Challenges and Opportunities for a University Network on Agro-ecological/Organic Farmer Extension Services in ASEAN

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Presentation to Regional Symposium on:
Mapping and Assessing University-based Farmer Extension Services in ASEAN through an Agro-ecological/Organic Lens

Chulalongkorn University, Auditorium
23 February 2017

OVERVIEW

1. **PROTO-NETWORK BEGINNINGS: Chulalongkorn University led (Sida funded) *Higher Education for Sustainable Agriculture (HESA) and Food Security in Southeast Asia Project.* - Results, Lessons & Extension Recommendations**

2. **PROTO- NETWORK GROWTH & FOCUSING: New ASEAN Regional Extension Research Project (underway June 2016 – May 2017) with partners**

3. **POTENTIAL SYNERGIES & FOLLOW-UP COLLABORATION WITH OTHER NETWORKS or MOVEMENTS (Agri-food Systems: ALISEA: GFRAS/MELA, AUN Agriculture Sufficiency Economy, Asia Pacific Agricultural Extension and Outreach Network (APAEON), ASEAN Social & Sustainability Sciences, etc., and General Social and Sustainability Sciences)**

4. **GLOBAL RATIONALE & MANDATES for a SPECIALIZED ASEAN RESEARCH & CAPACITY STRENGTHENING NETWORK on *University-based Agro-ecological/Organic Farmer Extension Services* (build on synergies with FAO, UNESCO, UNEP, UNU, SDGs and more)**

5. **CONCLUSIONS & RECOMMENDATIONS (further discussion in *SESSION FIVE*: Roundtable Reflections and Follow-up Action)**

1. PROTO-NETWORK BEGINNINGS:
Chula-led South East Asia Higher Education Project

1. Higher Education for Sustainable Agriculture (HESA) and Food Security in Southeast Asia

SIANI- Sida Project (2015)

WHY HESA?
Universities are Part Problem (and Solution) to Sustainable Agriculture and Food Security (Globally & in ASEAN)

Universities (and Rural/Farmer Extension) Systems - PROBLEMS or SOLUTIONS?

- **Universities** have largely supported an unsustainable industrial, agri-food system or even more directly **inhibited Sustainable Agriculture** (SA)

- They have not adequately served rural communities or small-holder farmer needs

  "While **higher agricultural education (HAE)** has contributed to the growth and modernization of production agriculture, it **has often failed** to adjust its curricula…to respond to the changes affecting agriculture and the rural space….(but) **Universities can potentially make a greater contribution to the prospects of depressed, relatively neglected rural communities**" (Atchoarena and Holmes, 2004 pp. 15, 23).

References

Atchoarena, David and Keith Holmes. 2004. "**The Role of Agricultural Colleges and Universities in Rural Development and Lifelong Learning in Asia**." *Asian Journal of Agriculture and Development,* Vol. 2, Nos. 1&2, pp. 15-24.

Ison, Raymond L. 1990. ***Teaching Threatens Sustainable Agriculture*.** Gatekeeper Series no. 21. London: International Institute for Environment and Development (IIED).

CHULA ASEAN PROJECT (2015)
Higher Education for Sustainable Agriculture (HESA) and Food Security in Southeast Asia

PROJECT - "SIANI Expert Group on Higher Education for Sustainable Agriculture (HESA) in Southeast Asia"

DONOR: Swedish International Agricultural Network Initiative (SIANI) with funding from the Swedish International Development Cooperation Agency (Sida)

HOST/COORDINATOR: Chulalongkorn University School of Agricultural Resources (CUSAR)

OVERVIEW

> "This group will assess challenges, capacities, best practices and policy options on Higher Education for Sustainable Agriculture (HESA) in the Association of Southeast Asian Nations (ASEAN) region while exchanging knowledge, and exploring interdisciplinary curriculum reform, teaching and **research-extension** needs as a contribution to **strengthening regional poverty reduction, food/nutritional security and environmental protection**."

