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Farmers share effects of greenhouse gasses on their livelihood

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CONTENTS

Summary of the results and recommendations

Three representatives of AFA, the regional farmers organisation of South and East Asia were invited to participate in the GRA Regional Workshop: working towards more resilience and climate friendly agriculture, connecting research, policy and farmers. The workshop was hosted by the Government of Thailand and co-organized by Thailand and the Netherlands.

The objectives of the workshop are: (1) to create a regional network linking science, farmers, and policy makers, (2) to bring together scientists, policy makers in a regional network; and (3) to exchange methods and tools on farming system approaches to identify feasible entry points for adaptation and mitigation activities at the farm level connecting directly to farmers. While the expected outcomes is a regional network linking science, farmers and policy makers.

The participants were: scientist from several research institute (Thailand, Philippines, United Kingdom, Indonesia, Myanmar, Malaysia, South Korea), some policy makers (Thailand, Philippines, Vietnam), and two farmers (Indonesia and Philippines, members of AFA, and me as a translator and representative of farmer organization). They hope they would connect to farmers during the workshop. Thanks to AFA and Agriterra who sent us, otherwise there was no farmers participating the workshop, while they were talking about us, important matters related to our livelihood.

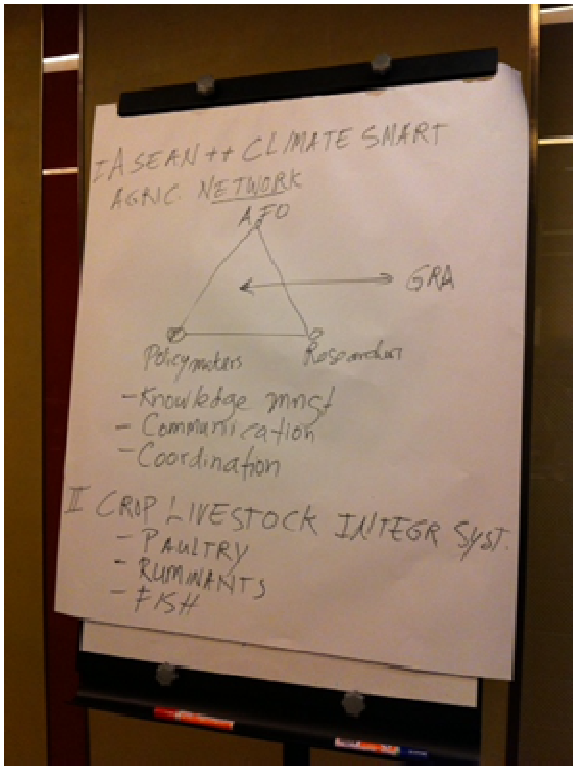
At the introduction to the workshop, the organizer explained all matters related to it, update events, such as the last council meeting held in Hague in mid of 2014.

Acknowledging the pivotal role of farming systems in decision-making is important when changes and transitions in farm management are needed to achieve food security and the formulation of a low carbon development pathway. Farm level decisions and the resulting operational field management ultimately determine the success of agriculture in terms of productivity improvement, the reduction of GHG emissions and the overall sustainability of the system.

Farming system characterization provides a way to conceptualize and contextualize farm and field management in particular landscapes to reach the success above. Most farming system approaches consider both biophysical and socio-economic elements. Some of them focus more on material and / or nutrient flows. Meanwhile, others have a stronger focus on socio-economic variables.

Thus, farming systems can help shape transitions to more climate safe and climate friendly production systems; as at farm level the farmers that decide on responses to both the socio-economic and biophysical domains.

During the workshop participants were expected to present their own work and indicate how farming system are used in arriving at agricultural development strategies that aim for low Green House Gases (GHG) emission and reduce vulnerability or increase resilience to climate change. API as member of AFA took the opportunity to bring our experience to the group (kindly find the attachment of our power point presentation) at the second day since there was not enough time to have all presentation of participants.



