



INDONESIA AND SEARCHA

SEARCA's headquarters was constructed with funding from the International Development Research Centre (IDRC) of Canada and the Government of the Philippines.



Established in 1966, the Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA) is one of the 26 specialist institutions of the Southeast Asian Ministers of Education Organization (SEAMEO), a treaty organization that promotes regional cooperation in education, science, and culture.

The SEAMEO member countries are Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand, Timor-Leste, and Vietnam. The associate member countries of SEAMEO are Canada, France, Germany, Morocco, the Netherlands, New Zealand, Spain, and the United Kingdom. Indonesia is one of the founding member countries of SEAMEO, which was established in 1965.

SEARCA's objectives are to:

1. Provide high-quality graduate education and training in agriculture;
2. Promote, undertake, and coordinate research addressing the development needs and problems in agriculture of the region; and
3. Disseminate the findings of agricultural research and experimentation.

SEAMEO SEARCA

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Our Vision

A leading enabler and champion of excellence in agriculture and rural development in Southeast Asia

Our Mission

To elevate the quality of life of agricultural families through sustainable and resilient livelihoods and access to modern networks and innovative markets



Our Strategic Objectives

- Access new and innovative financial services
- Adopt new, sustainable, and resilient production technologies and systems
- Integrate with modern postharvest and logistics system
- Gain access to and operate in modern networks and markets





supports the
UN Sustainable Development Goals



Our Strategic Intent

SEARCA, in the next five years, commits to BETTER, BIGGER, and SMARTER outcomes and impact on the agriculture industry and its stakeholders, most especially the larger proportion of resource-poor farmers, by delivering better services through more context-relevant and valuable services to even more beneficiaries in more effective and efficient ways.

Alongside other global, regional, and national organizations, SEARCA aligns its direction toward contributing to the achievement of the United Nations (UN) Sustainable Development Goals (SDGs) that address global challenges to achieve a better and more sustainable future for all. SEARCA commits to contribute and allocate resources for the achievement of five SDGs which directly align with its mandate and focus, with an emphasis on creating partnerships (SDG17). Moreover, SEARCA also touches three other SDGs as it tries to achieve the five.

EDUCATION AND COLLECTIVE LEARNING



SEARCA's core program on Education and Collective Learning (ECL) leads the development of a new breed of agriculture leaders and professionals through its scholarships and other graduate study programs. ECL also leads the technical and professional trainings, and coordinates roundtable discussions, conferences, fora, and all other SEARCA learning events.

■ GRADUATE SCHOLARSHIP AND INSTITUTIONAL DEVELOPMENT

► GRADUATE SCHOLARSHIP PROGRAM

One of SEARCA's main objectives is to produce high-quality human resources in agriculture for the SEAMEO region in order to strengthen their institutions that would propel regional development. One of the major undertakings under this program is the provision of scholarships that enable Southeast Asians working in agriculture and rural development to pursue their master's or PhD studies.

Full Master's and PhD Scholarships

So far, SEARCA has awarded 373 full graduate scholarships (206 MS, 167 PhD) to Indonesians. These include grants for 52 Indonesians whose graduate studies were supported by Indonesia's Directorate General of Higher Education–Higher Education Project (HEP), which was implemented by SEARCA. To date, 324 of the graduate programs had been completed (189 MS, 135 PhD).



PhD Research Scholarships

A total of 26 Indonesians were awarded SEARCA's PhD Research Scholarship, which was launched in 2005. It provides financial support to qualified PhD students whose research studies are relevant to the priority thrusts of SEARCA. Ten of the Indonesian PhD research scholars completed their doctoral programs.

UPM-SEARCA Joint Scholarship

SEARCA and UPM initiated a joint graduate scholarship program in 2012. Since then, four Indonesians pursuing PhD degrees received UPM-SEARCA scholarship.

Tokyo NODAI-SEARCA Scholarship for Dissertation Doctorate Program

This is a collaborative project between Tokyo University of Agriculture (Tokyo NODAI) and SEARCA. The Dissertation Doctorate Program for Agriculture and Natural Resources aims to contribute to the enhancement of agricultural research and development in Southeast Asia through the provision of a Tokyo NODAI-SEARCA scholarship for eligible candidates to be able to complete a doctorate dissertation. To date, total of 3 Indonesians received NODAI-SEARCA scholarship.

Agropolis Fondation-SEARCA Joint Scholarship Program

The Agropolis Fondation (AF) of France and SEARCA offer a co-funded doctoral fellowship under the call for "Innovative Co-Learning for Agriculture-Based Solutions." The program aims to support innovative, cross-sectoral, and interdisciplinary training or learning projects that promote agro-ecological transition through innovative approaches, tools, teams, and networks.

The scholarship program enables scholars to spend 18 months in France and 18 months in one of the Southeast Asian University Consortium for Graduate Education in Agriculture and Natural Resources (UC) member institutions. Academic supervision will be jointly done by a French scientist from one of the AF members and a Southeast Asian scientist from one of the five founding UC members. Successful completion of the program will grant the scholar a dual/double degree under a co-tutelle agreement. Currently, two Indonesian scholars are pursuing PhD studies at IPB University and Universitas Gadjah Mada (UGM) in Indonesia.

NTU-SEARCA Joint Scholarship Program for Global Agriculture Technology and Genomic Science (Global ATGS)

A partnership between the National Taiwan University (NTU) and SEARCA, the joint scholarship aims to cultivate agricultural professional talents, encourage academic excellence, and promote research and development in agriculture within Southeast Asia through a two-year Master Program in Global Agriculture Technology and Genomic Science (Global ATGS). The academic program tackles emerging agricultural biotechnologies and smart agriculture through its cross- and inter-disciplinary curriculum. Since its pilot offering in AY 2020/2021, SEARCA has awarded four Indonesian nationals.

Sejong-SEARCA Joint Scholarship Program

The joint scholarship between SEARCA and Sejong University in South Korea aims to increase the capacities of Southeast Asian scientists/researchers in the fields of Integrated Biological

Sciences and Industry (e.g., Plant Breeding and Genetics), Bioresource Engineering (e.g., Plant pathology, QTL mapping, Tissue culture). One Indonesian has been granted the scholarship for AY 2023/2024 to pursue PhD in Bioresources Engineering.

► OUTSTANDING MS AND PHD SEARCA SCHOLARS

SEARCA awarded for the first time Outstanding MS and PhD SEARCA Scholars in FY 2020/2021. The first two awardees were from Indonesia:

- Mr. Bayu Rizky Pratama, Double degree in MS in Agricultural and Resource Economics (KU) and MS in Agricultural Management (University of Montpellier SupAgro)
- Mr. Muhammad Reza Cordova, PhD in Aquatic Bioscience, Tokyo NODAI

These scholars were evaluated according to: (a) academic grade point average; (b) duration of studies in the degree program; (c) papers presented in international conferences; (d) publications in scientific journals; (e) academic awards or recognitions received and; (f) other curricular activities or engagements.



OUTSTANDING SEARCA SCHOLAR FY 2023-2024

► Dr. Akhmad Zamroni completed his PhD in Environmental Science under a DAAD-SEARCA scholarship at UP Los Baños and was recognized as the Outstanding PhD scholar for FY 2023-2024. Akhmad was selected for his achievements which include presenting five papers at an international conference and receiving two Best Presenter Awards, and publishing seven scientific papers, including six in Scopus-indexed journals. In 2023, Akhmad attended a one-month Summer School organized by the University of Applied Sciences in Cologne, Germany with funding from the German Federal Ministry for Economic Cooperation and Development. He also served as the President of the International Student Association at UP Los Baños.

Mr. Muhammad Yusril Hardiansyah B. earned his Master's degree in Global Agriculture Technology and Genomic Science (Global ATGS) from NTU and was recognized as the Outstanding MS scholar for FY 2023-2024. Yusril disseminated his research in 11 international and one national conference. He was recognized with a Best Presenter award during one of the international conferences. Yusril published four journal articles including one in a Scopus-indexed journal. He served as Chairman of the 5th Indonesian Scholar Scientific Summit (I3S) International Conference 2023 in Taipei, Taiwan, and as Editor-in-Chief for international journals and proceedings such as the OISAA International Journal of Indonesia Emas, PPI Dunia, and the International Proceeding of Indonesian Scholars Scientific Summit (I3S), PPI Taiwan.

► SEARCA GRADUATE SEMINAR

The special graduate seminar is held once every semester and highlights outstanding research by a SEARCA scholar. Hosting the seminar is the Center's way to support the scholars' academic milestones and to recognize their capacity to produce quality research that has a great impact on agriculture and rural development. Indonesian scholars who served as Graduate Seminar speakers are:

- Dr. Muhammad Reza Cordova (PhD in Aquatic Bioscience, Tokyo University of Agriculture), "Macro and Microplastics Debris in Indonesian Water: Current Condition and Problem," 24 September 2021 via Zoom
- Mr. Bayu Rizky Pratama (Double Master's degrees in Agricultural and Resources Economics, Kasetsart University and Agricultural Management, Montpellier SupAgro in France), "Analysis of the Factors Determining Farmers Adoption and Strategies for the Development of Single Origin Processing Scheme by Coffee Farmers," 15 January 2021 via Zoom.

