



SEAMEO  
**SEARCA**



## SINGAPORE AND SEARCA

A T T A I N  
ACCELERATING TRANSFORMATION THROUGH AGRICULTURAL INnovation



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. Singapore 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.

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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 Graduate Scholarships**

So far, there had been only four Singaporean participants in SEARCA's Graduate Scholarship Program. The first two Singaporean SEARCA scholars were awarded in academic year 1972-1973, while the third and fourth scholars were awarded in academic year 1978-1979 and 1980-1981, respectively. All of them studied at the University of the Philippines Los Baños (UPLB).

The Singaporean alumni are:

- Mr. Chu Sin-IMS, Food Science, 1974
- Ms. Ng Huang Gieh MS, Botany, 1975
- Mr. Tan Winston Kian Ann MS, Development Communication, 1982
- Mr. Khoo Saw Huat MS, Silviculture, 1982
- English Course for SEARCA Scholars

The SEAMEO Regional Language Centre (RELC) based in Singapore and SEARCA had teamed up in conducting a 10-day course titled "English for Academic Purposes" to SEARCA scholars. Offered as a staple short course for SEARCA scholars, the training aims to enhance the

learning and participation of new scholars in their graduate programs. So far, the course has been offered three times, twice at SEARCA (June 2014 and July 2015) and once at Kasetsart University in Bangkok Thailand (January 2015). All the lecturers came from RELC.

The English course for SEARCA graduate scholars was already conducted three times, but the July 2015 course is the first offering after the two SEAMEO centers had signed an agreement to formally commit to allocate resources toward the success of the training.

## ■ 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, 41 Singaporeans had participated in 32 SEARCA training and learning forums. These learning events covered topics such as:

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- Agricultural research management
- Training methodology and techniques
- Strengthening project development and management
- Integrating ecosystems services into development planning
- Climate change impacts and adaptation for food and environmental security
- Leaders in ASEAN agriculture and development
- Agriculture and development in Southeast Asia

In addition, three learning events were conducted in Singapore and 11 SEARCA learning events had 54 resource persons from Singapore.

SEARCA implemented with The HEAD Foundation (THF) the three regional and three incountry offerings of the Leadership Development Program for Higher Education Institutions (LDP-HEIs). The LDP-HEIs in Southeast Asia were implemented in 2019 and 2020 at SEARCA, and in 2024, the program was conducted in a hybrid mode with face-to-face sessions in Bangkok, Thailand. The LDP-HEIs in the Philippines were implemented virtually via the SEARCA Online Learning and Virtual Engagement (SOLVE) platform. The first in-country offering was conducted from 21 April 2021 to 7 June 2021, with coaching calls on 1-30 July 2021. The second LDP-HEIs in the Philippines was conducted from 4 October 2021 to 29 November 2021, with coaching calls from 3 January to 4 February 2022. The third LDP-HEIs in the Philippines was conducted on a blended mode, with virtual sessions on 3 November-13 December 2022, face-to-face sessions on 11-13 January 2023, with coaching calls in February 2023.



In January 1980, SEARCA organized a Grain Storage Seminar for 11 Singaporeans from the International Trading Company, International Development Company, Department of Trade, and the Singapore Institute for Standards and Industrial Research (SISIR) to discuss modern concepts of controlled humidity storage. The storage and handling aspects of rice imports to Singapore at the time were reviewed. Also, as Singapore was planning a national policy of improving warehouse construction and handling, the participants considered prospects for multistorey warehousing with controlled dehumidification.



Dr. Natarajan Varaprasad of the Singapore Consulting Group served as Technical Coordinator of the Leadership Development Program for Higher Education Institutions (LDP-HEIs) series.



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.

SEARCA has as its Senior Fellow on Food Security a Singaporean—Dr. Paul S. Teng of the Centre for Non-traditional Security Studies, S. Rajaratnam School of International Studies, Nanyang Technological University (NTS-RSIS-NTU).

### ► 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 Singapore:

#### **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 Singapore, and across existing ASEAN Free Trade Agreements (FTAs), and its implications on food security in the region.