From presentation and discussion during the workshop the learned more about the GHG emission, what cause of the emission, what the impact on earth, living organisms, and the environment. It was our benefit that we engaged the two farmers (Mrs. Mubayyinah of API and Mr Rene Cerilla of Pakisama) who have been doing such observation in their activities in rice field. So it was not so difficult to connect the substance of the workshop to the farmers.

On one hand, farmers realized that some activities carried out by them are indeed to adapt the situation of climate change, such as the farming system they have been implemented over years (organic, agro ecology farming system). While on the other hand, they learned that some way they could create more GHG emission from the rice paddy field into the atmosphere. The way farmers using varieties of paddy, and the management of water could also create the emission. That's why farmers should be smart in adapting the climate change in agricultural activities. We also realize that there are other causes of GHG emission, such as forest fire, peat burning, and industry, etc.

It is important to have "Climate Smart Agriculture" practices, but it is also more important to have "Climate Smart Policy". According to us, we as the food providers are the subject to enhance food production to feed the escalating population in the world, while we have to reduce the emission caused by our activities. Therefore, to be fair, it is not only farmers who burden this effect of the emission on our shoulders, but it is important for all stakeholders to seriously take part in it, including the policy makers. Our input was then included in the group presentation (ASEAN ++ Climate Smart Agriculture Network).

There were several issue emerged during the workshop raised by farmers, among others:

(1) One of the workshop's objective is to create linking regional network between scientists-policy makers and farmers, therefore it is important to have strong Asian farmers organization in place (in a triangle of scientists-policy makers-farmers). This is also a crucial needs since there is difficulties among scientists to have their researches being introduced / applied to the farmer level. It is acknowledged by many scientists that they find challenges in communicating their research results to the farmers as well. The scientists realize that their results research only often end in the drawer of theirs. This is also recognized by the Director of Sakonnokhon Rice Research Center that there is difficulties in communication with the farmers. So, this is the important role and opportunity of farmer organization to be engaged in the triangle, where the GRA is in the middle of triangle as the facilitator.

(2) The main activities of the triangle are: knowledge management (this is our input to the work group), while communication and coordination are played by the facilitator. -- this is as such the cross cutting issue in all activities.

The detail result of work groups (institutional, technical, and integrated crop system) are in the power point presentation (see aanex 2).

After session in the class, on the last day (14 Feb) the group then visited the Pathum Thani Rice Research Center, in Pathum Thani Province, an hour away by car. There were some interesting stories from this activity. On the third day (14 Feb 2015), the foreign participants join in field visit (excursion) to Pathunthani Rice Research Center. The Center is one of 28 rice center in Thailand. In annex 3 is a brief information of the Center.

There were lively discussion between the participants and the research Center at the office. While during the field visit, we learned how the Center has been conducting several research to measure GHG emission and how to engage with climate smart agriculture, and how they apply the research result to the farmers. The director and the temporary workers demonstrated how to collect the emission from the rice paddy field and process it subsequently (based on two kind of research, one research is the application of water management and the other research is the application of different kind of fertilizers (chemical fertilizers still) . It is now clearer enough for the farmers to have description on how to deal with the emission at farm level.

At the end of field visit, Mrs. Mubayyinah (API's member) gave a bottle of her product: organic aromatic rice, to the local farmer who engaged with the experiment with the Center in applying research on GHG emission in the rice field. It is one of AFA styles of exchange material among farmers (farmer to farmer). While we also expressed our welcome if the Thai farmer will join AFA, whenever the requirement is met. The offering was welcomed by the

farmer and the Thai scientist. In the end, it is up to AFA whether it will consider this opportunity to expand the member in Thailand or not.

Authors

Ms Ika krishnayanti is International Relations Adviser of API, translator during the GRA workshop and author of this report.

Ms Mubayinnah Johari is a leader of peasant group in Banjarnegara District, Central Java Province, member of API and APPI (women wing's of API, to be established as autonomous body of API). She participated in the workshop and training of "Agro ecology" held by TWN in cooperation with API in 2012 in Solo, Central Java. She has been doing several field experimental activities regarding organic farming system, including the inputs and bio-agent of pest and disease control, including planting the Japanese and Vietnamese rice in her trial rice-fields . Her group has been accessing revolving funds twice from Indonesia Organic
Alliance (IOA) to support the organic farming in her group. She markets her organic rice directly to a hospital nearby and sold the organic papaya to Jakarta. She has been actively engaging the promoting of family farming activities with her group, while she is now expanding the environmentally sound farming system to larger group of farmers in her district.

