Report of the 4th ASEAN Technical Working Group on Agricultural Research and Development (ATWGARD) Workshop on the Promotion of Resilience in Rice and Other Crops

19 May 2015 | Ho Chi Minh City, Vietnam
REPORT OF THE
4th Special ASEAN TECHNICAL WORKING GROUP ON AGRICULTURAL RESEARCH AND DEVELOPMENT (ATWGARD) WORKSHOP: ASEAN CLIMATE RESILIENCE NETWORK (ASEAN-CRN) PROMOTION OF RESILIENCE IN RICE AND OTHER CROPS

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INTRODUCTION

1. The 4th ASEAN Technical Working Group on Agricultural Research and Development (ATWGARD) Workshop: ASEAN Climate Resilience Network (ASEAN-CRN) Promotion of Climate Resilience in Rice and Other Crops was held on 19 May 2015 at Vissai Saigon Hotel in Ho Chi Minh City, Vietnam.

2. The Meeting was attended by the ATWGARD focal points from Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Thailand, and Vietnam. Representatives from the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)/ASEAN-German Programme on Response to Climate Change (GAP-CC); the International Rice Research Institute (IRRI); CGIAR Climate Change, Agriculture and Food Security (CCAFS); the International Center for Tropical Agriculture (CIAT); and the Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA) were also attending. The Vietnam Ministry of Agriculture and Rural Development (MARD) served as the host of the workshop. The list of delegates appears as ANNEX 1.

OPENING SESSION

3. Dr. Suwit Chaikiattiyos, Deputy Director General of the Thai Department of Agriculture (DOA), served as the chairperson of the workshop and welcomed all the delegates from the ASEAN Member States (AMS) and partner institutions. Thailand, being the lead country of the ASEAN-CRN, expressed its appreciation to Vietnam and the organizing committee for hosting the workshop and extending their warm hospitality to the delegates. He also commended the active participation of the participating AMS in completing the one-year project on the promotion of climate resilience in rice and other crops, especially to the establishment of the ASEAN-CRN. He thanked GIZ/GAP-CC for its continued support, and further encouraged the AMS to give their full support in promoting Climate Smart Agriculture (CSA) practices towards a Climate Smart ASEAN.

4. Ms. Imelda V. Bacudo, Senior Regional Advisor of GIZ/GAP-CC delivered the welcome remarks on behalf of Mr. Thomas Heindrichs, GIZ/GAP-CC Principal Advisor. In her message, she stated that the issue of CSA and scaling-up of related best practices, as well the formalizing and strengthening of the CRN as an ASEAN working structure, are at the core of this workshop. She added that GAP-CC is pleased to support the network through its Climate Smart Value Chain Component for the next three years. Ms. Bacudo also expressed its appreciation to the Thai DOA for its excellent leadership, as well as to the AMS for their active participation in defining the future of the CRN.

5. On behalf of Dr. Tran Kim Long, Director General of Vietnam MARD’s International Cooperation Department (ICD), Mr. Pham Quang Huy, ICD Division Head, welcomed the
guests to the 4th CRN Workshop. He mentioned that this workshop is a great opportunity for the AMS to show their respective experiences on climate change adaptation in the agriculture sector, scale-up effective adaptation methods and capacity building activities on agricultural production towards a stronger regional collaboration. He also thanked the ThaiDOA for initiating and leading the project, GIZ/GAP-CC for the support, and SEARCA for its facilitation and coordination of the project.

