Research Collaboration and Dissemination of Innovation: Case of Bogor Agricultural University

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FACULTY

1. AGRICULTURE
2. VETERINARY MEDICINE
3. FISHERY & MARINE SCIENCES
4. ANIMAL SCIENCES
5. FORESTRY
6. AGRIC. ENG. & TECHNOLOGY
7. MATH & NATURAL SCIENCES
8. ECONOMY & MANAGEMENT
9. HUMAN ECOLOGY

GRADUATE SCHOOL
BUSINESS SCHOOL
VOCATIONAL STUDIES

Student Body: 28 000
## CENTERS FOR RESEARCH AND COMMUNITY DEVELOPMENT

### 1. TECHNOLOGY AND ENGINEERING
- South East Asian Food and Agricultural Science (SEAFAST)
- Center for Tropical Horticulture Studies (CTFS)
- Center for Tropical Animal Studies (CENTRAS)
- Surfactant and Bio-energy Research Center (SBRC)
- Center for Research on Engineering Application in Tropical Agriculture (CREATA)

### 2. ENVIRONMENTAL
- Environmental Research Center (ERC)
- Post-mining Reclamation Studies (PRS)
- Center for Climate Change Risk and Opportunity Management in South East Asia and Pacific (CCROM)
- Center for Disaster Studies (CDS)
### CENTERS FOR RESEARCH AND COMMUNITY DEVELOPMENT

#### 3. SPATIAL AND COMMUNITY DEVELOPMENT

- Center for Agricultural and Rural Development Studies (CARDS)
- Center for Regional Systems Analysis Planning and Development (CRSAPD)
- Incubator and Entrepreneurship Development Center (IEDC)
- Center for Alternative Dispute Resolution Studies (CARE)
- Center for Gender and Child Studies (CGCS)
- Center for Human Resources Development (CHRD)

#### 4. MARINE AND COASTAL RESOURCES

- Center for Coastal and Marine Resource Studies (CCMRS)
## CENTERS FOR RESEARCH AND COMMUNITY DEVELOPMENT

### 5. BIOTECHNOLOGY AND BIOMEDICINES
- Primate Research Center (PRC)
- Research Center for Biological-Resource and Biotechnology (RCBB)
- Biopharmaceutical Research Center (BRC)

### 6. ECONOMICS AND FINANCE
- International Center for Applied Finance Economic Studies (Inter-CAFE)
- Center for Islamic Business and Economic Studies (CI BES)
Research Agenda

- FOOD
- ENERGY
- POVERTY REDUCTION
- ECOLOGY & ENVIRONMENT
- BIOMEDICINES
QS World Rank by Subject (2015): Agriculture and Forestry
Rank 101-150
During the period of development, Bogor Agricultural University has stepwise objectives of excellent achievement related to academic system and compatibility, relevance and substance, reputable innovation, as well as mainstreaming agriculture in national development.

Rector of Bogor Agricultural University with President of the Republic of Indonesia during IPB3S paddy harvesting in Karawang Regency, September 28th, 2015.
To maintain the spirit of great achievement, Bogor Agricultural University pays a great attention on the research and academic quality improvement, through international accreditation of its study programs and laboratory, ISO certification, and implementation of quality assurance in all aspects of management process.
Bogor Agricultural University’s research quality enhancement is conducted through capacity strengthening of research collaboration capacity on various research platforms that can bring funding through the development of research consortiums and research clusters.
IPB International Collaborations

INTERNATIONAL STUDENTS: 368 STUDENTS THEY COME FROM 22 DIFFERENT COUNTRIES

ACADEMIC
International Accredited Study Program
1. Food Science And Technology

Goes To International Accreditation
1. Agronomy & Horticulture
2. Plants Protection
3. Landscape Architecture 4. Veterinary Medicine
5. Marine Science & Technology
6. Aquatics Resources Management
7. Aquatics Products Technology
8. Aquaculture Management & Technology
9. Animal Production & Technology
10. Nutrition Science & Feed Technology
11. Silviculture
12. Forest Product
13. Forest Resources Conservation & Ecotourism
14. Agroindustrial Technology
15. Mechanical & Biosystem Engineering
16. Economics & Management
17. Community Nutrition
18. Communication & Community Development