► GSID CONVERSATIONS

The GSID Conversations is as an avenue for scholars to discuss with experts from different fields regarding complementary topics in agriculture and rural development. The activity will also share the experience and insights of experts on translating knowledge and skills into meaningful contributions to society.

Speaker: Ms. Sabrina Mustopo, Founder of Krakakoa Chocolate, Indonesia

Topic: Sweet Stories: Empowering Local, Cacao Farmers through Innovative Food Production Systems

Date: 16 April 2021 via Zoom

Speaker: Dr. Divo Dharma Silalahi, SEARCA Alumnus and Senior Researcher – Data Intelligence Analytic Department Head of SMART Research Institute, Indonesia

Topic: From Campus to Career: The Journey of a SEARCA Scholar

Date: 28 April 2023 via SOLVE Platform

GSID CONVERSATIONS
28 April 2023 | 10:30 A.M. (GMT +8:00)

From Campus to Career: The Journey of a SEARCA Scholar

Presenter:
Divo Dharma Silalahi, PhD
Senior Researcher - Data Intelligence and Analytic Dept. Head
SMART Research Institute - PT Sinar Mas Agri Resources and Technology (SMART) TBK, Indonesia and SEARCA Alumni

Exclusively for SEARCA scholars
Registration link: <https://bit.ly/SEARCAscholarjourney>



► REGIONAL SEARCA ALUMNI ASSOCIATION (RSAA)

Upon graduation, SEARCA scholars automatically become members of RSAA, an organization consisting of all SEARCA Graduate Scholarship Alumni. The association was organized through a series of in-country planning workshops to embody the ideals and aspirations of SEARCA. The current RSAA President effective 2022 is a SEARCA alumnus from Indonesia, Dr. Asdi Agustar, Professor, Andalas University. He served as RSAA Vice-President from 2016 to 2022. As

RSAA President, he gave a closing message and inducted all new alumni to the RSAA during the Testimonial Program held on 4 August 2022.

SEARCA, in partnership with the Regional SEARCA Alumni Association (RSAA), organized the Scholars' Conference 2023 on "Advancing Agricultural Research for Improved Food Security." Twenty-eight scholars presented their research across six parallel sessions from 14-15 March 2023, via the SOLVE Platform. The two-day conference is the Center's way to support their academic achievements and recognize their capacity to produce quality research that has a great impact on agriculture and rural development.

Two Indonesian SEARCA Alumni served as Plenary and Parallel speakers:

PLENARY SPEAKER

Prof. Dr. Ir. Musliar Kasim

Rector of Baiturrahman University, Indonesia
and Outstanding SEARCA Scholarship Alumni
Awardee

PARALLEL SPEAKER

Session on Animal Science

Prof. Dr. Ir. Bambang Suwignyo

Department of Animal Nutrition and Feed Science
Universitas Gadjah Mada
Yogyakarta, Indonesia

Indonesian SEARCA Alumni Association

The Indonesian SEARCA Fellows Association (ISFA) is composed of SEARCA graduate alumni from Indonesia. ISFA is currently headed by Dr. Asdi Agustar.

In August 2016, with support from SEARCA, ISFA and the University of Lampung (UNILA) jointly organized an International Seminar on Improving Food Security: The Challenges for Enhancing Resilience to Climate Change. It was attended by more than a hundred students and experts from seven countries.

In December 2010, ISFA also convened a National Conference on Agricultural Education for Better Farming and Better Living at the University of Diponegoro (UNDIP) in Semarang. Indonesian academics and experts on agricultural and rural development participated in the conference, which was conducted with support from SEARCA and UNDIP.

The 2nd conference was held on 25-26 April 2024 with the theme "Cultivating Tomorrow: SEARCA's Insights for Agriculture's Future" attended by 58 scholars and alumni combined.

OPENING MESSAGE

Dr. Ir. Asdi Agustar

Professor at Andalas University, Indonesia, and President of RSAA

INSPIRATIONAL MESSAGE

Professor Dr. Muhammad Firdaus

Education and Culture Attaché of the Indonesian Embassy to Malaysia



Outstanding Searca Scholarship Alumni (OSSA)

On the occasion of its 50th anniversary, SEARCA honored 11 Southeast Asians with the OSSA Award, among them two Indonesians. It was the first time that SEARCA conferred such accolades on its alumni who have championed ARD and distinguished themselves in creating positive impact through their work.



Dr. Musliar Kasim



Dr. Ir. Mochammad Maksum

Prof. Dr. Musliar Kasim and Prof. Dr. Ir. Mochammad Maksum were honored for having personified SEARCA's values and philosophy, their professional achievements, and the impacts they have created in their respective fields. Dr. Musliar was cited for his achievements in public policy and governance, including the crafting and implementation of Indonesia's Curriculum 2013 (C-13), which covers the requisite competency knowledge, skills, and attitudes in an integrated manner such that the students will be capable of contributing to society, the nation, and world civilization. Also under his leadership as Vice Minister, the ministry has renovated tens of thousands of schools.

Dr. Maksum was awarded for his advocacy to help the rural poor, which is centered on access to justice; inclusive development at the local level; and an understanding of a socio-cultural system that appreciates different religions, social practices, and indigenous technology. He does this wearing many hats, including Professor at Universitas Gadjah Mada (UGM), Vice General Chairman of the Central Board of Nahdlatul Ulama (NU), and Rector of Universitas Nahdlatul Ulama which was recently established by NU, the largest religious organization in Indonesia.

Postdoctoral Fellowships

In 2003, SEARCA and Indonesia's Directorate General of Higher Education–Higher Education Project implemented a Postdoctoral Fellowship Project that enabled five Indonesians to serve as postdoctoral fellows for three months at universities in Australia and Germany. Four Indonesian postdoctoral fellows served at the University of Queensland in Australia and one at Georg-August University of Göttingen in Germany. During their fellowship, they were able to do small research studies, attend seminars and enhancement courses, and serve as visiting lecturers.

► REGIONAL PROFESSORIAL CHAIR GRANTS

Since AY 2011-2012, the SEARCA Regional Professorial Chair Grant has recognized the contribution of institutions and individuals in the fields of agriculture and related sciences, thereby contributing to ARD in Southeast Asia through instruction, research, innovation, and extension work.

Faculty members of Institut Pertanian Bogor (IPB) and Universitas Brawijaya (UB) were awarded the professorial chair:

- Dr. Anuraga Jayanegara of IPB in the field of Animal Nutrition and Feed Technology, AY 2017/2018
- Dr. Teti Estiasih of UB in the field of Food Science and Technology, AY 2019/2020
- Dr. Khaswar Syamsu of IPB University in the field of Agricultural Technology and Innovation, AY2021/2022
- Dr. Sri Suhartini of UB in the field of Agro-industrial and Environmental Engineering

► UNIVERSITY CONSORTIUM

SEARCA initiated the University Consortium for Graduate Education in Agriculture and Natural Resources (UC) in 1989 to link strong universities in Southeast Asia and outside the region. Two Indonesian universities—IPB University in Bogor and Universitas Gadjah Mada (UGM) in Yogyakarta—are among UC's five founding members. In 2016, Universitas Brawijaya (UB) in Malang joined the UC as an affiliate member and became a regular member in 2019.

So far, at least 285 Indonesians have participated in UC activities:

- 39 graduate exchange students
- 134 thesis grantees
- 89 exchange faculties
- 4 research fellows
- 14 professorial chair holders
- 4 seed fund for collaborative research grantee
- 1 young researcher grantee

Since UC was established, IPB University and UGM and UB have also served as study posts of SEARCA scholars.

Universitas Brawijaya (UB) organized the 6th UC Summer School, in collaboration with L'Institut Agro of France, from 13-27 November 2022 at the Banyuwangi Regency and Malang, Indonesia. With the theme "Crop Diversification, Mixed Cropping, and Risk Management in Smallholders' Agriculture in the Context of Climate Change," the course aimed for the post-graduate participants to collectively build a framework for the assessment of mixed cropping and risk evaluation in smallholders' agriculture; develop their capacities on integrated sustainability of production systems through active learning and examine how strategic choices and the cropping systems adopted at the farm/household level evolve and can uphold their performance in the context of changes related to climate or other regulations. UB also hosted the 35th UC Executive Board Meeting on 25-26 November 2022.

UGM is SEARCA's partner in implementing the study titled "Implications of AEC and Trade and Investments on Regional Food Security" under Umbrella Program on Food and Nutrition Security in Southeast Asia jointly developed by SEARCA, the UC, and other partner institutions. The first phase of the five-phase project (May 2015-May 2020) covers Indonesia, Malaysia, the Philippines, and Thailand.