6. Dr. Suwit Chaikiattiyo, provided a brief rundown of the objectives and mechanics of the workshop.

AGENDA ITEM 1: PROGRESS OF THE CLIMATE RESILIENCE NETWORK’S (CRN) PROMOTION OF RICE AND OTHER CROPS

7. Dr. Margaret Yoovatana, Thailand DOA Policy and Plan Specialist under the International Agricultural Affairs Group, Planning and Technical Division, presented the background, objectives, progress, and achievements of the regional initiative. The highlights of the presentation, which appears as ANNEX 2, are as follows:

Highlights and Progress of the CRN

- Three regional workshops of the CRN conducted in January, June, and November 2014
- National consultative meetings conducted from January to June 2014 in seven participating AMS
- GAP-CC small grants to support regional exchange between AMS to further promote identified CSA best practices
- National studies endorsed by the ministries of agriculture in the respective participating AMS
- Representation to meetings, trainings, conferences of various ASEAN working groups and international organizations

8. Dr. Yoovatana concluded her presentation and enumerated the future plans and actions of the CRN.

9. After the presentation on the project background and highlights, Dr. Suwit Chaikiattiyo led the formal launching of the published national studies. Ms. Bacudo informed the meeting that the national studies will be re-printed and compiled in one volume and will be distributed to the AMS.

AGENDA ITEM 2: PRESENTATION OF THE ASEAN REGIONAL GUIDELINES FOR SCALING-UP CLIMATE SMART AGRICULTURE PRACTICES

10. Mr. Jonas Dallinger, GIZ/GAP-CC Advisor, presented the draft Regional Guidelines for Scaling-up CSA Practices. He provided a brief background on CSA and the objectives of the guidelines for scaling-up these practices. The Regional Guidelines are divided into two main parts: Guidelines on Regional Cooperation and Technical Guidelines on CSA; the Terms of Reference (TOR) of the ASEAN-CRN are contained in the Annex 5 of the Guidelines. The following points were highlighted in his presentation, which appears as ANNEX 3:

- Seven key principles of cooperation to scale-up CSA practices in ASEAN
Identified priority CSA practices from the seven national studies, namely: stress-tolerant maize and rice varieties, agri-insurance using weather index, Alternate Wetting and Drying (AWD), and cropping calendar for rice and maize.

Synthesis of technical issues, institutional and technical challenges, areas for regional collaboration, and mechanism to address implementation were elaborated for each identified priority CSA practice.

11. In his presentation, Mr. Dallinger stated that the implementation of the Regional Guidelines as well as the review and further development of the Technical Guidelines will be through the ASEAN-CRN, which serves as the regional platform to cooperate CSA in the region. GAP-CC will support the initial three years of the CRN’s operation, and it will be chaired by Thailand also for the initial three years. The members of the CRN will be the nominated participants from relevant ASEAN Technical Working Groups, particularly the ATWGARD, as well as partners from research institutions, private sector, and civil society.

12. After the presentation, the meeting made the following key agreements:

- On comments from the AMS on the Technical Guidelines:
  
  **Laos**
  - On recommendations to improve maize production: include SCOPSA and postharvest technologies as areas of interest to Laos
  - Exchange of good practices: with Thailand on Maize Seed Village; include cropping calendar for both rice and maize; remove marketing issues as preferred good practice

  **Myanmar**
  - On regional collaboration: interested in AWD, cropping calendar (eventually, crop modelling and crop insurance)

  **Thailand**
  - Include Thailand inputs on Tables 10-12

  **Indonesia**
  - Change cover photo of Indonesia national study; include monitoring of standing crops and cropping calendar as identified good practices

- Include information on Brunei Darussalam and Malaysia in the final draft of the Regional Guidelines

- The meeting adopted the draft Regional Guidelines and agreed to submit it to the 10th ATWGARD Meeting for consideration and endorsement to SOM AMAF, with a separate annex for recommendations. The draft will be reviewed by the respective AMS and will be (electronically) endorsed by the ATWGARD to the Special SOM AMAF in August (before the annual SOM AMAF meeting in September).

- The draft Regional Guidelines will be reviewed by the AMS and submit to the ASEAN-CRN Secretariat two weeks after the 4th ATWGARD Workshop on the Promotion of Resilience in Rice and Other Crops

AGENDA ITEM 3: STEPS FOR THE FORMALIZATION OF THE CRN

13. Thailand, as the lead country, presented and discussed the TOR of the CRN, which includes the rationale, objectives, scope of tasks, chairmanship, members, partners, working modalities, network meetings, and date of effectivity of the network. Dr. Margaret Yoovatana led the presentation of the TOR, which appears as Annex 4.

