“STRENGTHENING UNIVERSITY-BASED FARMER EXTENSION SERVICES IN SOUTHEAST ASIA FOR AGRO-ECOLOGICAL KNOWLEDGE & IMPACTS: Preliminary Lessons from a New Research for Development Initiative”

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Global Conference on Agricultural Research for Development (GCARD) SOUTH AFRICA

GCARD 3: Theme 1 Session – “Scaling up from Research to Impact”

8 April 2016
OVERVIEW

1. Global/Theoretical and CGIAR Contexts - Problems

2. South East Asian (regional) & ASEAN Contexts

3. Thai Extension Services, Chulalongkorn University Research, Bangkok) – Case Study (Problem Example)

4. Other Recent Activities/Outputs (Sida funded HESA – Project)

5. New ASEAN Regional Extension Research Project planned (underway 1 May 2016 – 30 Apr 2017) – 5 to 8 Countries partners invited
1. Problem Introduction
(Global-Theoretical-Ecological-CGIAR & OA/AE Extension-specific)

1. Introduction
CGIAR Capacity Development Framework (in the SRF)

CGIAR Perspectives/Assumptions on Capacity Development

• **Capacity development** is a **strategic enabler of impact** for both CGIAR and its partners...

• Stronger academic institutions in low-income countries enables CGIAR to concentrate on **developing capacity for strategic** and **translational research** in relevant fields...

• CGIAR can further leverage its capacity development by strengthening whole organizations and institutions, not just individuals.

• Significant institutional **changes are needed within CGIAR** as well as in our relationships with our partners (pp. 24-25)

Reference

CGIAR Consortium. nd./2015 approx. *CGIAR STRATEGY AND RESULTS FRAMEWORK 2016-2030 Redefining how CGIAR does business until 2030*: Montpellier, France CGIAR
Why discuss “Capacity” Issues?/What is Capacity strengthening research?

• **Capacity** a major **limiting factor** in **failed development** programs and initiatives

• **Capacity strengthening research** can contribute to better understanding pathways through which capacity strengthening improves the quality and performance of the various institutions

• **RESEARCH-based information** on how to strengthen capacity in developing countries **SEVERELY LACKING** (Babu and Sengupta, 2006)

Reference


International Service for National Agricultural Research (ISNAR) Division, Washington, IFPRI.
Simple Premises/Assumptions (2)

Extension Research is Capacity strengthening research

Basic Assumption (CGIAR) “Element # 9: Research on capacity development”

• ...to develop more effective approaches to capacity development, activities should involve research on lessons learned... to improve the achievement of outcomes... (p.13)

Reference

CGIAR Consortium. 2015. *Capacity Development Indicators for the second phase of CGIAR Research Programs*, November 18, 2015

Contexts/Rationale for Chula Project/Paper

• Research about university-based extension services (this project) is essentially “Capacity strengthening research” (sometimes CGIAR-linked, sometimes Not)

• Social and Educational Research (about Post-Secondary Extension Services) is needed to
  - better understand Learning/Knowledge content, processes, gaps and capacities
  - Document and evaluate adoption/impact Pathways for Sustainable Development
Simple Premises/Assumptions (3)  
(Strengthening how/what in University-Based Extension services?)

Introduction/Premise(s) – UNIVERSITY KNOWLEDGE is (poorly understood) **POWER**

- **Research about Extension** Objectives, Content, Capacities and partnerships essential to study types of science or knowledge valued, delivered, learning effectiveness, application, etc.

- New Research can help define Post-Secondary indicators (for AE/OA in Sustainable Development Goals (**SDGs**)

- New Research can help **document** and **assess processes, outcomes and impacts** with university teachers, extension agents, farmers and other stakeholders or delivery/implementation partners (agronomic, social, economic, environmental, etc.)

- Institutional capacity strengthening (universities/other Post-secondary) can focus on lessons learned to assess/improve **Organic/Agro-ecological knowledge**, curricula and its application

**Targeted Development Outcomes/Impacts**

- **Organic/Agro-ecological knowledge** in University-based extension can bring associated health, ecological, social, community and economic **BENEFITS** cutting across many SDGs
WHY?  Note Trade and Environment Review (e.g.)  
(UNCTAD, 2013)

*Wake up before it is too late: Make agriculture truly sustainable now for food security in a changing climate* (Calls for RADICAL change in Global Food & Agriculture System toward more ORGANIC/SUSTAINABLE approaches)

- **Questions:**
  1) How Is the AR4D community and CGIAR Responding?
  2) Do the new SDGs convey this message?
  3) Are (university-based) EXTENSION SERVICES adequate to the challenge?
Two Key UNCTAD Messages (among others):

- ....The **world needs a paradigm shift in agricultural development**: from a “green revolution” to an “**ecological intensification**” approach...