ACTIVITIES

- National Consultations & Academic-Government Dialogues
- Laos, Philippines and Thailand - pilot countries
- "Write-shops" & Policy Brief Drafting

WEBSITE (Home Page) www.siani.se/expert-groups/hesa (See "***Resources***" page, with Document Repository)

LAOS, PHILIPPINES & THAILAND
3 Pilot Studies 2015/Policy Brief 2016 Publications

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 Initiative

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 56 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 Daniel Peckham 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

UNIVERSITY-Based RURAL EXTENSION SERVICES
SE Asian Needs/Policy Recommendations (from HESA 2015 Project)

UNIVERSITY RURAL EXTENSION SERVICE HESA PROJECT RECOMMENDATIONS

1. **LAOS**
   - New type of agricultural extension worker/needed (Practice-, market- business-oriented)
   - A pilot project called for on vocational training for sustainable agriculture

2. **PHILIPPINES**
   - Need to operationalize comprehensive agricultural extension and training support services for small-scale family farms
   - Strengthening university-farmer partnerships can help Farmer-led, scientist-supported and community-based technology transfer for improved farm productivity
   - Combine modern science/technology with farmers' traditional knowledge and experiential learning
   - Extension activities must be given workload credits on par with instruction and research.
   - Universities need to conduct extension services in their respective agro-ecological zones.

3. **THAILAND**
   - improved documentation is essential to help better **assess** existing **capacities** and new **needs** of sustainable agriculture programmes, curricula and research
   - Knowledge and understanding are needed on how to implement **sustainable agriculture** policies and curricula by Thai scholars and universities or their **extension services**
   - **Self-interest or pursuit of profit**, instead of prioritizing community well-being… adversely **affect** farmers' knowledge and the provision of **extension services**
   - More **systematic study** of **sustainable agriculture** teaching, as well as of the research and service provision by universities and colleges in Thailand, could **guide** curriculum reform, research and improvements in **extension service**

2. PROTO- NETWORK GROWTH & FOCUSING:
New ASEAN Extension Research Project (June 2016 – May 2017)

2. PROTO- NETWORK GROWTH & FOCUSING:
New CUSAR-led ASEAN Regional Extension Research Project (underway June 2016 – May 2017)

New Chula ASEAN Extension Research Project (June 2016 – May 2017)

New Project (June 2016 - May 2017)

- UNISEARCH Fund "ASEAN Cluster" Project initially approved ***"Mapping and Assessing University-based Farmer Extension Services in ASEAN through an Agro-ecological/Organic Lens"*** (with AliSEA, UNESCO and ASC supplementary support including various types of matching support from national partners)

- **FOCUS:**

  > Tier1: Indonesia, Laos, Philippines, Thailand and Viet Nam (to begin) and
  > Tier 2 Cambodia, Malaysia and Myanmar (with additional funding)

(Project NOW represents scholars from 8 countries with strong agriculture economies, 8 to 35 % GDP variously among ASEAN member states)

National & Regional Extension Research Workshops and Activities with Partners (2016-2017 Schedule)

Extension Research Project Workshops

- **Viet Nam** (16 June 2016 Workshop) Hosted by International Center for Tropical Agriculture (CIAT/CGIAR) Asia Regional Office, Hanoi
- **Philippines** (7 July 2016 Workshop) Hosted by University of the Philippines Los Baños (UPLB);
- **Laos** (14 July 2016 Workshop) Vientiane hosted by ALiSEA/GRET
- **Indonesia** (21 July, 2016 Workshop) Hosted by Bogor Agricultural University,
- **Thailand** (24 August, 2016) Hosted by CUSAR/Chula Bangkok
- **Viet Nam** (13 Dec 2016 Workshop Can Tho University (Southern Viet Nam)
- **Cambodia** (21 Dec 2016) Royal University of Agriculture (RUA), Phnom Penh, workshop
- **Myanmar** (25 Jan 2017) Yezin Agricultural University (YAU), Naypyitaw workshop

Regional Research Workshop (23 Feb 2017), Bangkok

- Hosted by CUSAR/Chula co-sponsored by UNISEARCH, ASC, AliSEA and UNESCO
- Reporting from National Workshops, Surveys & Data Exchange from all national meetings or follow-up studies (from focal point teams an others)
- Papers (on national surveys and analysis) to be presented/published in Proceedings

Planned Outputs

Planned Project Outputs:

- Edited book of Eight National Case Studies with other regional or theoretical papers (23 Feb 2017 Symposium proceedings & possible peer-reviewed book)
- Policy Brief - 1 – Summarizing Key Themes/Recommendations from Case Studies
- Journal Article – 1 submitted for peer review (in SCOPUS-indexed publications)