UGM successfully hosted the annual UC activities, including the UC Summer School in 2017 on "Sustainability Transitions Summer School: Integrated Forestry Farming System: A Transition to Food Security in a Changing Climate" and the 2020 UC Graduate Forum on "Resilient Food and Agricultural System for Accelerating Economic Recovery: Strategy and Implementation." UGM was the first host of the UC Graduate Forum to conduct the event online at the onset of the pandemic.

UGM hosted the 9th UC Graduate Forum with the theme "Sustaining Our Future: Circular Economy in Animal Production, Agriculture, and Forestry" on 17-18 July 2024.

UGM likewise played an important role in co-organizing the 2018 and 2019 UC Summer Schools as part of the Master of Science in Food Security and Climate Change (MS FSCC) project funded by the European Commission's ERASMUS + Capacity Building for Higher Education from 2016 to 2019.

On the other hand, IPB University was SEARCA's partner in implementing the study titled "Indigenous Crops - Food Production, Food Safety and Process Development of Indigenous Crops to Strengthen Food and Nutrition Security," which was also under the aforementioned SEARCA-UC umbrella program. Implemented from January 2015 to January 2016, the study also covered Indonesia, Malaysia, the Philippines, and Thailand. IPB University hosted the 2019 UC Graduate Forum on "Sustainable and Smart Agriculture in the Tropical Region: Concept and Implementation."

Under the SEARCA-led project on Leveling-Up Philippine Higher Education Institutions in Agriculture, Fisheries, and Natural Resources (LevelUPHEI AFAR), faculty members from the State Universities and Colleges - Association of Colleges of Agriculture in the Philippines (SUC-ACAP) attended the following learning events:

- International Summer Course Program on Tropical Agricultural Environment toward Regional Sustainability organized by IPB University and Ibaraki University in Bogor, Indonesia in 2022.
- International Training on Cage-Free Innovation and Welfare Hub organized by Universitas Gadjah Mada, Yogyakarta, Indonesia in 2023.
- One month to one semester mobilities at Universitas Gadjah Mada and IPB University.

■ TRAINING FOR DEVELOPMENT

Short-term training continues to be one of the Center's most effective approaches for cultivating change makers and thought leaders capable of transforming the agriculture and rural development landscape in Southeast Asia.

Since SEARCA began this capacity building service in 1970, 1,367 Indonesians participated in 267 regional and in-country training courses and study tours conducted by SEARCA. The titles of some of these learning events are as follows:

- Southeast Asian Learning Framework on Inclusive, Integrated, and Innovative Public Policy Cycle for Family Farming
- Exposure-workshop on Farm Tourism Practices in Southeast Asia
- Training of Trainers on Scaling Up the School-plus-Home Garden Model in Southeast Asia
- Global Farm Tourism Summit: Managing Climate Risks through Sustainable Farm Tourism
- Fifth Executive Forum on Leadership Excellence in Academe Program for Southeast Asia (LEAP SEA)
- ASEAN 2015: Strengthening the Regional Food Safety System (A Regional Seminar/Workshop)
- International Training-Workshop on Quality Control of Microbial-based Fertilizers
- Forum-Workshop on Economic Instruments
- Applied in Environmental and Natural Resource Management in Southeast Asia
- Risk-based Food Control Programs in Southeast Asia: A Regional Seminar-Workshop
- Executive Forum on Natural Resource Management (NRM): Environmental Economics for Decision-making
- Executive Forum on Leadership Excellence in Academe Program for Southeast Asia (LEAP SEA)
- Executive Forum on NRM: Natural Resources Knowledge Management in Southeast Asia
- Rationalizing and Harmonizing Plant Biotechnology in Southeast Asia: A Learning Forum
- Training Course on Impact Assessment of Anti-Poverty Programs: Focus on Technology and Capacity Development
- Unraveling the Policy Issues and Development Challenges on Biofuels: An Executive Forum
- Executive Forum on NRM in a Globalizing Asia
- Agricultural Technology and Vocational Teacher's Training Course
- Community Empowerment for Rural Development (CERD) Short-term Overseas Comparative Studies for Indonesian Officials
- Final Dissemination Workshop of the Indonesian Agriculture and Rural Development Strategy
- Advanced Higher Education Administration Development (AHEAD) Training Course
- Resource Management: Private-Public Partnerships and Knowledge Sharing
- Southeast Asia Regional Workshop on Ecotourism Development

- Regional Training Course on Environmentally Sound Management for Sustained Productive Use of Acidic Upland Soils
- Training in Participatory Methods for Upland Agroforestry Systems and Watershed Management in Southeast Asia
- Regional Training Course on Development Strategies and Planning for Farmer's Communities
- Training Course on Strategies for Rural Development
- Regional Training Course on Agribusiness Management
- Regional Training Course on Environmental and Resources Economics
- Regional Training Course on Sustainable Agriculture for the Uplands
- Collaborative In-Service Training Program on Agricultural Extension
- Training Course on Information Management
- Regional Training Course on Commercialization of Research Results
- Regional Training Course on Agri-based Entrepreneurship and Enterprise Development
- International Workshop on Management Information System for Agricultural Research
- International Workshop on Technologies for Sustainable Agriculture on Marginal Uplands in Southeast Asia
- Regional Workshop on Data Management for Rural Development
- Regional Workshop on Agroforestry Research and Development for Southeast Asia
- Regional Training in Social Laboratory
- Regional Training in Technology Transfer Management
- Management Training and Case Writing Workshop for Agricultural Research Managers

Twenty-eight of the 267 learning events were held in Indonesia. These events were organized in cooperation with government organizations and agencies (e.g., Ministry of Agriculture, Bank Rakyat), higher education institutions (e.g., Institut Pertanian Bogor, Universitas Brawijaya, Hasanuddin University, Haluoleo University, Universitas Gadjah Mada), and SEAMEO sister Centers (e.g., SEAMEO BIOTROP, SEAMOLEC). Moreover, SEARCA had conducted training courses and study tours exclusively for Indonesians.



Mr. Priadi (second from left), Deputy for Policy Advocacy and Legal Reform of Indonesian Human Rights, Committee for Social Justice (IHCS), is one of three Indonesians who participated in the 2022 training-workshop on Southeast Asian Learning Framework on Public Policy Cycles for Inclusive, Integrated and Innovative Family Farming funded by FAO. Photo shows participants viewing the top-down mapping of policy implementation actors.



Left photo: Dr. Lukman Adlin Harahap (leftmost), Dr. Hafizhul Khair, Mr. Indra Fauzan (rightmost) of Universitas Sumatera Utara participated in the 6th Leadership Development Program for Higher Education Institutions (LDP-HEIs) in Southeast Asia which was conducted in a hybrid mode from March to May 2024. Right photo: Dr. Lukman presenting his re-entry action plan during the face-to-face sessions in Kasetsart University, Bangkok, Thailand.

Institutional Cooperation in Training for Development

In 2020 and 2021, the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)-Jakarta signed letters of agreement (LOAs) with SEARCA to organize and implement two batches of the ASEAN Climate Leadership Programme (ACLP), which were both offered on virtual platforms. The ACLP was supported by the project Climate Smart Land Use (CSLU) in ASEAN with funding from the German Federal Ministry for Economic Cooperation and Development implemented by the GIZ. ACLP 2020 explored the role of land management for food security and climate change and had 27 participants from nine ASEAN Member States. ACLP 2021 gathered 24 representatives from eight ASEAN member states, who embarked on a “leadership journey” that provided them with an avenue to strengthen their leadership skills, especially in the context of addressing the impacts of climate change on the food, agriculture, and forestry sector in the region.

In 2014, SEARCA entered into a Memorandum of Agreement with the Universitas Brawijaya to jointly organize and implement the 5th Executive Forum on Leadership Excellence in Academe Program for Southeast Asia (LEAP SEA). This learning event was held in the campus of Universitas Brawijaya in Malang, Indonesia on 20-24 January 2014.



In 2010, SEARCA and the SEAMEO Regional Center for Tropical Biology (BIOTROP) in Bogor, Indonesia, conducted the 2nd LEAP SEA. Twenty-two participants from eight SEAMEO member countries completed the program.

In 2004, the Ministry of Home Affairs (MOHA) of Indonesia, through its Directorate General of Community and Village Empowerment (DGCVE), contracted SEARCA to implement a series of Short-term Overseas Comparative Studies (SOCS). These comparative studies fell under the Capacity Building for Decentralized Development Planning Component of the MOHA's Community Empowerment for Rural Development (CERD) Project. A total of 90 officials from MOA, divided into three batches, underwent the SOCS, which aimed to widen the participants' horizons by observing and closely studying various ways of decentralized development activities, community development planning, financial intermediation services and community-based savings and loan organization formation, and micro-enterprise development. The participants visited Vietnam and Thailand (Batch 1), Malaysia and Indonesia (Batch 2), and the Philippines and People's Republic of China (Batch 3).