Mr Ireneo Cerilla (Pakisama) is president of Pakisama and coconut farmer in The Philippines.

Annexes

1 Terms of Reference

2 Presentations

3 Letter about Pathun Thani rice research centre

4 Communication on outcome GRA between API and Agriterra

Annex 1 Terms of Reference

GRA I&M regional workshop
Working towards more resilient and climate friendly agriculture,
Connecting research, policy and farmers.

I. Background

Acknowledging the pivotal role of farming systems in decision-making is important when changes and transitions in farm management are needed to achieve food security and the formulation of a low carbon development pathway. Farm level decisions and the resulting operational field management ultimately determine the success of agriculture in terms of productivity improvement, the reduction of GHG emissions and the overall resilience and sustainability of the system.
Farming system characterisation provides a way to conceptualize and contextualize farm and field management in particular landscapes to reach the above successes. Most farming system approaches consider both biophysical and socio-economic elements.

Some of them focus more on material and / or nutrient flows. Meanwhile, others have a stronger focus on socio-economic variables.
Thus, understanding farming systems can help farms transition to more climate safe and climate friendly production systems; as at farm level the farmers that decide on responses to both the socio-economic and biophysical domains. Improving the understanding of farm systems also provides a vehicle to connect farmers, science and policy makers.

II. Approach for the regional training workshops

a. *Objectives*
   - Bring together scientists and policy makers in a regional network.
   - Exchange methods and tools on Farming System approaches to identify feasible entry points for adaptation and mitigation activities at the farm level connecting directly to farmers.

b. *Expected outcomes*
   The expected outcome of this is a regional network linking science, farmers and policy makers.

c. *Target groups*
   The regional workshop will target experts working on agricultural development at the national level in the ASEAN region. More specifically the target groups are:
   i) policy makers and
   ii) scientists at the national level.
   If possible we will connect to farmers during this workshop.

d. *Design of the workshops*
   The workshops will be designed to allow interactions between scientists and policy makers to facilitate sharing the lessons learnt from the participating countries.

III. Organizational aspects

The workshop is hosted by the Government of Thailand and co-organised by Thailand and the Netherlands.

IV. Instructions for the participants

During this workshop participants are expected to present their own work and indicate how farming systems are used to inform agricultural development strategies that aim for low GHG emissions and reduced vulnerability or increased resilience to climate change.

Each participant will be given the opportunity to bring their experiences to the group. Based on these presentations common issues will be categorized. This information will be used to define research and actions that can be taken up.

V. Agenda / programme

Preliminary Agenda

DAY 1: 12 February	
8:45	Registration
Session I	**Opening and overview of the workshop**
	- Official opening by the Ministry of Agriculture Thailand - Opening remarks by the Ministry of Economic Affairs the Netherlands
	- Statement GRA Secretariat - Introduction of participants
10:00	*Refreshment break*
Session II	**Keynotes**
	Farm research in Thailand (Agricultural research Thailand)
	Farm level research combining adaptation and mitigation and how it connects to farmers (Wageningen UR)
	Keynote from policy (The Netherlands)

Session III	**Introduction to the workshop**
	Introduction, aims and setup of the meeting (organisers)
Session IV	**Presentation of cases by participants**
	Presentation (15 minutes) of cases by: Policy makers: Role of agriculture for the economic development and key policies relating to agricultural development and climate change. Research: Type of classification used to define the farming system: economic, main crop in relation to adaptation and mitigation. Make type and objectives of the analysis clear. In results focus also on lessons learned, trade-offs & synergies.
	Lunch Break
	(cont.) Presentation of cases by participants
15:00	*Refreshment break*
Session V	**Group work**
	Interactive session in which common issues in the approach, bottlenecks needs and gaps are identified.
	Create groups for day 2 based on findings: Group 1: action towards policy makers & farmer Group 2: research topic 1. Group 3: research topic 2. ….
17:00	**Closure of day 1**

DAY 2: 13 February	
Session VI	**Finding common ground and identifying topics for follow-up activities**
	Recap of day 1 (organisers)
	Organise group sessions, clarification for the group work.