- ....in pursuing a fundamental transformation of agriculture, one should take into account systemic considerations...in particular...the **need for a two-track approach** that **drastically reduces the impact of conventional agriculture**, on the one hand, and **broadens the scope for agro-ecological production methods** on the other…” (UNCTAD, 2013, p. i).

Reference

Conceptual-Definitional Challenges
(Problematizing SDGs, “URGENCY” & SA education/extension)

BASIC ISSUE/CONCERN: Need to Define and Problematize Sustainable Agriculture (SA) and education/research about SA in global Sustainable Development Goals (SDGs), 2015-2030.

NO URGENCY in SDGs or clear call for a PARADIGM SHIFT toward SA or sense of what this implies

• SDG 2 “End hunger, achieve food security and improved nutrition and promote sustainable agriculture” does not define SA and targets are vague:
  • “2.a Increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and EXTENSION SERVICES....”

• SDG 4 “Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all” calls for (target 4.7) to promote “education for sustainable development” but DOES NOT mention agriculture education, training or research

Premise/Assumptions (If we want adequate impact)
• Need to better define SA with agro-ecological (AE) sub-targets and indicators
• Need to link SDGs 2 & 4 (education/farmer extension & AE/OA education extension research
• Need new Research (Educational/social & Agricultural) to demonstrate SDG 2/4 links, define indicators and assess if/how extension services (university-based and others) meet SDGs
Some Related Policy Debates/Recommendations for (Agroecological) SA (& EXTENSION EDUCATION)

Policy goals

• Increase food production sustainably, while minimizing negative impacts on the environment and farmers, particularly poor producers and women.
• Provide farmers with knowledge (i.e. through EXTENSION) about a basket of options....
• Increase funding for bottom-up, farmer agricultural research and development that combines the benefits of modern science with those of traditional knowledge.

Policy options

• Reorientation of agricultural research aims (Alternative methods to intensify production that are sustainable and equitable with a holistic farming systems approach
• Greater information and research on agro-ecology and traditional agriculture (in education institutions and EXTENSION SERVICES)
• Better agricultural research methods of carrying out (toward interdisciplinary)
• Governments and development agencies should implement policies that encourage and support the application of or conversion to agro-ecology

Reference

Empowering Education/Research and Policies for Improved OA/AE Learning, Practices and Farming Systems

Selected UNCTAD-UNEP Recommendations for OA/AE Education/Research support:

• 26. **ORGANIC EXTENSION SERVICES need to be established** and the staff trained. Organic extension should be developed and implemented in a participatory manner and have the farm and the farmer as the centre of attention.

• 27. Traditional **knowledge** about pest control treatments et al. should be surveyed and brought into the **extension service**.

• 32. **Organic agriculture should be integrated into the curriculum** for primary and secondary schools. Specialized institutions involved in training... should be supported. Higher education in organic agriculture should be developed.

• 33. **Special research programmes should be established for organic research**, and the sector should be involved in priority setting. Research and development (R&D) in organic agriculture should be participatory, build on and integrate traditional knowledge (where relevant)... (pp. viii-xiv, 32-35)

University Research-Extension Issues/Challenges – Impact How & for What

Challenges/Debates

• **UNIVERSITIES Roles in Extension are POORLY STUDIED** (inadequate data, lack of technical reports or peer-reviewed publications on institutions, content, partnerships, delivery, etc.)

• CGIAR Foundations (links to universities, research and extension in Southeast Asia) are problematic (Green Revolution, agrochemical, technical expert - vs social, partnerships, organic/agro-ecological)

• Conflict, Limits/Bias of CGIAR re Extension (Science-knowledge Transfer) Top-down, **scientism vs social science** (and historical **lack of support for OA/AE research and extension** approaches). Need to reconcile division and debate (which will also facilitate greater impact)

References


2. South East Asian (regional) & ASEAN Contexts
Number of undernourished and prevalence (%) of undernourishment (Southeast Asia)

2010–12 period (data mixed, some incomplete)

• 72 million undernourished
• 12.1 % of Southeast Asian population
• Variation within and between countries

2014–16 period (Some projected data with provisional estimates) - Improving but.....