One of SEARCA's main objectives is to conduct and coordinate appropriate and relevant research that promotes accelerating transformation through agricultural innovation (ATTAIN). Central to the Center's resolve to be strategically visible and more relevant for all stakeholders and strategic agricultural and rural ecologies, SEARCA's core program on Research and Thought Leadership undertakes policy analyses, research for development, and facilitate knowledge platforms.

► ONGOING RESEARCH PROJECTS AND POLICY STUDIES

Sustainable Agricultural Mechanization in Gender-Sensitive Food Systems Transformation in Asia (SAMGeFS)

Indonesia is one of the seven countries covered by this Food and Agriculture Organization of the United Nations (FAO)-funded project. SAMGeFS aims to examine the different innovative approaches for broader adoption and upscaling of sustainable agricultural mechanization for a gender-sensitive food systems transformation in Asia. The project has three main components, namely, country assessments, case studies, and validation workshop and experts consultation.

► PAST RESEARCH PROJECTS AND POLICY STUDIES

SEARCA has worked with various development organizations and research institutions in the implementation of the following completed research and policy studies in the ASEAN region, including Indonesia:

FarmerTalk: Development of Information, Education, and Communication (IEC) Materials Highlighting Biotech Contributions to Farmer Success

Committed to the goal of sharing knowledge to elevate the quality of life of agricultural families through sustainable and resilient livelihoods and access to modern networks and

innovative markets, SEARCA and CropLife Asia have partnered to communicate the impacts and contributions of biotech crops through flyers and videos highlighting success stories of farmers in the Philippines, Indonesia, and Vietnam who have experienced first-hand the benefits of using biotech crops. The project featured the scientists who are leading the production of genetically modified (GM) sugarcane as well as early farmer-adaptors of the GM crop in Indonesia.

A Series Activities in the Framework of the UN Decade of Family Farming

SEARCA documented and systematically analyzed policies, strategies, initiatives, and programs successfully supporting family farming in selected Southeast Asian countries under Activity 2 of this Food and Agriculture Organization of the United Nations (FAO)-funded project. Two case studies were conducted in Indonesia which focused on the Indonesian Village Law and agro-tourism development in Yogyakarta and Bali, respectively, as part of the six country-level case studies conducted. To support the documentation of some case studies and get the viewpoint from farmers' organizations, SEARCA collaborated with the Asian Partnership for the Development of Human Resources in Rural Areas (AsiaDHRRA).

Case Study Researches on Public Policies in Asia and the Pacific – Philippines, Indonesia, and Vietnam

Indonesia was one of the three countries in Asia covered by this International Fund for Agricultural Development (IFAD)-funded project and in collaboration with the Food and Agriculture Organization of the United Nations (FAO). The project provided a comprehensive analysis of the public policy trends related to the promotion and implementation of family farming in the Philippines, Indonesia, and Vietnam. Specifically, the project:

- Assessed existing public policies and programs related to family farming in terms of operations, production, drivers, and challenges across the phases of policy development cycle.
- Determined the gaps, opportunities, and lessons along each stage of the policy cycle to develop context-specific suggestions for improving the policy development process.

The results of the policy studies were used as inputs to the development of a modular program that will contribute to the implementation of the main objective of the UN Decade of Family Farming (UNDF) and serve as a tool for countries to develop public policies for the support of family farming. In particular, the program will contribute to Pillar 1 of the UNDF Global Action Plan (GAP): Develop an enabling policy environment to strengthen family farming.

Implications of ASEAN Economic Community (AEC) and Trade and Investments on Regional Food Security

SEARCA partnered with the Universitas Gadjah Mada (UGM) of Indonesia to implement this project which was identified by the SEARCA-initiated Southeast Asian University Consortium for Graduate Education in Agriculture and Natural Resources (UC) as one of the six priority research and development areas for collaborative undertaking under SEARCA's Umbrella Program on Food and Nutrition Security for Southeast Asia (FANSSEA). The project analyzed the potential impacts of AEC on existing trade agreements, flow of investments, and related commitments among ASEAN member countries, including Indonesia, and across existing ASEAN Free Trade Agreements (FTAs), and its implications on food security in the region.

Indigenous Crops – Food Production, Food Safety and Process Development of Indigenous Crops to Strengthen Food and Nutrition Security of IPB

The project was developed to utilize local crops in response to malnutrition in the Southeast Asian region. The project officially started in February 2016 and will run until January 2019, with the IPB as the lead implementing institution.

Project activities are being carried out in partnership with members of the UC. The project focuses initially on developing underutilized local and indigenous crops especially roots and tuber fortified with protein rich legumes to alleviate the plight of specific population groups experiencing malnutrition in Southeast Asia. Specifically, the project aimed to:

- Define and understand the food pattern, food diversity, food preferences, and eating behavior of the target population(s);
- Develop a suitable product and applicable process technology for intervention such as artificial rice utilizing indigenous and underutilized root or tuber crops fortified with additional nutritional requirements such as legume-derived proteins;
- Assess the impact of intervention products in alleviating nutritional concerns in target population(s); and
- Assess the implementation of technology replication in other regions (among ASEAN members).

Postharvest System Improvement – Best Practices in Fresh and Dried Chili in Southeast Asia: Quality and Safety Aspect, Kasetsart University

From July 2015 to February 2016, the project was conducted with Kasetsart University (KU) as lead in collaboration with the members of the UC, specifically University of the Philippines Los Baños (UPLB), Universitas Gadjah Mada (UGM), IPB, and Universiti Putra Malaysia (UPM) with country focus on Indonesia, Malaysia, the Philippines, and Thailand. The outputs of the study include:

- Supply chain of fresh chili varies in each country and comprise of pool traders, distributors, wholesalers, retail traders and household;
- Middle-large scale chili farms showed a good adherence to good agricultural practices (GAP) while small scale chili condiment producer revealed noncompliance with all aspects of good manufacturing practice (GMP); and
- GAP guidelines for both fresh and processed chili production need to be disseminated more extensively to small farms and industries in Southeast Asia.

Enhancing Human Resource Development in Agriculture: Imperatives for Regional Food and Nutrition Security

Led by the University of the Philippines Los Baños (UPLB), a member of the UC, the study aimed to take stock of the human resource requirements toward ensuring food and nutrition security in the region, particularly for Indonesia, the Philippines, and Thailand. Specifically, it envisioned to assess the demand and supply potentials of human resources in the agriculture, fishery, forestry, and natural resources (AFNR) arena with an eye to charting the future direction of educational assistance programs and initiatives to promote food and nutrition security.

ASEAN Working Group on Social Forestry Strategic Response Fund (ASRF) under ASFCC Phases 2 & 3

Indonesia was one of the countries covered by the ASEAN Working Group on Social Forestry Strategic Response Fund (ASRF), which SEARCA implemented as the supporting partner of the ASEAN-Swiss Partnership on Social Forestry and Climate Change (ASFCC). The ASRF is a flexible funding mechanism that aimed to enable the ASEAN Member States Focal Points to quickly respond to emerging issues and challenges and articulate policy recommendations and directions on social forestry as it relates to climate change, food security, and poverty alleviation.

Under the two phases of ASRF, grants were awarded to six projects in Indonesia from 2014 to 2020:

- Development of a Process to Acquire Mukim Forest Recognition: Preparatory Phase
- Strengthening Multistakeholders Engagement to Accelerate Social Forestry Department
- Linking Forest, Water, and Energy: Assessing Socio-Economic and Environmental Impacts of Forest Management and Micro-hydro Development at the Buffer Zone of a Conservation Area in West Java, Indonesia
- Capacity Assessment for HKM Extension Workers and KPH forest guards
- Developing Environmental Education Program for the Mangrove Forest Based-Ecotourism in Juru Seberang Community Forest in Belitung
- Developing Mangrove Forest Environmental Education Program for the Ecotourism of Juru Seberang Community Forest in Belitung, Indonesia

Competency Certification for Agricultural Workers in Southeast Asia

SEARCA had been enjoined by the Southeast Asian Ministers of Education Organization (SEAMEO) in 2017 to conduct a study on competency standards for agricultural workers in Southeast Asia as a step forward in mapping national competency standards among the Southeast Asian countries. SEAMEO promotes technical and vocational education and training (TVET) as one of its seven education priorities. Hence, the collaborative study has been instrumental to the formulation of regional and national qualification reference frameworks and assurance framework, which was recognized to be essential in the harmonization and internationalization of TVET in Southeast Asia.