14. The AMS agreed on the key conclusions on the ASEAN-CRN TOR for endorsement of ATWGARD to SOM-AMAF, which are highlighted as follows.
• Include duration in the TOR (CRN to hinge on Food, Agriculture, and Forestry (FAF) Vision 2016-2025)
• Call for permanent focal points and representatives to the ASEAN-CRN
• Refine the role of ASEAN Secretariat (ATWGARD) in the ASEAN-CRN, focusing on facilitation, and endorsement on formalizations, among others
• The meeting agreed to submit the ASEAN-CRN TOR for adoption and submission to SOM AMAF for consideration and endorsement

AGENDA ITEM 4: PRESENTATION OF THE CRN WORKPLAN

15. Dr. Margaret Yoovatana presented the annual Workplan of the CRN (2015-2016). The Workplan is divided into four categories: 1) general functions of the CRN (biannual meetings, website, documentation, and monitoring and evaluation); 2) relevant meetings and workshops, 3) capacity building, and 4) guidelines/studies. The presentation appears as ANNEX 5.

16. The AMS agreed on the key conclusions on the ASEAN-CRN Workplan for endorsement of ATWGARD to SOM-AMAF, which are highlighted below

• On the ASEAN-CRN website:
  - Include and/or link the CRN website to existing websites of the AMS’s ministries of agriculture
  - Support from IRRI (under the Policy Information and Response Platform on Climate Change and Rice in ASEAN Member States (PIRCCA) project) to develop and manage rice related website content on the IRRI / PIRCCA website and mirror this content to the CRN website
  - Recruit a personnel to overhaul the GAP-CC website and to host the CRN website until end of 2017
  - The meeting agreed to submit the draft Workplan on Regional Cooperation for the endorsement of the 10th ATWGARD Meeting

• On the Technical Cooperation Workplan
  - Include Laos in the capacity building activities for stress-tolerant maize
  - The meeting agreed to further discuss the details of the Technical Cooperation Workplan and can be worked on later by CRN sub-groups which will be put upChange on the agenda: Propose to review the revised Workplan at the same time as the presentation on the negotiation strategy

AGENDA ITEM 5: SHARING OF CLIMATE SMART AGRICULTURE PRACTICES IN MEMBER STATES

17. The seven ATWGARD focal points of the participating AMS designated for the project provided a brief presentation on the highlights of their chosen CSA good practices. The focal points for Brunei Darussalam and Malaysia also presented their respective CSA practices and national initiatives. The presentations on the status of climate resiliency from the AMS will serve as inputs in the further development of the CRN Workplan. Their respective presentations are as follows:

Vietnam

18. Dr. Nguyen Kim Chien from the Department of Science Technology, Vietnam MARD presented the current CSA good practices on rice and maize production in their country. He mentioned rice-shrimp farming, adjustment of cropping calendar and use of short-duration
rice varieties, and AWD as their CSA practices for rice; while planting density in flat production areas, and improvement of cultivation practices in sloping areas are CSA practices conducted for maize. His presentation appears as **ANNEX 6**.

**Thailand**

19. Dr. Margaret Yoovatana, Senior Policy and Plan Specialist, Planning and Technical Division, Department of Agriculture of Thailand discussed the promotion of climate resilience in the national strategies of Thailand, particularly on Agriculture and Rural Community. Some of the programs and projects of Thailand that promote climate resiliency include the following: climate change assessment and risk management; evaluation on the role of agriculture to land utilization and self-reliance on alternative energy; ecosystem services; bio-control agents; green infrastructures; efficient use of water on agricultural systems; establishment of adaptation funds, crop insurance; sustainable highland agriculture; food security in rural community through food banks. Her presentation appears as **ANNEX 7**.