TARGETED OUTCOMES & RESULTS
(Realistic? Or Desired/Hoped for)

Desired Outcomes and Results Expected (from Process and Outputs)

- Preliminary **Baseline Data** on University-based Extension Services in ASEAN countries

- **Useable Knowledge**/Empirical Evidence (of capacities, programs and issues) to better Inform Policy dialogue, reforms, and curriculum development. This can also aid national SDG reporting (based on project defined indicators and measurable results)

- **Potential for Practical reforms** or Strengthening/Scaling-up of existing OA/AE Knowledge, planning documents and budgets for Post-Secondary Extension Services

- **Planning** realistic (and newly funded) larger national and regional **projects**

- Institutional and knowledge **Reforms** leading (eventually?) to **development Impacts:**

    1. Reduced use of (unnecessary) agrochemicals by farmers and harm to environments
    2. Cost savings by governments and farmers (due to fewer external inputs or health costs)
    3. Safer, Healthier and more food secure communities and consumers
    4. Increased incomes in farm communities through sales of higher value OA/AE products.
    5. Stronger university-farmer research partnerships and knowledge exchanges through improved extension services in local communities and agro-ecologies

3. SYNERGIES & COLLABORATION WITH OTHER REGIONAL NETWORKS or MOVEMENTS

3. POTENTIAL SYNERGIES & FOLLOW-UP COLLABORATION WITH OTHER NETWORKS, MOVEMENTS or PROCESSES

(Agri-food Systems Specifically and Social/Sustainability Sciences Generally)

ASEAN or Asia-Pacific Regional Agri-food Systems Education & Extension Research Projects, Networks or Institutions

PROJECTS (Proto-Networks)

- Swedish International Agricultural Network (SIANI) – which supported CUSAR's HESA Southeast Asia Pilot Project, 2015
- "Mapping and Assessing University-based Farmer Extension Services in ASEAN through an Agro-ecological/Organic Lens" (CUSAR- Chula based), 2016-2017

EXISTING NETWORKS (Mostly informal, semi-formal or loose alliances)

1. ASEAN Agriculture University Network (AAUN), founding meeting (22 Feb 2017) Maejo University
2. Agroecology Learning alliance in South East Asia (ALiSEA)
3. Asia Pacific Agricultural Extension and Outreach Network (APAEON), founded by APAARI
4. Global Forum for Rural Advisory Services (GFRAS) with Asia Pacific Island Network for Rural Advisory Services (APIRAS) sub-regional grouping, based at UPLB
5. Mekong Extension Learning Alliance (MELA)
6. Others (informal or formal ???)

MEMBERSHIP INSTITUTIONS or AGENCIES (NGOS, Regional/Intergovernmental)

- Asia Pacific Association of Educators in Agriculture and Environment (APEAEN);
- Asian Association of Agricultural Colleges and Universities (AAACU), based at UPLB
- SEAMEO- SEARCA (RMEegional Center for Graduate Study and Research in Agriculture) A Center of Excellence since 1965/1966

<u>Social and Sustainability Sciences</u> Projects/Networks (including Agri-food Systems Researchers/Educators)

PROJECTS

- ***ASEAN Work Plan on Education, 2016-2020.*** **PROJECT. 45.** "Conduct multi-disciplinary research on social and sustainability sciences …including analyses of significant policy implications for governments."
- **Sub-Project 5.1:** ***Report on State of Social and Sustainability Sciences in ASEAN***

NETWORKS (Semi-Institutionalized)

- Global Universities Partnership on Environment for Sustainability (**GUPES**) under UNEP
- Promotion of Sustainability in Postgraduate Education and Research Network ("**PROSPER-Net,"** under UNU auspices)
- Planned Establishment of an ***ASEAN Scholars Network on Social and Sustainability Sciences*** (under ***ASEAN Work Plan on Education, 2016-2020***)

INSTITUTIONS

- Social Science and Science Research Councils (various names/types in some ASEAN States)
- Other Government, Academic and Research Organizations (links to be elaborated)

4. GLOBAL RATIONALE & MANDATES
for a NEW NETWORK

4. GLOBAL RATIONALE & MANDATES for a NEW SPECIALIZED ASEAN RESEARCH & CAPACITY STRENGTHENING NETWORK on *University-based Agro-ecological/Organic Farmer Extension Services* (linked to FAO, UNESCO, UNEP, UNU, SDGS and more)

New global Sustainable Development Goals (SDGs), *2015-2030*

SDGs, *2015-2030*

- **New (post 2015) Contexts for our current study about university based agriculture extension and research (with OA/AE focus)**

- **17 new *Sustainable Development Goals (SDGs)* with 169 targets** (agreed to in 2015 by UN and Member States) and **230 (preliminary) Indicators**

Reference

United Nations General Assembly (UNGA). 21 October 2015. ***Transforming our world: the 2030 Agenda for Sustainable Development***, A/RES/70/1. Resolution adopted by the General Assembly on 25 September 2015.

