and community service agency (LPPM) contributes 109 activities.

There are at least 4 main programs held by IPB University every year to increase students' ability related to the implementation of their knowledge to serve the community. The programs are Thematic Student Study Service (KKN-T), National Community Service Programme by the lecturer, IPB University Goes to Field (IGTF), and PKM (Student Creativity Programme). All the programs except PKM were performed under LPPM IPB University supervision, and improvement was given based on the evaluation.

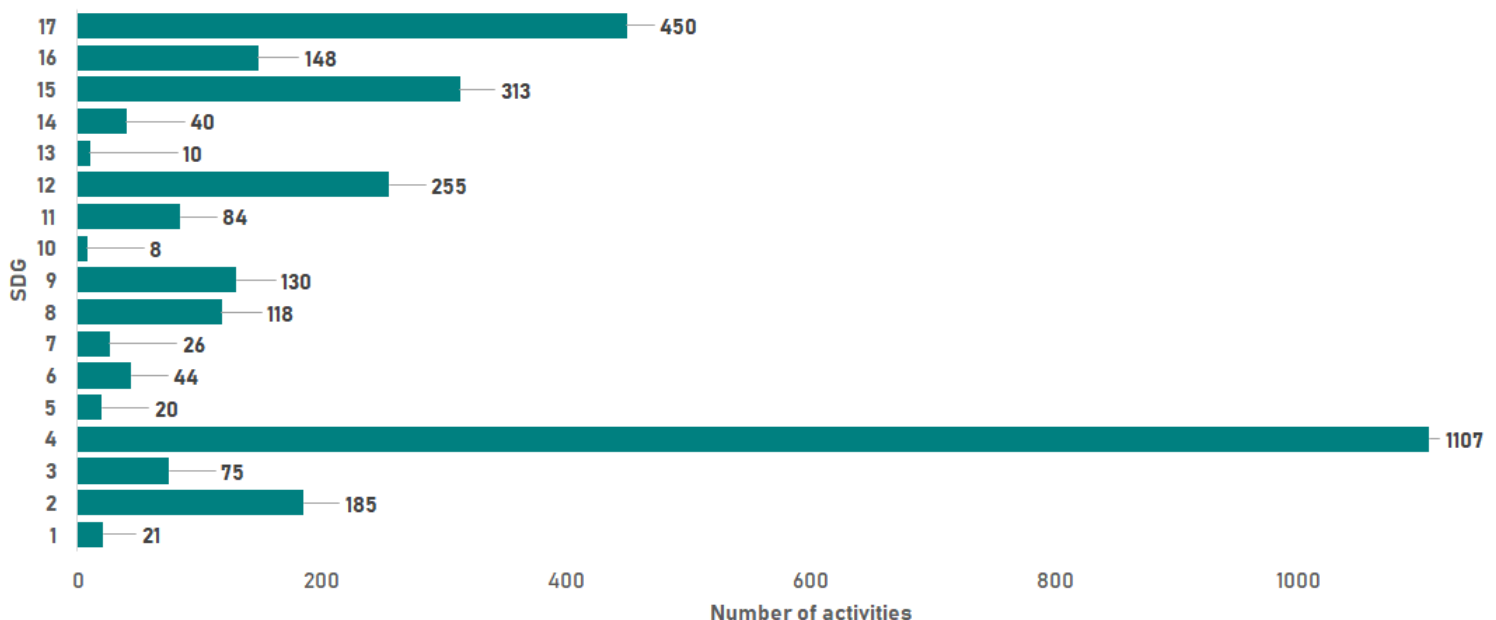


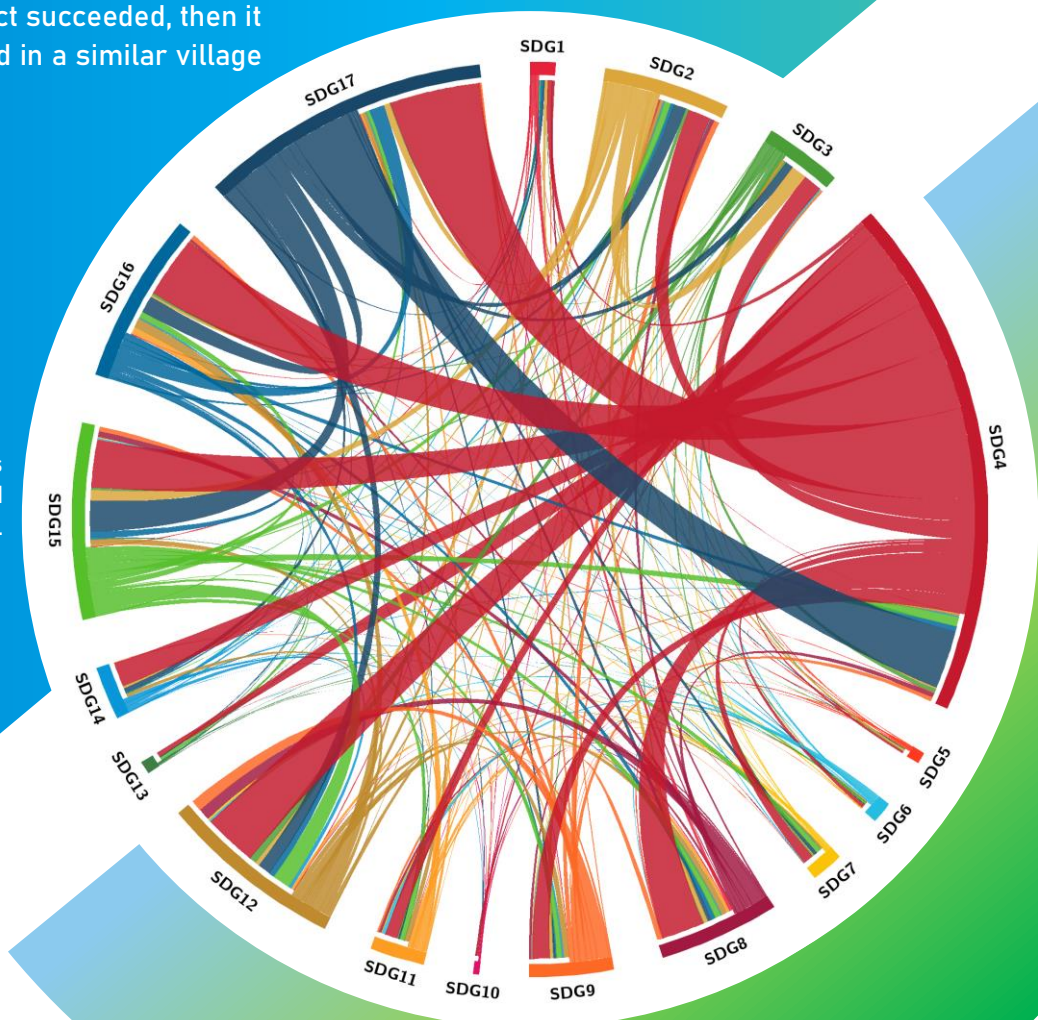
Figure 20. Community service activities and their relevance with the 17 SDGs

Community Service Related to SDGs

In the KKN-T program, the activity can be the socialization of some issues to the community. The socialization process helps students shape the mental traits and personality; they are formatted as a continuous process of summing and exercising new social roles and acquiring new experiences. Meanwhile, the National Community Service Programme by the lecturer activity can be in the broader form compared to KKN-T, for example, the implementation of IPB University technology in several villages as a pilot project. If the project succeeded, then it can be implemented in a similar village in Indonesia.

The KKN-T program has been compulsory for students since 2017, even though it was an option for the student to be taken since it was first announced in 1970. Based on the awareness and desire to solve Indonesia's agricultural problems and synergize with the government, IPB University hopes that KKN-T can be a tool to support the country's development agendas. LPPM IPB University released 2,555 IPB University students in the context of implementing Thematic Student Study Service (KKN-T) in 2019 as a tangible form of IPB's contribution to society.

Number of community services
by targeted SDGs (primary and
secondary).