### **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 Singapore, 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.

### **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 Singapore 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 implemented the following research projects with significant outcomes in Singapore:

- Strengthening ASEAN Mechanisms for Reducing Emissions from Deforestation and Forest Degradation (REDD Plus) (Mar 2012 - Dec 2013)
- Southeast Asia Cooperative Postharvest R&D Program (1976)
- Food Fermentation Project (1973)
- Downy Mildew of Corn Project (1971)

## **► 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.

### **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.

## **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.

## **► POLICY ROUNDTABLES AND CONFERENCES**

SEARCA also developed strong ties with the universities in Southeast Asian region as they were often invited to participate in the roundtables and conferences. As universities are steeped in the culture of research, they were drawn in to collaborate with the ministries in post roundtable endeavors (e. g., research, training programs) toward formulating policy inputs. Singaporeans were able to participate in the following regional PRT and conference:

- Roundtable Discussion Series on Sustainable Food and Agriculture Systems in Southeast Asia: Digital Economies for the Food and Agriculture Sector (18 April 2023, PICC, Manila, Philippines)
- ASEAN Multisectoral Workshop on Mainstreaming Biodiversity in Food and Agriculture (4-6 Dec 2018, Bangkok, Thailand)
- Second International Conference on Agricultural and Rural Development in Southeast Asia (ARD2014) (12-13 Nov 2014, Makati City, Philippines)

## ► 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 knowledgesharing 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



SEARCA'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:

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

## ► PROJECT DEVELOPMENT, MONITORING AND EVALUATION

**Objective:** Implement value-driven programs, projects, activities upholding SEARCA 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.

### **SEARCA-initiated projects**

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

### **SEARCA 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.



The image shows a group of approximately 15 people of various ages and ethnicities standing in a field. They are all holding up yellow corn cobs towards the camera. Some are standing in the back row, while others are sitting or kneeling in the front. The background features a vast agricultural field with mountains in the distance under a clear sky. The overall theme is one of agricultural productivity and innovation.

SEARCA Southeast Asian Regional Center for Graduate Study and Research in Agriculture

EMERGING INNOVATION FOR GROWTH SPACE SAATT HUBS

You are here: Home

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, policy-makers, 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 agri-tech 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 agribased 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 agritechologies, 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 in the SPACE platform. With this, 12 institutions across Southeast Asia also agreed to be part of SEARCA's network of Tech Hubs under SAATT.

**SEARCA** Southeast Asian Regional Center  
for Graduate Study and Research in Agriculture

EMERGING INNOVATION FOR GROWTH  
SPACE SAATT HUBS

You are here: Home

## SHARED SPACES

GO TO SAATT HUB DATABASE

### Southeast Asia Agri Technology Transfer (SAATT) Hub

Discover technology hubs and collaborative work spaces for you and your team's innovative ideas.

Google

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 agritech 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 AGRI-INCUBATION**

### **Grants for Research Towards Agricultural Innovative Solutions (GRAINS)**

GRAINS is a 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. By 2023, GRAINS supported 25 total projects hailing from Indonesia, Philippines, Malaysia, Thailand, and Myanmar.

### **Open innovation and knowledge exchange**

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.

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.



SEARCA Center Director Glenn B. Gregorio toured the visitors from Kaohsiung Medical University to the SHARING Museum.

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.