The results of the project were presented and validated in a regional workshop convened in May 2018 in the Philippines and jointly hosted by SEARCA and the Philippine Technical Education and Skills Development Authority (TESDA). It was participated in by representatives of TVET institutions from Brunei Darussalam, Indonesia, Lao PDR, Malaysia, Philippines, Thailand, Timor-Leste, and Vietnam; SEAMEO Secretariat; SEAMEO Regional Center for Vocational and Technical Education and Training (VOCTECH); SEARCA; the International Labour Organization (ILO); and private sector organizations involved in skills development of agricultural workers. It crafted a four-point recommendation that was subsequently presented and elevated for consideration in the 4th HOM on SEA-TVET held in September 2018.

The four-point recommendation focused on the following:

- Encourage TVET institutions to increasingly assume proactive and transforming roles in assessing, validating, and certifying skills and experience gained through non-formal and informal modes within a lifelong learning framework;
- Strengthen and expand competency certification systems to cover recognition of non-formal and informal learning;
- Encourage TVET institutions to pursue partnerships and alliances with a broader range of stakeholders; and
- Promote support from regional TVET networks and international cooperation.

Review and Assessment of the Agricultural Innovation Systems (AIS) in ASEAN

The Organisation for Economic Co-Operation and Development (OECD) collaborated with SEARCA for the conduct of this scoping study whose results were the basis for the policy dialogue between the OECD and ASEAN countries, including Indonesia, to secure food security in a long-term perspective.

Implemented from July 2015 to June 2016, the study aimed to identify the policy issues to improve agricultural productivity growth and sustainability in ASEAN region. Specifically, it aimed to provide an overview of agricultural innovation system in ASEAN countries, highlighting the need to evolve agricultural innovation system to generate innovative solutions for long-term food security concerns.

Landscapes: Inclusive Agribusiness in Southeast Asia

SEARCA conducted a scoping study that assessed and mapped relevant agribusiness players and their activities and roles in the region, with specific attention to Indonesia, Myanmar, the Philippines, and Vietnam. The study evaluated agribusiness innovation trends and highlighted key champions and practices in the ASEAN region. The study results were presented at the Roundtable on Inclusive Agribusiness in Southeast Asia held in Ho Chi Minh City on 23-25 September 2015, which gathered more than 100 key agribusiness practitioners from the private sectors, farmer's groups, government, academe, civil society organizations, and international organizations.

Food Reserves: A Comparative Study on Food Reserve Management and Policies in Southeast Asia

Indonesia was among the countries covered by this project, which was a collaboration between SEARCA and the members of the UC. The project was under the auspices of SEARCA's Umbrella Program on Food and Nutrition Security for Southeast Asia 2014-2019.

The project aimed to:

- Define and understand the importance of keeping food stocks and reserves, and the rationale behind countries' decision to stockpile.
- Identify commodities that countries stockpile and the modalities and mechanisms of food stockpiling that have been adopted, including physical, virtual, trade, national, and regional mechanisms.

- Examine the implications of a changing regional trade regime on a country's foodstocks, as well as the impact of individual countries' food reserves on a regional stockpiling mechanism such as the ASEAN Plus Three Emergency Rice Reserve (APTERR).
- Explore the feasibility of establishing other types of regional stockpiles beyond reserves.

In addition to the survey in the 11 Southeast Asian countries, SEARCA organized a workshop involving all countries to determine the role of food reserve management and policies in the region and identify implications of a changing regional trade regime, like the ASEAN Economic Community 2015 (AEC 2015), on a country's food stocks. Countries stockpile food, particularly rice, in different modalities and adopt a mix of trade instruments. Thus, SEARCA chose rice as a starting point to study food reserve management processes and policies in Southeast Asia.

Umbrella Program on Climate Change Adaptation and Mitigation in Southeast Asia

From 2015 to 2020, this program was jointly implemented by SEARCA and the UC with the CGIAR Research Program on Climate Change, Agriculture and Food Security–Southeast Asia (CCAFS SEA) and the International Center for Tropical Agriculture (CIAT). It covered Indonesia and the 10 other Southeast Asian countries.

Umbrella Program on Food and Nutrition Security for Southeast Asia

The Umbrella Program on Food and Nutrition Security for Southeast Asia was envisaged to serve as a platform for collaborative research on food security among the UC members and partner universities/institutions from the SEAMEO member countries. It aimed to align the program of work on food security of SEARCA and the UC to the development needs in the region and to support ongoing ASEAN-level programs on improving food security. The priority areas for collaboration were addressed through three integrated components: research and development, capacity building through graduate education and training, and knowledge management.

Other Past Research Projects

SEARCA also implemented almost 60 research projects with significant outcomes in Indonesia, including the following:

- ADB TA7189 - Institutional Strengthening for Integrated Water Resources Management in the 6 Cis River Basin Territory (Package E)
- ASEAN Australian Development Cooperation Program (AADCP) Phase II-funded project Strengthening ASEAN Mechanisms for Reducing Emissions from Deforestation and Forest Degradation (REDD Plus)
- TA 3843-INO: Agricultural and Rural Development Strategy Study
- Appraisal of Institutional Mandates of Agribusiness Support in Asia
- Small Grants Programme for Operations to Promote Tropical Forests in Asia (SGPPTF)
- WB Loan 3586-IND: Integrated Pest Management Training Project (IPM/TP)
- Impact Evaluation Study in Indonesia
- Impact Evaluation Study of the Second Agricultural Research Management Project
- Agro-industrial Development Project
- Post Production Application Research Project

- Research Utilization Project
- Gender and Development Program
- Improving Smallholder Farming Systems in Imperata Areas of Southeast Asia: A Bioeconomic Modeling Approach
- Agricultural Information Bank of Asia Program
- Azolla Research and Development Project
- Data Management for Rural Development Project
- Research Management Asia Project
- Agribusiness Project
- Southeast Asia Cooperative Postharvest Research and Development Programme
- Socioeconomic Analysis of Social Laboratory Projects
- Post-Production Systems Management
- Management of Research and Extension Systems Project
- Postharvest Handling of Perishables
- Study on Higher Agricultural Education and Rural Development in Developing Countries in Asia and the Pacific Region
- SEAMEO Pilot Project for Integrated Community-based Human Resource Development
- Cassava Outreach Program for Asia
- Commodity Systems Research in Corn

► RESEARCH AND COLLABORATIVE GRANTS

Seed Fund for Research and Training (SFRT)

The Southeast Asian region has a number of promising researchers and scientists whose desire to contribute to the region's development through research and knowledge dissemination initiatives is hindered by lack of funds. This situation serves as a barrier to translating promising research and training into scientific outputs that could be applied to promote development.

To address this concern and in line with the Center's thrust of promoting, undertaking and coordinating research programs relevant to the agriculture and rural development needs of the region, SEARCA will make available a pool of funds to be known as the SEARCA Seed Fund for Research and Training (SFRT).

The SFRT is envisaged to provide chosen research and training project proposals with limited start-up funds intended to enhance chances of securing long-term support from donor agencies. A grant of up to USD 15,000 shall be awarded as seed fund for research/training.

To date, a total of 18 Indonesians received SFRT grants for their research projects.

Travel Grants Program

To reinforce the Center's efforts and resources in accelerating transformation through agricultural innovation (ATTAIN) and become a leading enabler and champion of excellence in agricultural and rural development, SEARCA provides travel grants of up to a maximum of USD 1,200 to each qualified agriculture and agriculture-related professional, social scientist, or graduate student in Southeast Asia.

To date, more than 20 Indonesians have been awarded with travel grants under the program.

IFS-SEARCA Collaborative Research Grants

In 2016, the International Foundation for Science (IFS) and the Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA) implemented a grants scheme for collaborative research called the IFS-SEARCA Collaborative Research Grants Pilot in

Southeast Asia. It was open to the nine Southeast Asian countries of Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Thailand, Timor-Leste, and Vietnam, and focused on climate change adaptation and mitigation.

As a follow-on collaboration between IFS and SEARCA, in December 2020, the Mentorship Program for Advanced Grants was launched with a Call for Research on Accelerating Transformation through Agricultural Innovation (ATTAIN). Promising scientists will benefit from translating their research and scientific outputs into knowledge that can be applied to promote development, while enhancing their capacities to develop research proposals and conduct research, and also expanding their reach in terms of contributing to the body of knowledge in their research areas. The purpose of the Mentorship Program is to nurture relationships between established scientists and early career researchers (the IFS-SEARCA grantees) that are intended to help the latter to strengthen their research processes, ensure that their projects are of high quality, and produce useful results.

In partnership with SEARCA, IFS supports Southeast Asians who are enrolled in a PhD degree program or have recently completed a master's or PhD degree within the five years from the time of the call, and with limited research start-up funds. This call, however, gives priority in terms of number of slots to its scholarship alumni; faculty and staff of partner universities and universities under its institutional development assistance program; and other regular employees of development organizations, academic institutions and government agencies of Southeast Asian countries, such as Cambodia, Lao PDR, Myanmar, Philippines, Timor-Leste, and Vietnam.