Community Service Activities

KKN-T Program with the theme of Optimizing Regional-Based Utilization of Natural Resources and Community Empowerment to Increase Food Independence, Regional Economic Improvement, and Environmental Sustainability Towards the Industrial Era 4.0 was followed by 9 Faculties, 28 Regional Coordinators, 262 Field Advisors, and involve 360 Villages in Indonesia. With the KKN-T carried out by IPB University, it is hoped that the benefits of the KKN program can produce clear and measurable outputs, the student can synergize with the lecturer service program, make it easier for students to consult with lecturers as resource persons as well as mentors in dealing with real problems in society, and strengthen achievements in KKN Learning Outcomes.

Starting from February 2019 until July 2020, 38 KKN activities have been done. KKN can be a place for student to learning dynamic conditions that occur in society, while applying in the field the knowledge gained during the learning process in college. KKN is also a place for students to cultivate a sense of solidarity and empathy among fellow students and people within the society.

In addition, Student Creativity Program (*Program Kreativitas Mahasiswa, PKM*) was performed under the Directorate of Students and Career IPB University by following the guidance designed by the Directorate of Higher Education, Ministry of Education and Culture. One of the designated categories is called Community Service PKM (PKM-M). IPB University encourages students to deliver their idea through PKM-M in order to show and deliver creative and innovative solutions for community services and development. The outputs of PKM-M are expected in terms of publication, either in popular media (newspaper, TV, etc) or scientific (journal). In the community service programs, IPB University not only involves academics (students and lecturers) but also establishes cooperation with either local or regional government, private sector, or non-government organizations.



Community Service

Community service programmes at IPB during 2019 addressed SDG 4 as its highest priority, and followed by SDGs 17, 15, 12, and 2 (the top 5 priorities). There are 1,107 activities identified to be related to SDG 4 (quality education) (Figure 20). IPB University believes that education is the key to the community development, especially when it is related to increase their socio-economic welfares. Therefore, more efforts on this aspect are needed and should be addressed to target all community levels. At the same time, more than 450 activities which represent SDG 17 have been held in 2019 to ensure IPB University collaboration and partnership activities for sustainable development, either university to university level, government to government level, regional or international level. Partnership and collaboration with all stakeholders is needed in order to accelerate the achievement of all SDGs in community.

IPB University also promotes sustainable life on land or below water and combat climate change by targeting 313 activities in SDG 15, 40 activities in SDG 14, and 10 activities in SDG 13 (Figure 20). The activities showed that IPB University is highly committed and one of the leaders in this area. Meanwhile, 255 activities for SDG 12 stands for sustainable business development, production, and consumption both at local and national level. The last top 5 is SDG 2 (zero hunger), which is addressed by 185 activities. SDG 2 is also one of the most important priority due to IPB University focuses on agriculture innovation. It is also supported by 21 activities targeting SDG 1 (no poverty).

IPB University focus on human ecology as well as animal welfare are represented by 75 community service activities linked to SDG 3 (good health and wellbeing). In the meantime, even though there is not as much as SDG 3 activities, SDG 5 (gender equality) still showed a good number as many as 20 activities, and SDG 10 (reduced inequalities) which showed 9 activities. IPB University encourages women's role in agriculture and biosciences. IPB University is also committed to reducing inequality because women's roles will make the world a better place to live. Thus, such activities like empowering women in agriculture, social, and politics are involved in the IPB University agenda.