• 60.6 million still undernourished regionally
• 9.6 % of Southeast Asian population
• Still variation/inequality within and between countries and urban/rural areas

References

SOFI Report (FAO, 2015)

• **Existing agri-food system** does NOT meet basic subsistence, socioeconomic or health needs (Poverty reduction/Income generation, nutritional) *(795 Million still malnourished* or poor in ASEAN or world-wide)

ASEAN Food Security and Sustainable Agriculture

15 Chapters (several Chula and other authors)

National case studies

• Cambodia, Indonesia, Myanmar, Philippines, Singapore and Thailand

Theoretical and Regional/Comparative (Analytical, Critical Perspectives)

• Asia-Pacific and ASEAN Institutions
• Climate Change
• Civil Society Organizations and Movements
• Education Networks and EXTENSION SERVICES
• Energy
• Green Economy
• Health
• Research Issues

Appendices

• Symposium Report
• Bangkok Declaration
• ASEAN official Documents (Selections)

This book is timely. Its publication coincides with the UN International Year of Family Farming (IFFF) 2014 and it examines the “green economy” mandate from “Rio+20,” the 2012 UN Conference on Sustainable Development with implications for the Association of Southeast Asian Nations (ASEAN). It discusses food, agriculture and forestry which are now “priority integration sectors” for the ASEAN Economic Community (AEC) to be launched in 2015. The focus is on greening agriculture and food systems, a huge and urgent challenge. Agriculture is one of the world’s greatest contributors to environmental problems from agrochemical pollution and water mismanagement to desertification and climate change. But it is also a major employer and economic driver. This book examines policy issues and practical concerns with sustainable alternatives for ASEAN. Chapter authors present national case studies and regional analyses discussing research challenges, critical perspectives, innovations and education initiatives. The Appendix includes reference materials. The book is a resource for university students, teachers, governments, NGOs and international agencies to critically analyze AEC preparations and implementation. It should be useful for teaching and research in ecological and agricultural economics, rural sociology, environment and development studies, sustainable agriculture and many other fields.

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Knowledge to All

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Editors

ASEAN FOOD SECURITY AND SUSTAINABLE AGRICULTURE IN A GREEN ECONOMY
Cross-Sectoral and Interdisciplinary Perspectives
Weakness of Research-Extension linkages for SA 
(in Asia-Pacific and ASEAN)

Asia-Pacific Research and Extension Conference Results (reported) with further Analysis

• Research and extension are not integrated well enough. The extension side often blames research for not being capable of delivering good technologies that farmers need, while the research side... points out the weaknesses of the extension systems...(citing Ballabh 2007).

• Effective research-extension systems are critical for the success of the ASEAN Integrated Food Security (AIFS) Framework, 2009-2013 (p. 383) and its successor

• Most importantly, farmers need to be regarded as clients undertaking their own adaptive research rather than as beneficiaries of final science products (p. 389)

• A paradigm shift (needed) from input-intensive to knowledge-intensive agriculture....The institutional capacity of extension systems thus needs to be better aligned with the change in research focus towards climate-smart agriculture and sustainable practices....” (p.391)

Reference

3. Thai Extension Services 2015 Study
(Chulalongkorn University, Bangkok)

3. Thai Extension Services Study (2015)
(Chulalongkorn University, Bangkok)
Thailand’s Agrochemical (and Land-Degradation) Problem
(Data/statistics reflecting unsustainable agriculture affecting extension)

Thai Agrochemical Data/Statistics with Impacts on Public and Farmers

• Between 1961 and 2004 total inorganic chemical fertilizer use increased more than 100 times, from 18 thousand tonnes in 1961 to 2 million tonnes in 2004.
• Pesticide imports to Thailand more than doubled 1987 to 1996 (from 20,537 to 44,701 metric tons)
• Pesticide imports then again more than tripled from 42,089 tons in 1997 to 137,594 tons in 2009.
• In 2011 tests in Thai supermarkets revealed some produce containing up to 202 times the allowable amount of chemicals by European guidelines
• Herbicide imports and use show the most dramatic increases over the past decade (see table next)
• Thailand has few standards, monitoring or enforcement mechanisms about agrochemical sale/use

Selected References:

Imported Pesticides to Thailand
(with other agrochemicals)

