

Engaging with Academia and Research Institutions (ARIs) to support Family Farmers and Food System Transformation During and Post COVID-19 Pandemic in Asia



With technical assistance from the FAO Regional Office for Asia and the Pacific



CONSIDERING AN ASIAN ACADEMIC (plus) NETWORK ON AGROECOLOGY AND
SUSTAINABLE FOOD SYSTEMS:
University Sector Reflections

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OVERVIEW

1. **BACKGROUND:** Contributing to Consultation Outcome #3:
“Building a multi-stakeholder alliance facilitating the emergence of a regional network of academics and researchers supporting food system transformation and family farming
2. **CHULALONGKORN UNIVERSITY** Regional Partnership Activities (2015-2020) on “*Higher Education for Sustainable Agriculture (HESA) and Food Systems in Southeast Asia*”
3. **FIVE PILLARS** for Mainstreaming Agroecology (AE) and Sustainable Food Systems (SFS) in Academia - Building on Common University Foundations
4. **ISSUES and DISCUSSION QUESTIONS** on facilitating a multistakeholder Asian regional network on AE and SFS



FAO Historical Contexts for Strengthening Asia-Pacific Agro-Ecological Education, Research & Extension

RECOMMENDATIONS from FAO Consultation, Bangkok 2015

Governments, decision-makers, technical and financial partners... in particular FAO, should:

- 7) **Integrate agroecology in the curricula** of both formal and nonformal primary and **higher education institutions**, in vocational training centers for producers, including farmer field schools, school farms, farmers' trainings and school gardens...

The academic and research community should:

- 12) **Build a REGIONAL NETWORK of agroecology researchers**, involving CSOs and small-scale food producers and allow for learning from each other across countries,

FAO SCALING-UP AGROECOLOGY INITIATIVE 2018 Concept:

- To scale up agroecology, rural education and extension systems need to be strengthened... (including) knowledge *co-creation* which combines scientific knowledge with the knowledge of food producers..."

References

FAO. 2016. ***REPORT on the Multi-Stakeholder Consultation on Agroecology in Asia and the Pacific*** FAO, Bangkok, 24-26 November 2015. Rome: FAO

FAO. 2018. ***Scaling-up Agroecology Initiative: Transforming Food and Agricultural systems in Support of the SDGS***. A proposal prepared for International Symposium on Agroecology 3-5 April 2018.



“Expert Group on Higher Education for Sustainable Agriculture (HESA) and Food Security in Southeast Asia”

(FIRST Summative Sub-Regional Symposium -18 Aug 2015 Chulalongkorn University)

HESA Pilot countries/Comparative Analysis

Policy Briefs produced for - Laos, Philippines and Thailand

<http://www.siani.se/expert-groups/higher-education-sustainable-agriculture-hesa-southeast-asia/resources>



Initial Outputs for LAOS, PHILIPPINES & THAILAND

3 Pilot Studies—Policy Brief Publications (2016)

HESA-SIANI Policy Briefs/Published Online
For Laos -- Philippines -- Thailand

<http://www.siani.se/expert-groups/higher-education-sustainable-agriculture-hesa-southeast-asia/resources>



SIANI
Swedish International Agricultural Network Southeast Asia

**Higher Education for Sustainable Agriculture:
Working for food and nutrition security in the Philippines**

Policy Brief
March 2016

This Policy Brief describes the state-of-the-art in agriculture education in the Philippines, provides an overview of the environmental concerns linked to agriculture in the country and the implications for higher education, and makes recommendations on how to resolve national agro-environmental issues and improve higher education in order to increase the sustainability of agriculture. The Brief contains recommendations by the SIANI Higher Education for Sustainable Agriculture (HESA) Philippines Experts Group, made at a two-day dialogue and 'write-shop' held at the University of the Philippines, Diliman Campus, on 22–23 July 2015.

Background and Rationale

Higher education institutions in the Philippines must undertake better research, improve their teaching and support enhanced extension services in order to provide a more effective response to the many environmental and agriculture- and development-related concerns in the country. The current state of higher education is not adequate to the task of addressing the many environmental, economic and social problems associated with mainstream approaches to industrial agriculture. The Philippines faces many complex global and national environmental problems linked to its agriculture.