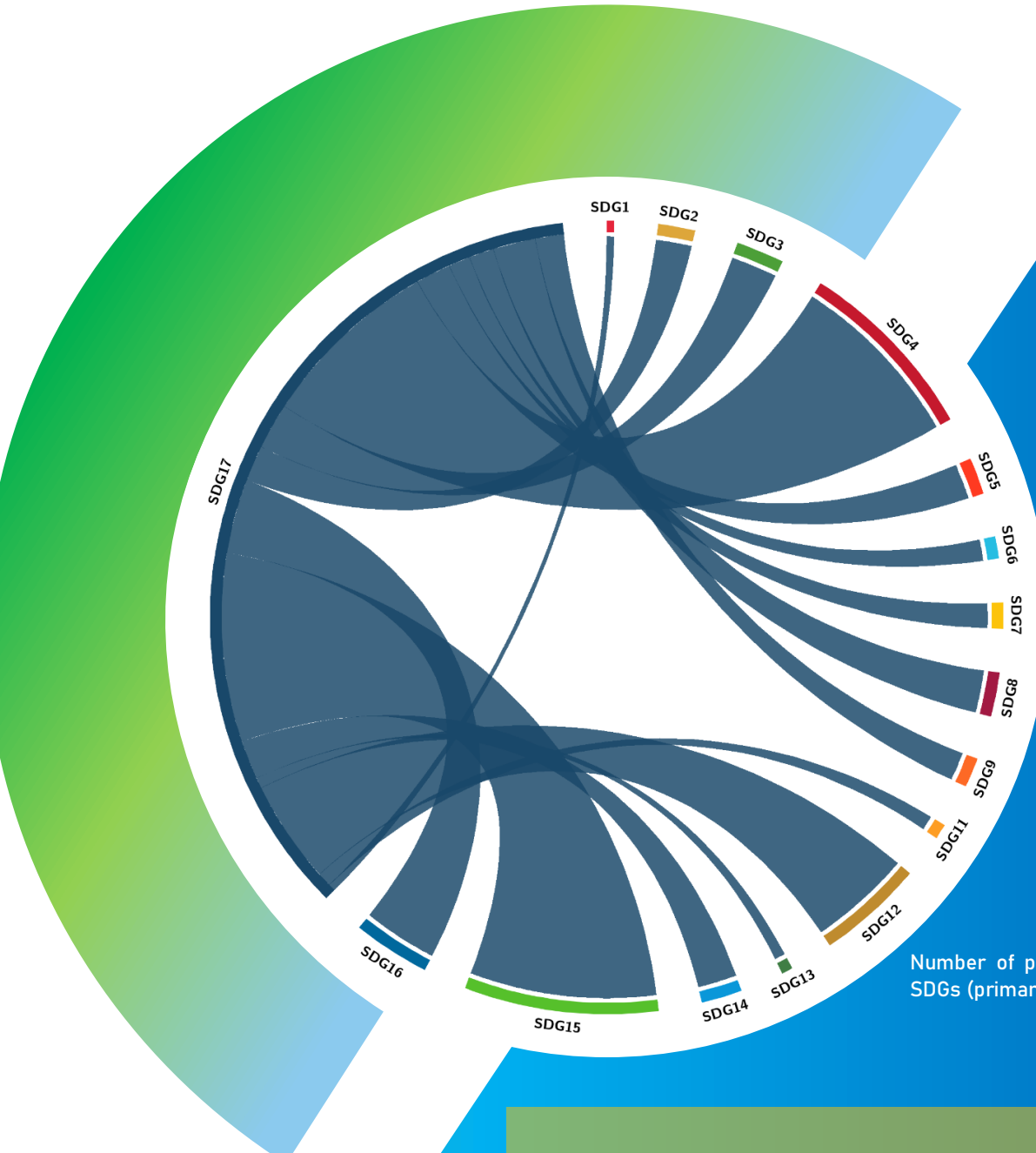
SDG 6 (clean water and sanitation) and 7 (affordable and clean energy) activities illustrated by 44 and 26 activities, respectively. Do these issues continue to be strong considering IPB University's goal to be the green campus in 2025? Moreover, as IPB University gives credence that sustainability is the key either in national or global economic growth, not less than 118 activities targeting for SDG 8 and 84 activities for SDG 11 were done in 2019 with an eye to sustainable business development, production, and consumption both at the local and national level. Related to the identity of IPB University is SDG 9, which is exhibited by 130 activities. As IPB University tagline "Inspiring Innovation with Integrity", innovation is one of IPB University characteristics in all activities in all aspects. Finally, in SDG 16, IPB University exhibited 148 activities that are committed to inclusive, effective, and accountable institutions. As a higher education institution, the openness accelerates institution to be trusted either by the government or community and bring the academic atmosphere into the campus.