Table Borrowed From:
Deforestation for cash crop (Maize), Nan Province, THAILAND
(especially associated with heavy use of Herbicides)
Agrochemical Dependency:
A major global, Thai and ASEAN concern
(reinforced by Extension Services)

We define “Agrochemical dependency” as:

“The unhealthy, dangerous, toxic and sometimes lethal addiction to, and often abuse of, synthetic agrochemicals (herbicides, fungicides, pesticides and fertilizers) manufactured and sold by private, profit-making corporations, ostensibly for ‘crop protection’ or to increase agricultural yields, incomes and food security.” (Nelles and Visetnoi; 2015)

Implications and Links

• Whether or not, or under what circumstances, agrochemicals are necessary for crop protection or food security is moot (but not debated here).

• However, agrochemical dependency (and its mitigation) as a poorly addressed and contentious policy issue as well as practical problem for Asia and especially for Thai public extension and farmers

Reference:

### Perceived Contributing Factors to AGROCHEMICAL DEPENDENCY and abuse

(Table adapted/borrowed from: Nelles, Wayne and Supawan Visetnoi, 2015). “Thailand’s Department of Agricultural Extension (DOAE) and Agrochemical Dependency: Perspectives on Contributing Factors and Mitigation Strategies,” *Journal of Agricultural Education and Extension*.

NOTE: EDUCATION, RESEARCH & TRAINING (EXTENSION SERVICES) implied

<table>
<thead>
<tr>
<th>Number of</th>
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<tbody>
<tr>
<td>Bangkok DOAE Officials mentioning</td>
<td>Nan DOAE Officials mentioning</td>
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<tr>
<td>1) Criminality or corruption in government and private cooperatives</td>
<td>3</td>
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<tr>
<td>2) <strong>EDUCATION/KNOWLEDGE</strong> and ability to examine issues</td>
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<td>3) <strong>Corporations</strong> over-advertisement</td>
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<td>4) <strong>Lack of sufficient substitutes and alternatives</strong> to meet farmers’ needs</td>
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<td>5) Moral and ethical awareness/Consumers’ need in making demand/ Lack of farmers’ self-discipline</td>
<td>3</td>
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<td>6) Incoherence and inconsistency of policy (and jurisdictional confusion)</td>
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<tr>
<td>7) Populism policy/political behavior (spoiling farmers/”vote-buying”)</td>
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<td>8) Lack of law enforcement and adequately strict regulations</td>
<td>3</td>
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<td>9) Lack of budget for protection/prevention (before crises/plant diseases)</td>
<td>5</td>
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<td>10) Easy use/quick results and less labor-force required</td>
<td>3</td>
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<td>11) Officials with limited man-power but multiple tasks</td>
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<td>12) Climate (tropical, more prone to plant disease/pests)</td>
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<td>13) Non-cash payment incentives (loans, payback later schemes, etc.)</td>
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<td>14) Social pressure and poverty</td>
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<tr>
<td>15) <strong>Lack of DOAE officials’ TRAINING</strong></td>
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<tr>
<td>16) Economic factors (high yield and more income)</td>
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Thai Chula Extension Study (2015)
Conclusions/Implications

Thai Extension Study (Preliminary Conclusions)

- **Problem** – Overuse/abuse of agrochemicals **reinforced by privatization of public extension** (Corporate advice and training for public officials and farmers)

- **University Roles** - Government **extension offices** and “Crop-life” (formerly called Thai Pesticide Association) have MOU/work closely together and are on the **Kasetsart University (KU) campus** while academic “experts” **collaborate with agro-chemical companies**

- **Impacts** – **Pseudo sustainable agriculture** (guided by corporate experts, profit motives and corruption is perpetuated alongside farmer dependency on external inputs which continues to destroy environments, harm farmer health, and discourage less costly, viable alternatives

- **Implications** - Organic and **Agro-ecological approaches** or investments in extension are **discounted/avoided** while farmers and environments suffer as agrochemical models (and vested interests) dominate

**Reference**
4. Other Recent Chula Activities/Outputs

4. Other Recent Chula Activities/Outputs
Contexts for New Higher Education Study
(Paucity of Research on Agricultural Teaching, Sciences and Extension)

Southeast Asia has over 600 million people, at least 6,500 higher education institutions (HEIs) and some 12 million post-secondary students. But....we still know little detail about