The implementation of the new Advanced Grant scheme continued. Ten successful applicants received an IFS-SEARCA Advanced Grant to conduct their research within one to three years.

- Conduct original research that relates to genuine problems and that generates fundamental and/or applicable scientific knowledge that can be put into use;
- Contribute to science literacy;
- Communicate their results to the public at large, including scientists, politicians and policy makers, donors and private interest groups;
- Influence science priority setting; and
- Network and collaborate with the global research community to shape research agendas, both local and global.

In partnership with SEARCA, IFS will thus support Southeast Asians who are enrolled in a PhD degree program or have recently completed a master's or PhD degree within the five years from the time of the call, and with limited research start-up funds. This call, however, gives priority in terms of number of slots to its scholarship alumni; faculty and staff of partner universities and universities under its institutional development assistance program; and other regular employees of development organizations, academic institutions and government agencies of Southeast Asian countries, such as Cambodia, Lao PDR, Myanmar, Philippines, Timor-Leste, and Vietnam.

► ACHIEVEMENT AWARD IN AGRICULTURAL AND RURAL DEVELOPMENT

In pursuit to honor excellence, leadership, and service in advancing agricultural and rural development in Southeast Asia, SEARCA will launch the young achiever award in ARD, in collaboration with key partners, to exemplary young individuals in the region. The objective of the award is for re-engaging the youth and recognizing young individuals who have advanced ARD in the region through their leadership, innovation, and achievement. These young individuals have demonstrated workmanship and commitment in accelerating transformation through agricultural innovation that contributes to the achievement of the Sustainable Development Goals (SDGs).

Dioscoro L. Umali Achievement Award in Agricultural Development

From 2007 to 2015, SEARCA has awarded the Dioscoro L. Umali Achievement Award in Agricultural Development to recognize exemplary contributions in the field of agriculture and rural development. It is a collaboration among SEARCA, the National Academy of Science and Technology, Philippines (NAST, Philippines), and Dioscoro L. Umali Foundation, Inc. (DLUF). The achievement award covers a full range of fields including plant and animal sciences, land and water management, environment and natural resource management, technology development, social organization, food security, poverty reduction, economics and business, and policy and governance, among others.



There have been four recipients of the award, including Dr. Sjarifudin Baharsjah, renowned Indonesian economist and former Minister of Agriculture, who received the 2013 Umali Award. Dr. Baharsjah was cited for his significant contributions to agricultural and rural development in Indonesia, particularly his introduction of agribusiness and agro-industry to promote agricultural development in his country. As a requisite of the award, Dr. Baharsjah gave a lecture after the conferment of his award in January 2014. His lecture, which was later published as a monograph, is titled “Dare to Turn Around for Agricultural Success: Farmers as Key Change Agents.”

► AGRICULTURE, FORESTRY, AND NATURAL RESOURCES (AFNR) KNOWLEDGE PLATFORM

For almost six decades, SEARCA has been actively working with different like-minded institutions and networks in conducting research that addresses critical issues related to the region's agricultural and rural development. Capitalizing on this knowledge resource, SEARCA is leading the establishment of the Agriculture, Forestry, and Natural Resources (AFNR) Knowledge Platform.

The knowledge platform primarily aims to facilitate and sustain an ecosystem for knowledge-sharing that contributes to agricultural and rural development in the Southeast Asian region and beyond. It also ensures access to an accurate, highly credible, sound, timely, and reliable source of information that will fuel future research activities, capacity-building initiatives, policy development, and technological innovations aimed at accelerating transformation in the region's agricultural sector.

It has three main components: knowledge generation, exchange, and utilization, which support the Community of Practice (CoP). Knowledge generation includes the conceptualization and organization of opportunities for knowledge sharing and learning (conferences, roundtable discussions, webinars, etc). Part of this is facilitating the link with other SEARCA programs and harvesting their knowledge products through the Applied Knowledge Resources Unit (AKRU). While AKRU works on scholarly publications, AFNR will work on popular formats, addressing the needs of our other stakeholders and providing another entry point/access to other SEARCA resources.

The second part is the knowledge exchange, the actual website itself. In this part, the contributions of the programs will be categorized into these thematic areas. These are loosely based on our ATTAIN Priority Areas (our current five-year plan): Food and Nutrition Security; Sustainable Farming Systems and NRM; Value Addition, E-Commerce, and Industry Development; Policy and Thought Leadership; and Training and Capacity Building. There will also be links to other tools/resources like the SEARCA Library, AgPractices, Access Agriculture videos, etc.

The last part is knowledge utilization, the Community of Practice. One of the significant developments for the knowledge platform this year is its integration into the SEARCA Consortium for Agricultural Development, Research, and Extension (CADRE), where it is envisioned to serve as the Knowledge Management (KM) arm of the Research Consortium. The knowledge platform will continue to be client-driven as it caters to the information needs of external stakeholders. Its content will also be designed to stir discussions in the CoP. Regular activities (e.g., an online forum on a certain timely/relevant topic) will also be conducted to keep the CoP active and engaging.

As the KM component of CADRE, the AFNR Knowledge Platform aims to broaden the CoP (and Interest) through a culture of knowledge-sharing, exchange, and engagement. Moving forward, the knowledge platform will advocate D4A (Data for All) that supports data inclusivity access through the development and provision of agricultural data and statistics tools.

EMERGING INNOVATION FOR GROWTH



SEARCHA's core program on Emerging Innovation for Growth (EIG) is focused on providing farmers and farming families wider access to innovative products and services as well as business models for increased productivity and income through:

- Open Innovation and Agri-Incubation
- Knowledge and Technology Transfer
- Project Development, Monitoring, and Evaluation

Objective: Implement value-driven programs, projects, activities upholding SEARCHA brand

EIGD prioritizes innovative programs, projects, and training initiatives, emphasizing diversity across various fields with a regional and subregional focus on agricultural and rural development (ARD) in collaboration with various organizations with same visions in mind.

► SEARCHA-INITIATED PROJECTS

Aligned with its commitment to fostering innovative agricultural solutions, SEARCHA undertakes projects that aim to enhance agricultural knowledge and practices while safeguarding the environment.

SEARCHA Platform for Attaining Agri 4.0 Collaboration and Engagement (SPACE)

SPACE is a virtual community designed to foster collaboration and innovation among experts from academia, industry, government, and local communities. The platform connects professionals through an interactive database and open calls for collaboration, creating limitless opportunities for cooperative ventures in agricultural technology and sustainable development.

In a recent outreach initiative, 60 emails were sent to a carefully curated list of experts, inviting them to join SPACE's growing pool of professionals. Over 25 experts, representing a diverse range of fields, have already expressed interest in joining this dynamic network. By becoming part of SPACE, these experts are contributing to a vibrant ecosystem of knowledge exchange and partnerships that seek to revolutionize agriculture across Southeast Asia.



Connecting scholars, businessmen, policymakers, and local communities

TOWARDS INCLUSIVE GROWTH



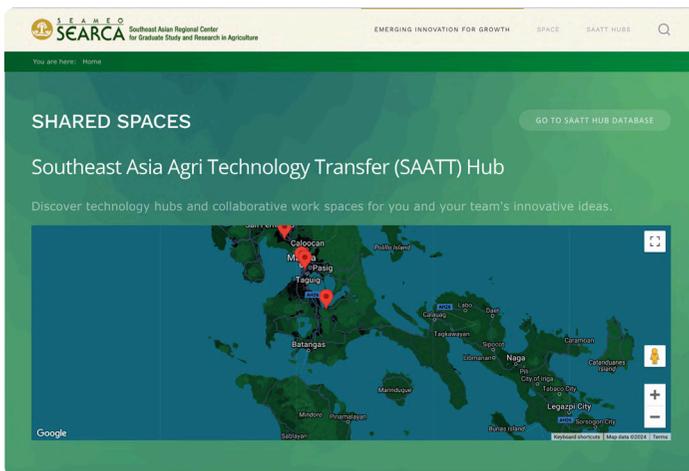
The SPACE platform is now accessible via <https://space.searca.org/> With the participation of leading researchers, technology innovators, policymakers, and community leaders, the platform offers a unique space where cutting-edge ideas and practices can be shared to accelerate the adoption of Agri 4.0 solutions. Through its expert pool, SPACE facilitates collaborations that address key challenges in agriculture, from increasing productivity and food security to implementing sustainable practices and advanced technologies.

With the participation of leading researchers, technology innovators, policymakers, and community leaders, the platform offers a unique space where cutting-edge ideas and practices can be shared to accelerate the adoption of Agri 4.0 solutions. Through its expert pool, SPACE facilitates collaborations that address key challenges in agriculture, from increasing productivity and food security to implementing sustainable practices and advanced technologies.