Partnership

 UKRI-GCRF TRADE Hub "Trade, Development & Environment" (UNEP-WCMC & CIFOR)	 INREF Smart-In-Ag "Smart Indonesian Agriculture" (Wageningen University & Research)	  KOICA-TALENTA: <i>Green Bio Sciences</i> <i>(Seoul National Univ)</i>	 INTPREP: <i>Peat Restoration</i> <i>(NUS Singapore)</i>
 Wood Tracking Project "Development of DNA based Wood Tracking Technology" (World Resource Institute)	 SPIN-ANGIN "Resilience of the Richest Reefs-Bird's Head Seascape" (Wageningen University & Research)	 CRC-RACE 2030: Reliable Affordable Clean Energy for 2030 <i>(Monash University, University of Technology Sydney etc)</i>	OTHER INITIATIVES: <i>Ecosystem Restoration, Anthropocene, Biosphere Reserve, Geopark, GIVAUDAN sustainable vetiver, etc.</i>
 NERC/RISTEKDIKTI-NEWTON FUND "Wallacea Region" (University of Aberdeen, Univ of Leicester)	 Orangutan Research "Biological characteristics (genetics and genomics)" (University of Zurich)	  RISTEK-DIKBUD-MIRA: <i>Food, Energy, Health, Environment etc.</i> <i>(MIT)</i>	

As Indonesia's leading higher education institution, IPB University possesses vital concern in Sustainable Development Goals (SDGs) implementation across its academic activities, collaborative agendas, and policies. The presented graph demonstrates concentrations of IPB national and international partnerships on each SDGs 17 global goals (with a thicker line meaning greater concentration).

Six goals became the utmost deals: SDG 15 (life on land), SDG 4 (quality education), SDG 12 (responsible consumption and production), SDG 8 (decent work and economic growth), SDG 14 (life below water), and SDG 16 (peace, justice, and vital institution). Despite being the nation's only agricultural university with agriculture-concentrated studies, IPB University conducted associate projects with fellow prestigious partners (i.e., universities, research institutions, government organizations, and private companies) in far-ranging subjects as well.



Number of partnerships by targeted SDGs (primary and secondary).

Partnership Related to SDGs

The joint works are undertaken with top tier collaborators all around the World, including UKRI-GCRF TRADE Hub (UNEP-WCMC & CIFOR), INREF Smart-In-Ag (Wageningen University & Research/WUR—global Top 1 The Netherland's agricultural and forestry university), KOICA-TALENTA (Seoul National University, South Korea), INTPREP (the National University of Singapore, World Tracking Project (World Resource Institute), SPIN-ANGIN (WUR), CRC-RACE 2030 (Monash University and University of Technology Sydney, Australia), NERC/RISTEKDIKTI-NEWTON FUND (the University of Aberdeen and University of Leicester, U.K), *Orangutan* Research (University of Zurich, Switzerland), RISTEK-DIKBUD-MIRA (Massachusetts Institute of Technology, U.S.A.), sustainable vetiver (Givaudan—world-leading Switzerland's flavor and fragrance company), ecosystem restoration, Anthropocene, biosphere reserve, Geopark, etc.