- Numbers, scope, types and quality of agriculture education and sciences or university extension systems, teachers and students across ASEAN

- Priorities for Agriculture teaching, curriculum and research

- National or HEI institutional capacities, budgets or needs

- Numbers. scope, types and quality of agriculture extension services (by Faculty members or HEI-based), or how they now or could contribute rural development, regional food/nutrition security and farmers’ livelihoods

- How/if HEI’s collaborate with CGIAR, NAROs, and others to design and deliver agriculture extension services of what quality, type and for what impacts - What related studies have been done? Or should be?
CHULA ASEAN PROJECT
Higher Education for Sustainable Agriculture (HESA) and Food Security in Southeast Asia”

PROJECT - Expert Group on Higher Education for Sustainable Agriculture (HESA) in SE Asia

DONOR: Swedish International Agricultural Network Initiative (SIANI) with Swedish Sida funding

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-Publishing

WEBSITE (Home Page) www.siani.se/expert-groups/hesa (with Document Repository)
Chula-HESA Activities (2015)

POLICY BRIEFS – Extension Recommendations

HESA-SIANI Policy Briefs Identified Curriculum, Policy and Research Needs/Gaps including Post Secondary Capacities and Extension/Advisory Services - Needs/Knowledge (& Practice) Gaps and 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 the 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
5. New Chula ASEAN
University Extension Research Project

5. New Chula ASEAN
University Extension Research Project
Planned
(1 May 2016 – 30 April 2017)
New Chula ASEAN Extension Research Project Begun/Planned (May 2016 – Apr 2017)

New Project planned/underway (1 May 2016 – 30 Apr 2017)

- UNISEARCH Fund “ASEAN Cluster” Project approved “Mapping and Assessing University-based Farmer Extension Services in ASEAN through an Agro-ecological/Organic Lens”

- FOCUS:
  > Tier1: Indonesia, Laos, Philippines, Thailand and Viet Nam; and
  > Tier 2 Cambodia, Malaysia and Myanmar (subject to available/additional resources funding)
  > **Representing**: 5 to 8 countries with strong agriculture economies in ASEAN.

- Call for Expressions of Interest (EOI) for National Focal Points/Partners – (issued March 2016)

**Planned Project Outputs:**

- Completed Surveys (with new baseline data) of university-based extension
- Policy Brief(s)- 1 regional (synthesis) up to 8 National Briefs (according to partners).
- Peer Reviewed Journal article (at least one or more) submitted (early 2017)
- Possible graduate theses (focus/numbers TBA)
- Impacts on National Policies/programs
Chula 2016 ASEAN Extension Research Project
Partners & Commitment (to Date)

Partner Research Commitments & Co-Funding (or in Kind) so far

• Agroecology Learning Alliance in South East Asia (ALiSEA/GRET)
• Asia Pacific Island Rural Advisory Services (APIRAS) – connected to GFRAS
• International Center for Tropical Agriculture (CIAT) Asia Regional Office, CGIAR Hosting Viet Nam research workshop
• Southeast Asian Ministers of Education Organization (SEAMEO), Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA)
• University of the Philippines Los Baños (UPLB);
• More (TBA)

Research Meetings (tentative) and National Studies

• National meetings/studies on Post-secondary-based Extension services In 5 to 8 ASEAN countries with strong agriculture-based economies
• Partners (Universities, CGIAR, FAO, and Govt.) to engage and assist in Completed Surveys & Summary Reports – May, June, July and August, 2016
• Regional Research and Policy Dialogue (reports/lessons learned/sharing), November 2016, Bangkok

Graduate Research Potential (thesis work already discussed/planned), Philippines/Regional

• SEAMEO SEARCA – providing some scholarships and travel support
• UPLB (hosting extension students)
TARGETED RESULTS  
(Realistic? Or Desired/Hoped for)  

Desired Outcomes and Results Expected (from Process and Outputs)  

• More and Better Baseline Data on University-based Extension Services in ASEAN countries  

• Five (5) to Eight (8) completed surveys documenting OA/AE specific extension institutions, knowledge, activities, and programs  

• 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)  

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

• New Institutional knowledge Reforms leading (eventually?) to specific 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 and Healthier communities  
  4. Stronger university-farmer research partnerships and knowledge exchanges through improved extension services in local communities and agro-ecologies  
  5. Increased incomes in farm communities through sales of higher value OA/AE products.
End
Questions-Comments?

Thank you