Annex 2 Presentations

Proposed ASEAN Collaboration 1

Climate Smart Agriculture:
Institutional Aspect

Background

- Lack of communication on CSA technologies among the three parties and between countries
- Lost of opportunities to mitigate and adapt to CC

Goal

Increased food security and agricultural sustainability as well as contribution to CC of ASEAN++ countries' agriculture through the implementation of CSA

Scope of Works

- Review and integrate scientific and indigenous knowledge on CSA
- Exchange CSA information and technologies among ASEAN++ countries and between ASEAN++ countries and GRA
- Develop policy brief and advocate on the importance of CSA on food security and agricultural sustainability → climate smart policy
- Formulate user friendly CSA tech. packages (video, written practical guidelines, website, kits)
- Training/FFS on CSA Technologies
- Monitoring of agricultural resilience (e.g. improvement of soil properties) and emission reduction
- Facilitation by GRA of the three parties in the triangle

Proposed ASEAN Collaboration 2

Climate Smart Agriculture:
Institutional Aspect

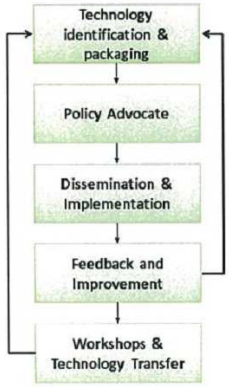
Background

- Lack of communication on CSA technologies among the three parties and between countries
- Lost of opportunities to mitigate and adapt to CC

Goal

Increased food security and agricultural sustainability as well as contribution to CC of ASEAN++ countries' agriculture through the implementation of CSA

Scope of works



Detailed Scope of Works

I. Technology identification and packaging
- Review and integrate scientific and indigenous knowledge on CSA
- Exchange CSA information and technologies among ASEAN++ countries and between ASEAN++ countries and GRA
- Formulate user friendly CSA tech. packages (video, written practical guidelines, website, kits)
- Conduct field trials (to include crop type, soil type, agro-ecosystem, crop rotation etc.) to adapt promising CSA technologies

II. Policy advocate
- Develop policy briefs
- Promote the importance of CSA on food security and agricultural sustainability

III. Dissemination and implementation
- Training of Government Organizations, NGOs, farmers group
- FFS on CSA Technologies

IV. Feedback and technology improvement
- Gather feedback and evaluate responses (in terms of adaptation and mitigation effectiveness)
- Testing promising technologies for improvement

V. Technical, institutional, and policy workshops within and across region

Annex 3 Letter about Pathun Thani rice research centre

Responsibilities
Multidisciplinary research is being carried out to solve problems and improve efficiency in rice production. Seeds multiplication and specific technologies including laboratory analytical services are also provided to extension officers, farmers and the private sector in the central and western parts of Thailand. Activities are conducted jointly with other rice research centers. This includes the international collaboration in research.

History
This was the first rice experiment station in Thailand, established in 1916 as "The unit of cultivation for rice". The head of station was Phraya Phonchakorn (Tri Milinthasoot). The station was renamed as the Rangsit Rice Experiment Station responsible to the Rice Department that was established in 1953. The experiment station was responsible to the Department of Agriculture in 1972. After the reorganization of the Department of Agriculture in 1982, the station was upgraded in 1983 to be a research center under the Rice Research Institute with the official name of Pathumthani Rice Research Center. At present, the center is responsible to the Rice Department that was reorganized in 2006.

Location
Pathumthani Rice Research Center is located on Rangsit-Naskorn Nayok Road at Moo 1, Rangsit, Thanyaburi, Pathumthani (latitude 14"01' N, longitude 100"41'E). The total area is approximately 161 ha. The soil type at the site is classified as strongly acid sulfate soil: Ongkarak series (pH 3.9-4.2). The average annual rainfall is 1330 mm and the average number of raining days is 90 per year. The average maximum and minimum temperatures are 32.1oC and 22.2oC, respectively with an average relative humidity of 74.8%.