Southeast Asia Agri-Technology Transfer (SAATT)

The creation and development of the Southeast Asian Agri-Tech Transfer (SAATT) Hub website hosted by SEARCA shall establish SEARCA as a champion and enabler in the agritech transfer landscape. The SAATT Hub shall be SEARCA's contribution to the aggressive brokerage of already existing or upcoming innovations in agriculture by serving as the virtual central hub where agri-based and agri-related technology transfer institutions and stakeholders from the academe, industry, and government could promote and showcase innovative products and agri-technologies. The SAATT Hub shall also serve as a platform for agricultural cooperatives, farmers, and farming families in the region to gain access to SEARCA's IP and tech transfer assets, modern agri-technologies, and disruptive solutions to transform mindsets and agricultural systems ushering Agri 4.0.

After its integration at the SEARCA website in June 2024, more than 25 of the invited experts confirmed their participation and interest for the SPACE platform. Currently, 12 institutions across Southeast Asia have already agreed to be part of SEARCA's network of Tech Hubs under SAATT.



SAATT webpage available at <https://saatt.searca.org/>

► KNOWLEDGE AND TECHNOLOGY TRANSFER

Objective: Enhance Partnership and leadership in priority areas and emerging concerns

Farm-level technology transfer: Automated Calamansi Sorter (ACS)

Under EIGD's Knowledge and Tech Transfer initiative is the facilitation of the adoption and transfer of emerging and innovative agri-tech innovations and linkages. SEARCA promotes the adoption of innovative agri-tech solutions at the farm level to enhance agricultural productivity and sustainability. Through partnerships with academic and research institutions, SEARCA facilitates the development and dissemination of technologies that address specific challenges faced by farmers. This initiative focuses on practical solutions that improve efficiency and profitability at the farm level, ensuring that innovations are accessible and beneficial to smallholder farmers across the region.

Digital Agriculture Platform

SEARCA is modernizing agriculture through digital platforms that connect farmers directly with markets, ensuring fair trade and improved livelihoods. These platforms leverage technology to streamline the supply chain from farm to fork, benefiting both farmers and consumers. In an increasingly digital world, SEARCA's Digital Agriculture Platform bridges the gap between farmers and markets, enabling smallholder farmers to thrive in a competitive landscape. By integrating technology into traditional farming practices, SEARCA is helping to secure a sustainable and profitable future for agriculture in the region.

Agri-robotics activities

SEARCA is dedicated to bringing about agricultural transformation through the adoption of a new concept of agriculture, Agri 4.0, redefined by modern technologies, processes, and dynamics. Moreover, SEARCA is committed to the development of the next generation of agriculture leaders and professionals.

Development and Piloting of Agri-Robotics Module

Envisioning to accelerate transformation to Agriculture 4.0 by nurturing innovations, SEARCA invests in empowering and equipping the youth and by developing and making innovative programs available and accessible to spark their interest in agriculture through new and creative approaches to complex problems in food production. One way of doing this is by building the capacities of school teachers and equipping them with resources that they can use to integrate Agriculture 4.0 in their lessons under the K-12 curriculum.

Agri-mechanization through Tractor Development

SEARCA is advancing agricultural mechanization by promoting open systems manufacturing, which allows for the customization and scaling of farming equipment to meet the specific needs of smallholder farmers. This initiative focuses on developing and deploying innovative, locally adaptable machinery to enhance agricultural productivity. Empowering farmers with the right tools is essential for sustainable agricultural growth. Through its agri-mechanization initiative, SEARCA is collaborating with global and local partners to bring innovative, open-source machinery to the fields, tailored to the unique needs of smallholder farmers in the region.

► OPEN INNOVATION AND AGRICULTURE INCUBATION

Grants for Research Towards Agricultural Innovative Solutions (GRAINS)

GRAINS is SEARCA program started in 2020 supporting agri-entrepreneurial minds by providing short-term starter funds to innovative agricultural concepts, prototypes, and ventures, supporting sustainable agriculture and rural development across Southeast Asia.

In 2023, GRAINS supported 11 total projects hailing from Indonesia, Philippines, Malaysia, Thailand, and Myanmar.

In 2023, GRAINS supported two projects-based in Indonesia.

1. Development of Smart Aquaculture System Based on Artificial Intelligence in Black Tiger Shrimp (*Penaeus monodon*) Hatchery, an artificial intelligence-based digital application, "AquaNotes," on smart aquaculture system. This project to increase productivity and efficiency in shrimp farming by using AI in optimizing the hatchery process in several areas, such as feeding regimens, environmental monitoring and water quality control. There are already 130 shrimp farmers using the application all over the country.
2. Strengthening the supply chain and traceability for okra commodity using blockchain-based tracking and traceability tools (DAKOTA) in Grobogan, Central Java aims to strengthen supply chains and traceability of okra by using a blockchain-chain tracking and traceability tool, DAKOTA. It aims to harness digitization to promote sustainable

okra production and marketability. using a blockchain-chain tracking and traceability tool, DAKOTA. It aims to harness digitization to promote sustainable okra production and marketability.

Agri-business innovation incubation support

By facilitating two open innovation and knowledge exchanges in 2023, EIGD institutionalized partnership and collaboration among parties towards a synergistic innovation ecosystem and knowledge exchange and strengthened innovative and entrepreneurial mindsets.



Some of the okra farmers benefitted by DAKOTA in Indonesia.

The [Southeast Asia Agri-Innovation Forum](#) was a hybrid online and offsite event that showcased multi-country projects from new grantees funded by GRAINS. Chosen from hundreds of applications, these projects aim to tackle critical challenges faced by farming communities and drive agricultural transformation across Southeast Asia. Grantees from Indonesia, Malaysia, Myanmar, the Philippines, and Thailand presented their project concepts, inviting feedback and insights from our panel of experts.

[AgriTech Field Day](#). Farmers' Exchange Program with GRAINS startup grantees. The onsite event, organized by SEARCA in collaboration with the Center of Excellence on Sustainable Agricultural Intensification and Nutrition (CE SAIN) in Cambodia, brought together farmer leaders and agritech startups in Cambodia and Europe. Startups supported by Impact Hub Phnom Penh, namely ADSA, DamDoh App, and Chalatex, and other innovators such as S.E.C. Solar Energy and SpaceCrop Technologies – Hungary, explored potential synergies within the Southeast Asian and European innovation ecosystem. The event provided a chance to share technologies and innovations, including demonstrations at the CESAIN Agricultural Technology Park, for the benefit of farmers and rural communities.

[Modern Agri-Education at Learning Hubs](#). To facilitate the exchange and dissemination of modern agricultural knowledge among youth, the SEARCA Hub for Agricultural and Rural Innovation for the Next Generation (SHARING) webpage was launched in 2023. The SHARING website features information about the onsite SHARING museum and the SHARING Café, which can host activities such as ideation sessions, hands-on learning, and internship programs focused on agrobotics.

These modernized learning approach and learning events focused on skill development and capacity building for the youth by providing and equipping the participants with practical

knowledge and skills in technologies and innovation in agriculture. Such activities also exposed the youth to career opportunities and income-generating activities in agricultural technology, further igniting their interest in the critical fields of food security.

Through these learning events, SEARCA strengthened its impact on stakeholders and further contributed to the advancement of sustainable agriculture and rural development.

Agripreneurship and startup acceleration

To foster the growth of startups in the agriculture sector, we launched acceleration projects in collaboration with industry partners and business incubators, starting with the Philippines and Cambodia. Our goal is to mentor agriculture-focused startups throughout the region, helping them advance to the next stage of growth and ultimately benefiting farmers and farming communities across Southeast Asia.

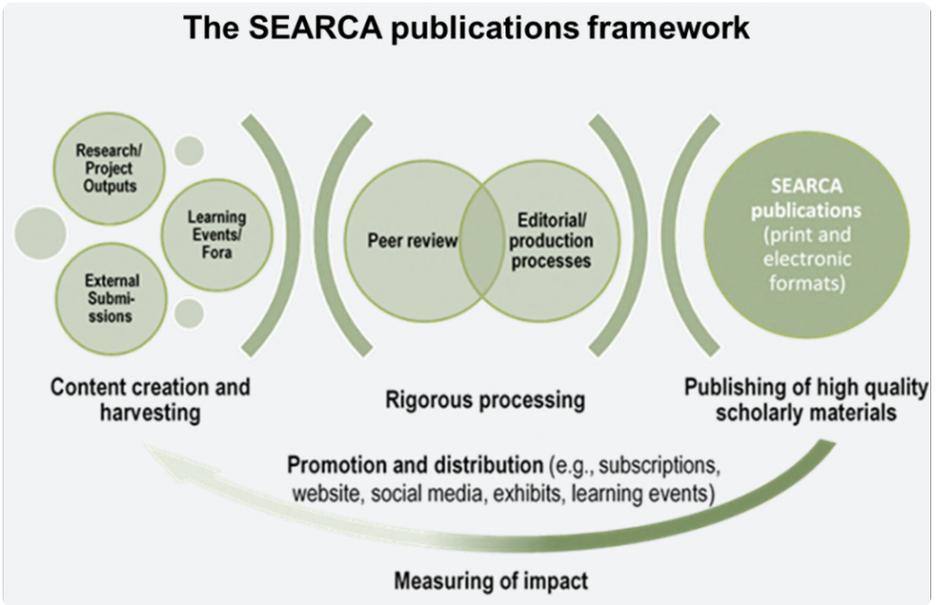
Unveiled Impact Stories of Innovation

To continue disseminating stories of agri-innovation from projects funded by SEARCA GRAINS, three new video packages were created to inspire the adoption of best practices and to draw lessons toward successful project implementation. A total of seven stories are accessible through SEARCA website (www.searca.org/grains#stories) and social media platforms such as YouTube.