The widespread and indiscriminate use of chemical fertilizers, hybrid seeds and pesticides, for example, leads to various environmental and health-related hazards and socio-economic problems. Worldwide food and agricultural trends are exacerbating the global ecological crisis. It has been estimated that 66 per cent of greenhouse gas emissions are linked to food production. Soils are also being degraded and eroded or made more acidic, decreasing the supply of nutrients for crop uptake. Farmers must then apply more fertilizers and pesticides to maintain or increase yields, while pests develop resistance. Pesticide residues in the food chain and ecosystem also threaten human health, ranging from increased incidence of cancers to food poisoning. Not all such health problems can be attributed to agriculture alone, but some correlations to various types of disease are suggestive. There is substantial evidence of well documented problems, such as the ingestion of toxic pesticides in food in the Philippines and elsewhere in Asia.

As the population of the world increases, the amount of grain being grown per person is declining. The Green Revolution of the 1960s was a package of technological innovations designed to increase agricultural yields. It consisted of the use of high yielding varieties, fertilizers and pesticides, and was initially focused on rice growing in the humid tropics of Asia in order to address a predicted rice shortage. The strategy was later expanded to all crops, including aquaculture. Agricultural crop and livestock yields increased, averting 'Malthusian' concerns about an impending food crisis.

Today, however, at least 800 million people still go hungry, and about 150 million children under the age of five are severely undernourished. Such problems could intensify if the world population increases as predicted from the current 6.7 billion to 9.2 billion by 2050.

At the same time, the widespread adoption of sustainable agricultural practices in the Philippines, across the ASEAN region



Winnowing Rice by Hand – Rice Preparation in Philippines. Photo by Doreal Beckham via Flickr CC BY-NC-SA 2.0

and worldwide could help to increase resilience to climate change and improve climate change mitigation and adaptation measures. It is essential to promote and support truly sustainable agriculture based on local soil and climate conditions, as well as local traditions and culture. Agro-ecological systems and practices should reflect these too.

However, a shift to sustainable agriculture will require local government entities, community-based family farms and cooperatives to have access to more information, and better education and communication on sustainable agriculture, as well as support to get access to technology and best organic farming and manufacturing practices. There is also a need to operationalize comprehensive agricultural extension and training support services for small-scale family farms.

The Need for a Response from Higher Education Institutions

In response to such environment, health, and agriculture-related development challenges, the SIANI Higher Education for Sustainable Agriculture (HESA) Philippines Experts Group held a two-day dialogue and write-shop in July 2015. The dialogue was facilitated by SIANI-HESA and the Food Security in Southeast Asia Experts' Group Project. The dialogue aimed to ascertain the status of courses on sustainable agriculture and food security in higher education institutions (HEIs) and state universities and colleges (SUCs) across the Philippines.

SIANI.se



ASEAN Technical Workshop REPORT

6-7 Dec 2017, Jakarta

ASEAN Technical Meeting and Multi-Stakeholder Policy Dialogue on Higher Agriculture Education, Research and Extension (ASEAN-HAERE) for Food Security and Sustainability in Southeast Asia. 6-7 Dec 2017, ASEAN Secretariat Jakarta

Report available at: <https://www.siani.se/publication/asean-haere-workshop-report/>



SUMMATIVE REGIONAL WORKSHOP: *Scaling-up Agroecology in ASEAN Higher Education to Meet SDGs and Ensure Climate Resilience*

Hosted by Maejo University, Chiang Mai, Thailand 26-27 June 2019

Main Co-sponsors: ALiSEA: Chula; OHEC; SEARCA and UNESCO

SUMMARY REPORT Available at <https://ali-sea.org/online-library/>



SUMMARY of Main Chula-HESA Networking Activities and Outputs with Academic Plus Partners (2015-2020)

Participants and Hosts to various national or regional events (2015-2020)

- At least 500 individuals (academics and administrators; farmer representatives, agricultural research centers; government officials, NGOs, UN agencies, and regional organizations)
- National Workshops or Regional conferences co-hosted by institutional partners in 7 Southeast Asian countries (Cambodia; Laos, Indonesia; Myanmar, Philippines, Thailand; VietNam)

Main Donors and Contributing Cosponsors (over 5 years):

- Agroecology Learning alliance in South East Asia (ALiSEA)
- Asia-Pacific Association of Agricultural Research Institutions (APAARI)
- Association of Southeast Asian Nations (ASEAN) Secretariat, Jakarta
- Chulalongkorn University (various academic units and project grants)
- Maejo University (MJU), Thailand (with) ASEAN Agriculture Universities Network (AAUN)
- Office of the Higher Education Commission (OHEC) Thailand
- Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA). Swedish International Agriculture Network Initiative (SIANI) – Sida with Stockholm Environment Institute (SEI)
- United Nations Educational, Scientific and Cultural Organization (UNESCO), Bangkok
- University of the Philippines, Los Banos