United Nations Economic and Social Council (UNESC). 19 February 2016. ***Report of the Inter-Agency and Expert Group on Sustainable Development Goal Indicators****. Note by the Secretary-General,* E/CN.3/2016/2/Rev.1*,

SUSTAINABLE DEVELOPMENT KNOWLEDGE PLATFORM

stainable Development Goals

RANSFORMING OUR WORLD:
HE 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT

Sustainable Agriculture (SA), Research and Extension in new SDGs

Sustainable Agriculture (SA) in new SDGs

Zero Hunger SDG 2

- SDG 2 - "End hunger, achieve food security and improved nutrition and **PROMOTE SUSTAINABLE AGRICULTURE**"

- 2.a **INCREASE INVESTMENT**, including through enhanced international cooperation, in rural infrastructure, **AGRICULTURAL RESEARCH AND EXTENSION SERVICES**, technology development and plant and livestock gene banks in order to enhance agricultural productive capacity in developing countries, in particular least developed countries

But…

- **SDGs do not define sustainable agriculture** (SA) so interpretation, application and assessment of SA is subject to abuse and leads to conflicting approaches, outputs and impacts

- **SDGS DO NOT MENTION ORGANIC AGRICULTURE** (OA) or **Agro-ecology** (AE) at all, so many governments do not view OA or AE as a strategic priority - OA remains a marginalized Niche

SDG 4 Education
(Higher/Tertiary References)

SD4 re Tertiary Education

- Goal 4. **Ensure** inclusive and equitable **QUALITY EDUCATION** and promote lifelong learning opportunities for all

- SDG 4.3 By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and **TERTIARY EDUCATION**, including university

- 4.b By 2020, substantially expand globally the number of **scholarships** available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in **HIGHER EDUCATION**, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries

But…

- **No mention of farmer extension** or agriculture education **or university roles** in SDG 2 or SDG 4 (yet significant needs and **cross-cutting issues/practical challenges** exist)

- **SDG 4 is weak** in addressing **agriculture/food education, research and farmer extension**, or broad complex, urgent agro-environmental/development challenges implicated in other SDGs

Asia-Pacific Agro-Ecological Research, Education & Extension Challenge – (FAO 2015 Conference Recommendations)

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. This should recognize and value the important Agroecology work ongoing in government and civil society and social movement Farmer Field Schools, and build on that foundation to further develop, **strengthen and upscale Agroecology**….

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,

- 15) **Recognize, support and document producers' knowledge**. For this, **a new research and extension paradigm is necessary, …**

Reference

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

5. NEXT STEPS & CONCLUSIONS

5. NEXT STEPS & CONCLUSIONS

Preliminary Thoughts on *a New University Network on Agro-ecological/Organic Farmer Extension Services in ASEAN*

Next Steps/Challenges and Opportunities

1. **Synthesize** and summarize research results and recommendations from CUSAR-Project and Symposium authors into usable, actionable and applied knowledge for university administrators and academic institutions in ASEAN

2. **Enhance** Synergies across existing and planned Networks to Insert OA/AE Education and Extension Research Recommendations and Expertise into Policy and Planning Processes (with ASEAN Secretariat, Committees and Member States)

3. **Collaborate** across existing and planned Networks to Insert OA/AE Education and Extension Research Recommendations and Expertise into Policy and Planning Processes (with ASEAN Secretariat, Committees and Member States)

4. **Scale-up** and **Mainstream OA/AE** Education and Extension Research and capacity strengthening by addressing SDGs (and gaps) with Monitoring/Evaluation expertise

5. FINAL CONCLUSIONS & RECOMMENDATIONS

5. Further discussion encouraged in afternoon *SESSION FIVE*:
Roundtable Reflections and Follow-up Action)

END

Thank you