PENANDATANGANAN MOU PROGRAM DESA SEJAHTERA

Institut Pertanian Bogor & PT Asuransi International



Source: <https://ipb.ac.id/media/document/pdf/IPB-Today-Edisi-161.pdf>

Partnership activities



Source: <https://www.ipb.ac.id/page/about/kerjasamaInternasional>

SDGS

HIGHLIGHT

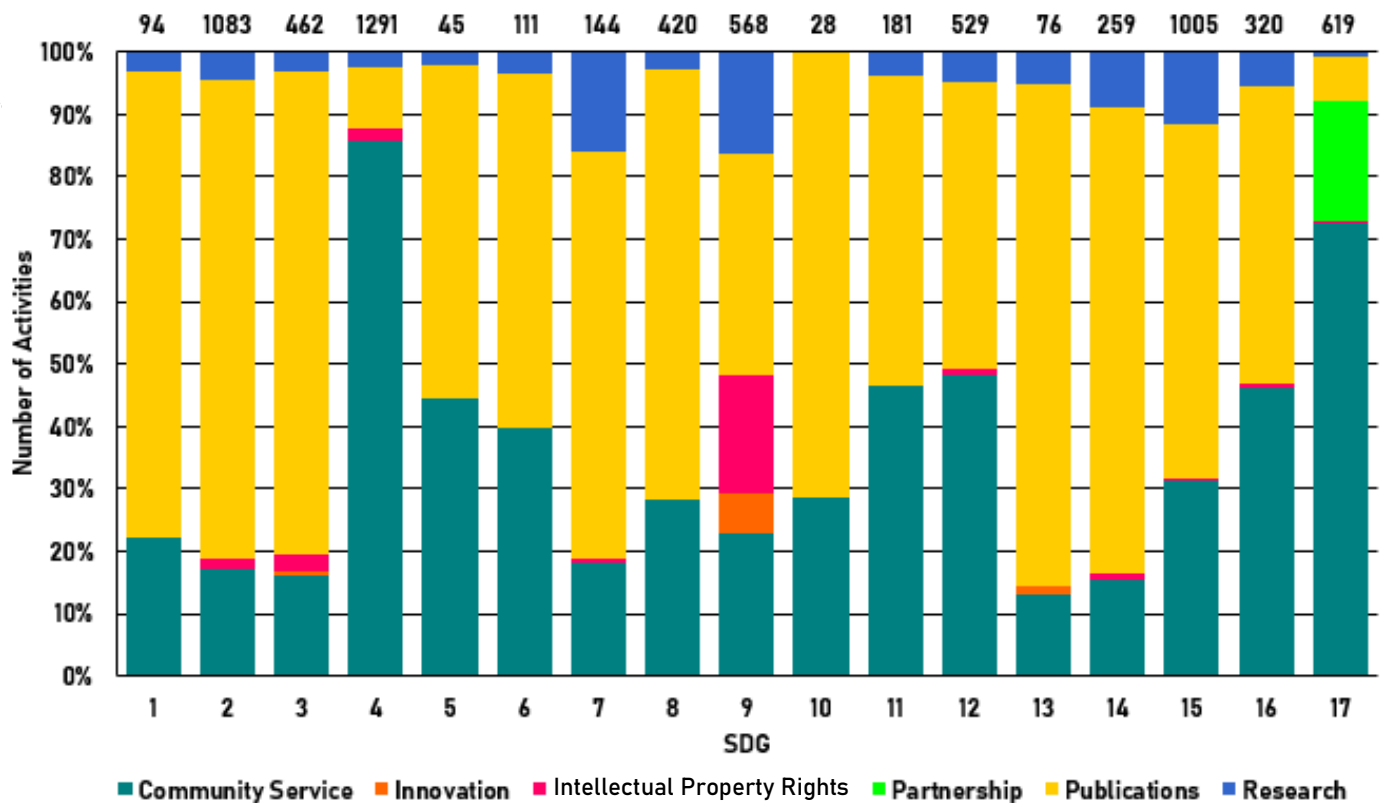


Figure 21. Contribution all activities by SDGs

IPB university as an education agent can improve quality education (SDG 4) through three core mandates, namely in academic, research, and community empowerment (*Tri Dharma Perguruan Tinggi*). Previous sections have demonstrated various activities and programs that have been implemented in 2019 in the frame of these mandates that directly and indirectly have contributed to SDGs.