Main Outputs: Various Conference Proceedings, Reports, Policy Briefs and Academic Publications

Results: A loose (but not funded) academic network of individual experts and institutional partners on Higher Education for Sustainable Agriculture (HESA) and Food Systems across Southeast Asia



WORKING ASSUMPTION(s):

Mainstreaming Agroecology and Sustainable Food Systems in Academia Building on Traditional University Pillars

Working Assumption: Effective mainstreaming of Agroecology and SFS in Academia requires significant (long-term) institutional reform and strategic planning

Academic Reforms ideally should build on Traditional Foundations (**Common Pillars of Universities world-wide**) to enhance Agroecology Knowledge uptake and Impacts through:

- 1. **Curricula (and Teaching);**
- 2. **Scientific Research;**
- 3. **National and Campus policies;**
- 4. **University-based Extension; and**
- 5. **Institutional Assessment Research with Sustainability Reporting for SDGs**

Source

Nelles, W. and Ferrand, P. 2021. ***Mainstreaming Agroecology in Southeast Asian Higher Education for SDGs: Challenges, Opportunities and Policy Options. Policy brief #3.*** Bangkok: Food and Agriculture Organization of the United Nations, Regional Office Asia-Pacific; and Chulalongkorn University (**IN PRESS**)



PILLAR 1 – Curricula, Learning Resources and Teaching for Agroecology/SFS - Core Themes/Challenges

- **Typical AE/SFS curriculum** can include learning about Agroforestry, Organic Agriculture, Conservation Agriculture; Integrated Pest Management or Integrated Crop Management; System of Rice Intensification and allied approaches.
- **Critical thinking** and **problem-solving skills** are needed while learning AE content specialized theory and technical knowledge in agriculture or food systems studies.
- **AE/SFS values, content** and **perspectives** should be mainstreamed/integrated across other disciplines, research fields, and courses such as rural sociology, anthropology, engineering, business, education, politics, law, indigenous studies, gender studies, medicine, health policy, sustainability science/environmental studies, agronomy, mathematics, genetics, biology and more
- **AE/SFS competencies** and **skills** should help students find or create decent **green agriculture or food system jobs** to genuinely serve rural and indigenous communities while protecting ecosystems



PILLAR 2 - Scientific Research on AE Evidence, Partnerships and Learning

- **Multidisciplinary research** needs to better **inform critical debates** on how to “feed the world” and address AE critics conducting/synthesizing studies presenting reliable evidence on how AE can facilitate sustainable food systems (SFSs)
- **Social and sustainability sciences** need strengthening in agriculture research to achieve SDGs and scale-up AE
- **Scientific methodologies** should especially **include participatory AE research** with rural communities, indigenous peoples, peasant organizations, family farmers, women’s groups, youth or students, and others.
- **Scientific methodologies** should **prioritize** understanding **traditional knowledge systems, social-ecological relationships, and diverse learning processes** to inform **evidence-based policies** that encourage HEI reforms enabling AE transitions for SFS



PILLAR 3 - National and Campus Policies - (Enabling AE for SFS Transitions)

- **Enabling policies and budgets** (national and campus-specific) for AE mainstreaming in HEIs are essential to counter or mitigate adverse effects of the currently unsustainable agri-food system.
- **New AE/SFS education investments** are vital to address multiple challenges on and off campus
- Many issues need **policy support** to incentivize study and innovation to better design, promote **and strengthen AE/SFS alternatives** (particularly at field and rural community levels)
- Clearly defined and **incentivized (funded) policies** can help empower AE and scaling-up best practices in new curricula, faculty teaching, research, campus sustainability in food services or procurement, extension services and more



PILLAR 4 - University-based Rural Extension, Farmer Services and AE Evidence

- The classic Tripartite University Mission is **Teaching, Research** and **SERVICE**.
- (But) **historically HEIs have grown to be urban-centric** (unless mandated national agriculture colleges or universities) and have not well served rural communities
- A **weakened public extension sector** and privatization encourages agrochemical dependency and inadequate public investments in independent science or farmer extension services for AE/SFS alternatives
- The **SERVICE Mission of universities needs strengthening** to better support sustainable agriculture, rural youth or farmers for AE and SFS
- A new *Tool for Agroecology Performance Evaluation, TAPE* developed by FAO can help **build evidence and collect data to encourage new knowledge co-creation with farmers** on sustainable agriculture and multi-dimensional values of AE



Pillar 5: Institutional Assessment Research (with Sustainability Impact Reporting to achieve SDGs)