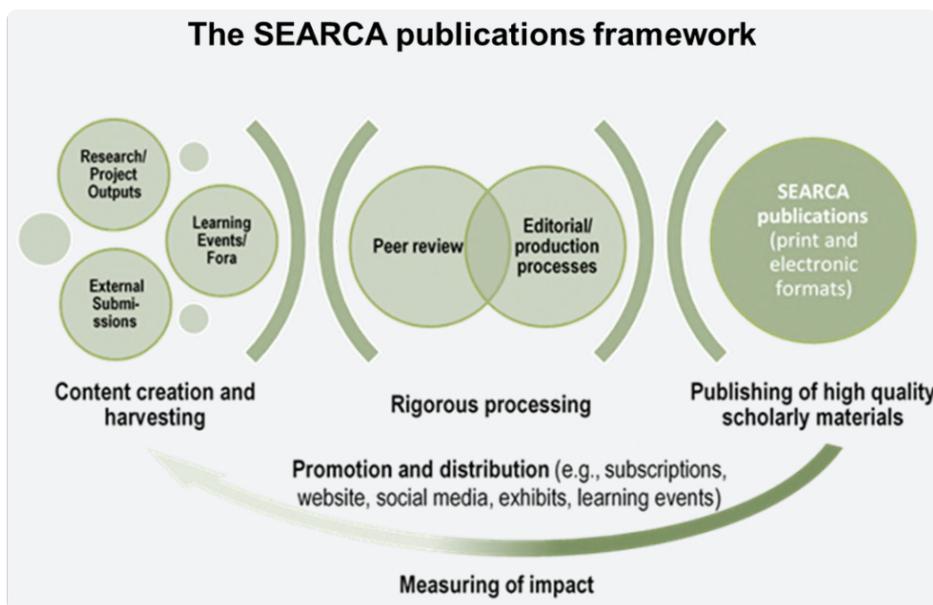
### **Unveiled Impact Stories of Innovation**

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](http://www.searca.org/grains#stories)) and social media platforms such as YouTube.

Among which is the Bioplastic Shifts Agrowaste into Sustainable Solution that 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 one-minute '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, 5 titles either focused on Singapore or included it in its country of coverage have been published by SEARCA. These include monographs (2) and journal articles (3).

### **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 Singapore, 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 Singapore

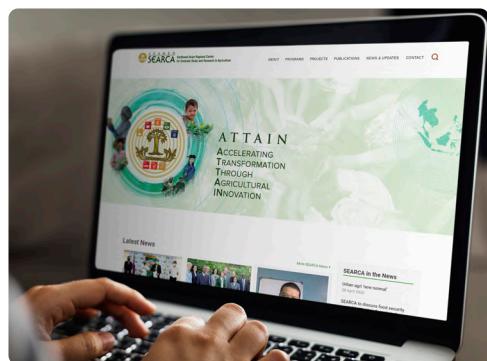
SEARCA published a primer on Singapore in 2006 as part of its Southeast Asian Agriculture and Development Primer Series. Each volume of the series presents the featured Southeast Asian country's state of agriculture in a holistic, yet concise form. The first edition focused on how appropriate agricultural technology has enabled the country to produce a measure of its food supply and other agricultural products of economic value. Its authors are Dr. Ngiam Tong Tau and Mr. Leslie Cheong. Dr. Ngiam was at the helm of agriculture and veterinary developments of Singapore for more than 25 years, six years of which were served as Chief Executive Officer and Director General of the AgriFood and Veterinary Authority (AVA) of Singapore until his retirement in 2005. Mr. Cheong served as Director of AVA's Food Supply and Technology Department.



Published in 2017, the second edition of the primer discusses the experiences, impacts and lessons in policy reforms and institutional innovations in agriculture, which takes off from the results of a regional workshop convened by SEARCA to take stock of the current situation of the agriculture sector in Southeast Asia, review current institutional and policy regimes of countries in the region, and determine how they affected agricultural productivity and competitiveness vis-à-vis government responses. This edition is authored by Dr. John Jackson Ewing, Research Fellow of NTU's RSIS-NTS.

## ► 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](http://searca.org), SEARCA's official website. Over 28,000 people from 169 countries have downloaded these knowledge materials. The most downloaded types are refereed journal articles, books and monographs, and various briefs and notes. As of June 2024, 267 downloads of SEARCA publications have been made by Myanmar nationals.

## ► LIBRARY AND ARCHIVES

The SEARCA library, which houses a collection of over 16,300 agriculture and developmentrelated 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/](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

Singapore is currently represented in the SEARCA Governing Board by Prof. Chew Fook Tim, Associate Professor of Biological Sciences and Vice Dean, Undergraduate Education and Student Life, Faculty of Science, Department of Biological Sciences, National University of Singapore. 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.