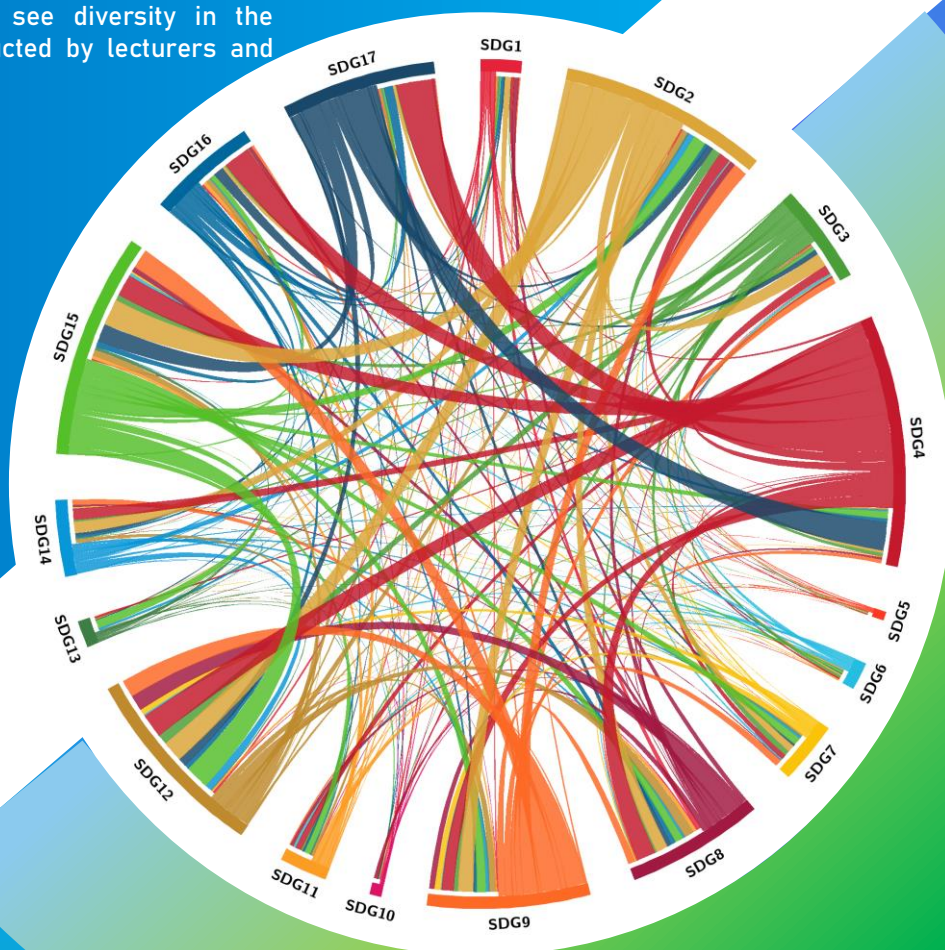
Aggregately, contributions of IPB to SDGs are presented in Figure 21, which informs the number of specific - SDG activities and its percentage - based on six categories, namely Research, Publications, Partnership, Intellectual Property Rights, Innovation and Community Services. In total, there are 7,235 activities recorded and has been coded based on SDGs and activity categories. The highest number of activities goes to publication (3,436 activities) following by community services (3,034 activities), research (425 activities), intellectual property rights (180 activities), partnership (120 activities and innovations (40 activities). Detail information on each category has been described in previous sections. In this section, we highlight these activities based on SDG targeted.

SDGs Highlight

Categorization based on SDGs shows the top three goals targeted by IPB University's activities, namely: SDG 4 - Quality Education (1,291 activities or 18 percent), SDG 2 - Zero Hunger (1,083 activities or 15 percent), and SDG 15 - Life on Land (1,005 activities or 14 percent). These three goals are the core mandates of IPB University, namely in agriculture, marine, and biosciences. Potential goals that also raise considerable attention by IPB University's lecturers and students are SDG 17 - Partnership for the Goals (9 percent), SDG 9 - Industry, Innovation, and Infrastructure (8 percent), SDG 12 - Sustainable Production and Consumption (7 percent), SDG 8 - Decent Work and Economic Growth (6 percent), and SDG 3 - Good Health and Wellbeing (6 percent), SDG 14 - Life below Water (4 percent) and SDG 16 - Peace, Justice, and Strong Institution (4 percent). The remaining activities conducted by IPB University's lecturers and students targeted the rest of the goals that are not mentioned above. No goal is not included because core mandates and business processes of IPB University are very closed to Sustainable Development Goals. In general, the activities of IPB University are vital in community services and publications nationally and internationally. But, if we look goal by goal, we will see diversity in the proportion of activities conducted by lecturers and students (see Figure 21).

The contribution of IPB University to SDGs is increasing and give impacts the society. Several innovations produced by IPB University have been used widely by the community and contribute to enhance food security, increase efficiency, and community's well-being, such as rice seed IPB 3S, *Sekolah Peternakan Rakyat*, animal feed pellets, oil palm bunches transporter, etc. IPB University needs to enhance the top three goals in which has become the strength of IPB University and encourage more activities in the area of potential goals (out of top three goals) to optimize performance and contribution to SDGs. In addition to the number of activities, we also need to pay more attention to the quality of activities and develop instruments to measure their impacts.

Number of all activities by targeted SDGs (primary and secondary).





IPB University

— Bogor Indonesia —

Inspiring Innovation with Integrity
in Agriculture, Ocean and Biosciences for a Sustainable World



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