Research Staff in 2014
Pathumthani Rice Research Center employs 2 Ph.D.,8 M.Sc., and 8 Diploma researchers. There are 38 permanent and 98 temporary workers.

Organization Chart
1. Administration Section, this section takes responsibility on administrative works, farm management, including cooperation with other organizations.
2. Technology Transfer Section, this section takes responsibility on training, transfer appropriate rice production technology to farmers.
3. Research Section:
    - Plant Science, the main areas of research include plant breeding, genetics, physiology and biotechnology. The objectives are to improve lowland rice for high yield, resistance to the major insect pest and diseases, tolerance to problem soils and unfavourable environment.
    - Agronomy, research emphasis is place on cultural practices, soil and water management and establishing sustainable agricultural techniques for crop production improvement leading to maximum profit.
    - Plant Protection, research focuses on techniques to control rice diseases, insects weed and other pests in various local conditions. The control measures aim at gaining a good quality product in an environmentally safe way.
    - Post-Harvest Technology, research emphasis is placed on harvest and post-harvest processing for reducing quantity and quality losses, product development, and by-product utilization in rice.
4. Seed Multiplication and Seed Technology Section, this section dealing with producing and distributing breeder seeds and foundation seed of recommended varieties with favourable characteristic including seed testing, seed certification, seed storage, seed biology, seed entomology and seed pathology.

5. Rice Seed Storage Laboratory for Genetic Resources Center (Germplasm Bank), responsibility is concentrated on conservation, rejuvenation and evaluation of rice cultivars including wild species, together with some other crops. A main objective is to prevent genetic resource loss and to provide the genetic materials for further rice improvement. DNA fingerprinting of Thai rice cultivars is also carried out at the center.
6. Visiting Places:
    - Momi 1997 Wild Rice, the sculpture, made of stainless steel by Mitsuaki Tanabe
    - New Theory, a project of New Concept from His Majesty the King
    - In situ wild rice conservation
    - Native Rice Genetic Study Center

Annex 4 Communication on outcome GRA between API and Agriterra

Questions from Agriterra:
I have a question with regard to the advocacy part. You indicate that it is important to prepare a policy brief but there is no further information on the follow-up.

1. To whom will that policy brief be sent and who will present the policy brief and what should be the intended outcome?
2. Moreover it is also unclear how the policy brief is created, so who is involved in the preparation and are farmers consulted in the process or not.

Response from API:
There were some researchers and policy making persons attending the workshop. We divided ourselves into three groups, API and Pakisama joined in the group of institutional matters of Climate Smart Agriculture (CSA) (especially with regards ASEAN). And we discussed the network of three stakeholders (Asian Farmers Organization, Researchers, Policy makers).

In terms of Indonesia context, there is the Ministry of Environment and Forestry who handle this matters. While there are other key-actors such as the parliament who makes the policy (together with the government), a national climate council, and others. It is therefore we need to identify other key actors in the CSA issues, including the NGOs and people organizations. On one hand, many adaptations have been practiced by the farmers at farm level, those respond to the climate change. On the other hands, researchers have been doing many research related to adaptation and mitigation efforts. But those researches are staying in their own drawers, Indonesia scientist said during our discussion. Can you imagine how many good practices and researches do not meet each other?

It is our need that there should be joint forces between farmer organization and scientists to do the advocacy on CSA to the policy makers. Since it was only API (2 representatives) and one researcher from Indonesia attending the workshop, therefore both of 2 institution should follow up the workshop in our country. We agree to link information between us, from research to farm level and from farmers' practices to research level. Then somehow, we formulate it into a policy brief. There will be a consultative process among us and between farmer organization and the researchers. There will be many ways, various information that can be produced and delivered to policy makers in multimedia.

For the first step, it could be a discussion among researchers and farmer organization and NGOs regarding the topics. We still need to see how serious the researchers will do this, and how much efforts do farmer organizations need to do this.