INTERNATIONAL PROGRAMS
1. Master In Information Technology Of Natural Resources Management.
2. Joint Degree: Master In Sustainable Agribusiness (Maastricht School Of Management, Netherlands) Major — Minor.
3. Double Degree: Master In Agriculture Sciences (French Universities).
4. Joint Degree: Master In Agribusiness And Rural Development (University Of Goettingen, Germany).
5. Double Degree: Master In Sustainable Agriculture (Ibaraki University, Chiba University, And Rhykyu University Japan).
6. Joint Degree: Master In Agriculture And Forestry (Suiji: Ehime, Kagawa, Kochi University Japan).
7. Joint Degree: Master In Economics (Adelaide University Australia).

SUMMER COURSE PROGRAMS
2. An Introduction To Tropical Biodiversity: From The Mountain To The Sea (IPB-Uc/Searca).
4. Rapid Biodiversity Assessment (IPB—University Of Vienna).
5. Rehabilitation Techniques Of Degraded Dipterocarp Forest (IPB — University Of Goettingen).
6. Summer Course On Sustainable Agriculture (IPB—Ibaraki University).
At IPB, research initiatives that are facilitated by Directorate for Research & Innovation and coordinated with LPPM

### Strategic research platforms

<table>
<thead>
<tr>
<th>Research Platforms</th>
<th>Research Area</th>
<th>Main Source of Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRC990 – EFFoRTS (DE)</td>
<td>Ecology &amp; Socio-economy – Lowland Rainforest Transformation system</td>
<td>DFG, RSITEKDIKTI</td>
</tr>
<tr>
<td>REDD+ (DK)</td>
<td>Environment &amp; Climate Change – Role of Community Monitoring</td>
<td>DANIDA</td>
</tr>
<tr>
<td>ZOONOSES (JP)</td>
<td>Health &amp; Biomedicine – Flying Fox as model</td>
<td>JST/SATREPS, JICA</td>
</tr>
<tr>
<td>AIC</td>
<td>Food &amp; Agriculture – Food Security &amp; Agro-processing</td>
<td>AIC, RISTEKDIKTI</td>
</tr>
<tr>
<td>EMBRIO</td>
<td>Marine Biodiversity – Coral Reef &amp; Tuna</td>
<td>IPB, DIKTI</td>
</tr>
<tr>
<td>LISAT</td>
<td>Remote Sensing/Satellite – Food Security &amp; Environmental Monitoring</td>
<td>LAPON, IPB, RISTEKDIKTI</td>
</tr>
<tr>
<td>PETUAH</td>
<td>Green Knowledge – NRM, SA, RE</td>
<td>MCA-I</td>
</tr>
</tbody>
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AIC 2015 - megatrends in Food & Agr.

Environmental Hazards:

- Climate change and uncertainty
- Increasing people movements
- Increasing movement of plants, animals and their products

Source: CSIRO (unpublished)
## Innovation platforms

<table>
<thead>
<tr>
<th>Innovation Platforms</th>
<th>Research Area</th>
<th>Main Source of Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>NARC (New Academic Research Cluster) → NSTP -Preparatory phase-</td>
<td>Food &amp; Agriculture <em>(Bio-pharmaca &amp; Seed Industry)</em></td>
<td>Public Private Partnership (PPP)</td>
</tr>
<tr>
<td>IPB Taman Kencana SciencePark</td>
<td>Science based business <em>(marine instruments, functional food, bio-pharmaca), service lab.</em></td>
<td>PT. BLST <em>(IPB holding company), CSR, APBN</em></td>
</tr>
<tr>
<td>ADS (Agribusiness Development Station) -Handover-</td>
<td>Community empowerment &amp; GAP – <em>Horticulture products</em></td>
<td>Commercial sales, CSR</td>
</tr>
</tbody>
</table>
• Continuation of 9 year STORMA Research in Palu (Central Sulawesi), funded by DFG
• Since 2012, a research consortium of CRC990/EFForTS (UGOE-IPB-UNJA-UNTAD) located in Jambi. "Snow-ball effects" are recognized.