One of the featured videos was the Empowerment of Okra Farmers through DAKOTA describes how a digital platform, powered by blockchain technology, provides transparent records of quality control and good agricultural practice, potentially turning okra growers in Indonesia into major players in the export market.

Another compelling story featured in the global scene is the Bioplastic Shifts Agrowaste into Sustainable Solution. It presents scientists at the University of San Carlos (USC) using discarded shrimp shells to create bioplastic, a biodegradable and low-carbon alternative to combat plastic pollution. This enables redirection of agro-industrial waste from landfills to a circular economy. The story was also repackaged by SEARCA and USC Cebu into a oneminute 'Science in Shorts' entry titled "Unusually sustainable - bioplastics from shrimp shells plus mango waste!" The video premiered at the Curious2024 - Future Insight conference in Mainz, Germany, and garnered the "Top 10 Nature Awards" out of 250 videos submitted by researchers across the world.

KNOWLEDGE DISSEMINATION

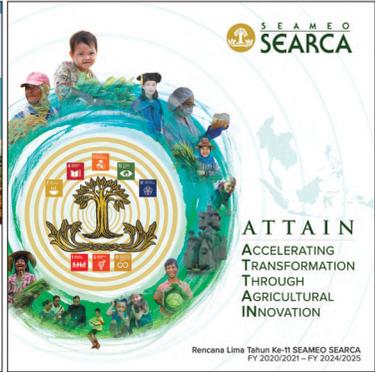


► PUBLICATION

SEARCA publication provides one important avenue for knowledge creation in ARD. This ensures that research results, policy discussions, and best practices from the field, among its primordial knowledge sources, are packaged and broadly shared. SEARCA aims to publish high-quality professional, intellectual, and scholarly output in ARD with scholars, researchers, and policymakers as intended readers. A broad spectrum of ARD themes is published through a number of serial and non-serial SEARCA publications that include books, journal articles, monographs, discussion papers, and policy briefs.

Publishing for over half a century now, SEARCA has a publication pipeline of materials primarily sourced from outputs of its staple programs. External contributions are also welcome, notably for the Center's priority thematic content. All materials submitted for publication as books, monographs, or journal articles undergo rigorous peer review and editorial processes to ensure high quality.

Over 500 various publications are curated in SEARCA's knowledge inventory system (mostly those published year 2000 onward). As of September 2024, 59 titles either focused on Indonesia or included it in its country of coverage have been published by SEARCA.



These include a book (1), monographs (4), discussion paper series (5), briefs and notes (8), proceedings (3), and journal articles (38).

Agroforestry Status, Trends, and Outlook in Southeast Asia

The World Agroforestry (ICRAF) and SEARCA recognize the momentum brought by the adoption of the ASEAN Guidelines for Agroforestry Development and would like to harness this development by heeding the call of the ASEAN food, agricultural, and forestry (FAF) sector to produce the first Agroforestry Status, Trends and Outlook for Southeast Asia. The report published in 2021 gathered the relevant perspectives from key stakeholders in the sector to respond to the challenges and ensure resilient interventions in agroforestry. This will further guide development efforts and sustainable policies that can shape leadership roles, produce more responsive institutional arrangements, and enhance governance.

Under the Technical Cooperation Program of the Food Agriculture Organization of the United Nations (FAO) and the ASEAN Secretariat on “Scaling up Agroforestry for food security and environmental benefits in Southeast Asia,” the ASEAN Food, Agriculture and Forestry sector is requesting a report that encapsulates the status, trends and outlook of agroforestry in the Southeast Asian region. Such report will:

- Provide information on agroforestry practices, concepts, programs, policies, training, education and research, industry, issues/challenges, impacts and other relevant aspects.
- Draw an outlook of agroforestry into the future toward a resilient Southeast Asian region.
- Have an accompanying monitoring and reporting design for ASEAN Member States, which include Indonesia, to report on contributions and progress toward achieving resilience through agroforestry in the region.

Farms, Food, & Futures: Toward Inclusive and Sustainable Agricultural and Rural Development in Southeast Asia

Dubbed as Agriculture and Rural Development (ARD) Book 2016, SEARCA spelled out in this publication the nuances of productivity-enhancing interventions moving forward, carefully drawing from in-depth analyses and syntheses of lessons, experiences, and empirical evidence on Asia’s ARD. The book provided an overview of the complex issues and challenges, as well as opportunities arising from the structural transformation and market integration happening in

the region. For the ARD Book 2016, SEARCA assembled eminent experts and thought leaders working in ARD in the region, and together authored the book with four cross-cutting and contemporary ARD themes, namely: inclusive growth; sustainability; regional integration; and institutions, governance and transformation.

Agriculture and Development Primer on Indonesia

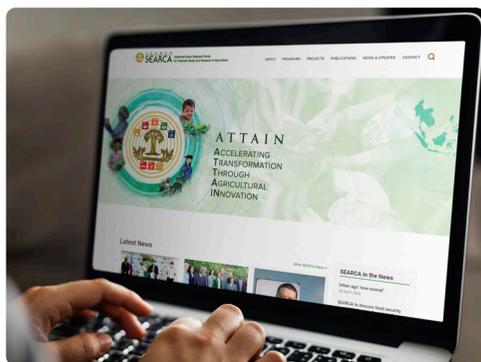
SEARCA published a primer on Indonesia in 2007 as part of its Southeast Asian Agriculture and Development Primer (SAADP) Series. Each volume of the series presents the featured Southeast Asian country's state of agriculture in a holistic, yet concise form. It shows the institutions, structures, policies, and other areas affecting the sector's performance over the past three decades.

Dr. Faisal Kasryno, Senior Agricultural Economist and Deputy Chairman of the Indonesia Resilient Agriculture Foundation, and Dr. Ronnie S. Natawidjaja, Director, Center for Agrifood Policy and Agribusiness Studies, Padjadjaran University, Indonesia, authored the primer on Indonesia.



► PROMOTION AND DISTRIBUTION

The Center has, in recent years, been investing in ensuring that its publications and other knowledge products maximize their intended use and not gather dust on a shelf. As it were, its momentum for more visibility online has proven more relevant than anticipated during the pandemic that started in 2020. The situation resulted to lessened printing and suspended the traditional distribution of physical copies and face-to-face knowledge exchanges/interactions.



The SEARCA website complemented by its social media presence are the current channels in which the Center's knowledge creations are accessed. Almost all publications are downloadable for free; learning/knowledge events and presentations are also freely accessible. As of 30 June 2024, a total of 53,683 publications have been downloaded from searca.org, SEARCA's official website. Over 28,000 people from 169 countries have downloaded these knowledge materials.

As of June 2024, 1,349 downloads of SEARCA publications have been made by Indonesians.

► LIBRARY AND ARCHIVES

The SEARCA library, which houses a collection of over 16,300 agriculture and development-related references, serves primarily SEARCA scholars and staff, but it also accommodates other users. The references are also listed in SEARCA's online library information system (LIS) <https://lis.searcaapps.org/lis/> to facilitate faster access and search. The LIS also includes theses and dissertations of SEARCA scholars as well as web links to various online resources, such as articles on the latest updates in agriculture and development.



The Center's archives have digitized all vital records for efficient information processing, storage, access, and dissemination. Over 7,400 SEARCA documents have been digitized, including personnel and scholars' records, project reports, publications, financial statements, agreements, directors' exit reports, five-year plans, memorandums, and contracts.

MANAGEMENT

Indonesia is currently represented in the SEARCA Governing Board by Prof. Dra. Tjitjik Sri Tjahjandarie, Acting Secretary of Directorate General of Higher Education, Ministry of Education, Culture, Research and Technology, Indonesia. The SEARCA Governing Board is the Center's highest policymaking body composed of representatives of the 11 SEAMEO member countries.

At present, the SEARCA Center Director is Dr. Glenn B. Gregorio. The Deputy Director for Programs and the Deputy Director for Administration are Dr. Nur Azura Binti Adam and Assoc. Prof. Joselito G. Florendo, respectively.