- **Data needs to be systematically collected** on AE curriculum, learning resources, policies, enrollments and extension services including impacts on student career choice, communities, labour markets and society
- Comparative AE data can be used as **evidence to inform academic administrators, policy makers, and curriculum developers.**
- **Educational, science and technology priorities for AE** by governments and international agencies need to be a priority in public investments and budgets.
- Some work has also begun among HEIs to study and **assess their progress on implementing Sustainable Development Goals (SDGs)** including University Impacts
- (But) We need to better gather and analyze relevant **AE data from HEIs to inform evidence-based policy dialogues** encouraging innovations and reforms in national public education, science and technology policies and budgets to achieve SDGs



Practical Contexts and Challenges for Mainstreaming AE for SFS in Academia while Planning a Regional Network

Practical Contexts/Issues

- **Universities (and other HEIs) are independent bodies** with chartered mandates with historical traditions, and unique decision-making processes and bureaucratic structures implicating all FIVE PILLARS: Curricula/Teaching, Research, Policies, Services, and Reporting
- **Clarification of Objectives/Goals Needed** for a Network, especially and specifically on **university roles** in AE/SFS leadership, reform and impact Assessments for their own institutions
- **Importance of integrating Agroecology and Food System transformation goals in University Core Missions, Mandates, Policies, Planning processes and Budgets**

Governance and Membership

- How can a **University Agroecology/Food Systems Network function uniquely and independently for academic purposes, AND** include other research institutions, learning NGOs, farmer alliances, regional or international agency partnerships?



Preliminary Recommendations For Southeast Asia

(Adapted Summary from Chula-FAO Policy Brief 2021)

1. **DEVELOP** a Regional agroecology (AE) learning and research strategy for sustainable transformation of the Southeast Asian agri-food system linked to SDG outcomes
2. **SURVEY/DOCUMENT** agroecology and SFS activities of Higher Education Institutions (HEIs)
3. **SYNTHESIZE/UTILIZE RESULTS** of empirical evidence about multiple values of agroecology and mobilize FAO's new *Tool for Agroecology Performance Evaluation (TAPE)*.
4. **MONITOR/EVALUATE** agroecology policies, programs, curricula, research agendas and farmer-scientist partnerships and activities among the 6000 plus HEIs of the ASEAN region
5. **CONVENE** multi-stakeholder Evidence-based Policy Dialogues on the multi-disciplinary scientific bases for agroecology
6. **FACILITATE** AE transition and upscaling plans for the HEI sector in Southeast Asia based on 5 pillars: Curricula; Research; Extension; Policies; and Sustainability Assessments/Reporting
7. **PILOT** a Common AE Curriculum with ASEAN for selected HEIs including an introductory Massive Online Open Course (MOOC) for Southeast Asia
8. **DESIGN/LAUNCH** an updateable online, open-source data-base of AE Education and research
9. **PUBLISH** a high quality, evidence-based, peer-reviewed technical-analytical *Report on the State of Agroecology Research, Learning and Extension in Southeast Asian HEIs*
10. **ESTABLISH/GROW** a new *Southeast Asian University Network on Agro-ecological Transitions*.
(with Farmer, NGO, International Agency, Research organization and other Partners)

SOURCE: Nelles, W. and Ferrand, P. Nov 2021. *Mainstreaming Agroecology in Southeast Asian Higher Education for SDGs: Challenges, Opportunities and Policy Options*. Policy brief #3. Bangkok: FAO and Chulalongkorn University (IN PRESS)



Some Discussion Points on Next Steps: Establishing/Growing a University (Plus) Network on AE and SFS?

- 1. OBJECTIVES.** What would be priority objectives of an Academic Network on Agroecology and Food Systems (e.g. information sharing, curriculum development, capacity building, policy dialogue, collaborative research, advocacy, etc.)?
- 2. SECTORAL RELEVANCE.** Could a distinct University or HEIs Network be an independent academic body or sub-group, or working committee of a broader multi-sectoral alliance?
- 3. CHALLENGES/OPPORTUNITIES.** What are main challenges and clear opportunities for building an academic network to include/engage non-academic partners (e.g. farmer groups, agriculture research organizations, international agencies, etc.)?
- 4. FUNCTION.** How would a new Network function (online platform, technical workshops, working groups, thematically focused discussion meetings, etc.)?
- 5. GOVERNANCE.** How would a Network be organized, moderated and coordinated (host-lead organization and/or more diversified responsibilities for sub-committees, etc.)?
- 6. FINANCE.** What donors/funding resources or partnership models/membership structures could support Resource Mobilization and long-term, sustainable financing of a network?
- 7. OTHER ????**