• Other associated larger activities (non-research components): Erasmus Mundus (EXPERTSASIA, ALFABET), DAAD (HEP, Alumni)
• Recommended by the reviewer for the 2nd Phase (2015-2018): New research design and topics have been evaluated.
• Since early 2014 and PhDs students' involvement
• Research sites have been selected, namely: Berau District (East Borneo)
• Joint PhD supervision with Univ. Copenhagen, Roskilde Univ.
• New associated research initiative has been proposed and awaiting for decision → extended to new partners
• Relatively new Consortium under Australia Indonesia Center – AIC & DIKTI
• IPB as coordinator of cluster Food and Agriculture in Indonesia
• Food Security & Agro-processing sectors are the main research themes
• The “quick win” strategies have been formulated → start-up fundings and activities
EMBRIO | new research initiative

- EMBRIO = Enhancing Marine Biodiversity Research in Indonesia
- Since 2013 initiated and the white paper/concept note has been launched.
- Start attracting new partners (national & international)

- Research proposals have been submitted to various national schemes (BOPTN, KLN DIKTI, SINAS, DNPI dll.)
- Promoting the consortium EMBRIO to national and international partners - MoUs with Uni. Jena, Uni. Oldenburg (DE) & Aarhus (DK), Victoria University of Wellington (NZ)
Adhoc Research Cluster – IPB

- Complex System in Agriculture
- Molecular Science & Systems Biology
- Nano Science and Technology
- Vet. Stem Cell
- Biomaterial & Bio-metal
- Arboriculture
- Ecosystem Modelling
- Bio-economy
- Oil Palm, Bamboo, Sengon etc.
Indonesia’s Most Prospective Innovative Works as selected by Business Innovation Center Indonesia (2008 – 2015)

IPB Most Prospective Innovation in 8 years: 326
In Average : 39% from the National Most Prospective Innovation
Patent and other Intellectual Property Rights
(per September 2015)

<table>
<thead>
<tr>
<th>Types</th>
<th>Registered</th>
<th>Granted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patent</td>
<td>291</td>
<td>75</td>
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<tr>
<td>Brand</td>
<td>14</td>
<td>4</td>
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<tr>
<td>copyright</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>
In 2012, IPB received Intellectual Property Rights award as the university with the most number of patent registered and granted.
IPB received an award from the Ministry of Law and Human Rights Republic of Indonesia as the university with the most number of patent commercialization.
Coordination and efforts for innovation commercialization is conducted by IPB continuously in the form of exhibitions, business meetings and participations in various innovation promotion and award events, including the IPB Investment Summit (IIS) in collaboration with IPB Alumni Association which has resulted in 17 innovations in initiation process for transfer of technology cooperation.
The effort to bring these innovations to the industry is managed by our holding company Bogor Life Science and Technology (BLST) as the best practice of the transformation toward an entrepreneurial university.

The BLST as a part of fundamental achievement of the university operate three important business lines of science base, services and asset base practices.
The science based products are ranging from bird flue vaccine, seeds, functional food and herbal medicine.
The services based products are among others consulting company, credit banking services, international convention center, hotel and publishing company, whereas asset based is managing university land for commercial blocks.
Examples of Collaboration between Bogor Agricultural University and Industries

Collaboration with International Companies:
- Shigeta Pharmaceuticals
- Sumitomo Mitsui Banking Corporation
- Elders Corporation
- Cargill, Inc.
- Yanmar Engineering Company

Collaboration with National Companies:
- PT Biofarma
- PT Bogasari
- PT Bintang Toedjoe
- PT Pertamina
- PT Astra Agro Lestari
Closing

• Research consortia provide solutions for problems related to resource sharing: finance, expertise (skill & knowledge) as well as research infrastructure and facilities

• Sound management of large research platform is necessary to ensure the sustainability of collaboration (incl. non-research component) by internalizing research administration units at the respective HEI and sound risk management

• Mutual Partnership between University and Industry plays important Role in transforming Innovation to the Industrial Marketable Products
Thank You
Arigato Gozaimasu