**Philippines**

20. Dr. Teodoro S. Solsoloy, Director III of the Department of Agriculture - Bureau of Agricultural Research (DA-BAR), presented the Philippines' national initiatives and strategies on climate change. One of the current national strategies in the Philippines is the **Adaptation and Mitigation Initiative in Agriculture (AMIA)**, a multi-sector partnership that aims to provide an efficient and resilient agriculture support services to enable the agriculture sector in addressing climate change. Already existing initiatives include Aerobic Rice Technology, Field Monitoring System (FMS), and the Climate Change Research, Development and Extension Agenda and Program (RDEAP) for Agriculture and Fisheries. In 2013, the DA Secretary issued a memorandum to operationalize government policies on climate change. Dr. Solsoloy also presented the country's national laws and policies on climate change as well as DA-BAR-funded studies on climate change agriculture research and development. His presentation appears as **ANNEX 8**.

**Myanmar**

21. Mr. Yarzar Hein from the Yezin Agricultural University under the Ministry of Agriculture and Irrigation (MOAI) provided a brief sharing of CSA practices in Myanmar, namely application of Good Agriculture Practices (GAP) in rice, adjustment in cropping systems and change in crop varieties, use of stress-tolerant varieties, and efficient use of water. In partnership with various international organizations such as CGIAR, Japan International Cooperation Agency (JICA), the Australian Centre for International Agricultural Research (ACIAR), M.S. Swaminathan Research Foundation (MSSRF), and the BioForsk-Norway among others. Myanmar DOA has been implementing the national initiatives on CSA. Some of these include: Development of Water Saving Agricultural Technology in the Central Dry Zone; setting-up of a rice bio-park; and Policy Information and Response Platform on Climate Change and Rice in ASEAN and its Member Countries among others. The presentation appears as **ANNEX 9**.

**Malaysia**

22. Dr. Ainu Husna Suhaimi from the Malaysian Agricultural Research and Development Institute (MARDI) gave a brief overview on Malaysia’s **National Policy on Climate Change** that provides a framework to mobilize and guide government agencies, industries, communities and other stakeholders. The policy has the following objectives: a) mainstream climate change through wise management of resources and enhanced environmental conservation; b) integrate responses to national policies, plans and programs to strengthen
its resilience on the potential impacts of climate change; and c) strengthen institutional and implementation capacities to reduce negative impacts of climate change. Dr. Suhaimi also briefly discussed the vulnerability of rice cultivation along the value chain, particularly in inputs, production, and post-harvest. The presentation appears as ANNEX 10.

**Lao PDR**

23. Mr. Viengsavanh Phimphachanhvongsod, NAFRI Deputy Director for Planning and Cooperation Division, briefly discussed the prioritized CSA practices in Lao PDR. For rice, the following are the identified CSA practices: System of Rice Intensification, Rice Biodiversity Conservation, and use of drought- and submergence-tolerant rice varieties. For maize, Direct Mulching Crops (DMC) and maize integrated with legumes are the identified CSA practices. He also showed various photos depicting the Lao farmers conducting the abovementioned practices, which appears as ANNEX 11.

**Indonesia**

24. Dr. Agung Hendriadi, Executive Secretary of the Indonesian Agency of Agricultural Research and Development (IAARD) under the Ministry of Agriculture identified the 1) Dynamic Cropping Calender for Integrated Crop Management (ICM) and the 2) Monitoring Standing Crop for Management of Rice Production as two of Indonesia’s national strategies to promote climate resiliency in agriculture. The Dynamic Cropping Calendar is a tool to predict weather conditions and based on that provide recommendations such as planting time and area, stress-tolerant varieties, fertilizer recommendation, pests and diseases and agriculture machineries. Standing crop monitoring on the other hand has been developed to monitor rice planting areas and stages to better manage rice production. The presentation appears as ANNEX 12.

**Cambodia**

25. Dr. Khay Sathya, Head of Plant Protection Division, Cambodian Agricultural Research and Development Institute (CARDI) under the Ministry of Agriculture, Forestry and Fisheries (MAFF) presented the natural resources and agricultural research and development in Cambodia, particularly programs being implemented by CARDI. These programs include: Plant Breeding (germplasm activities, varietal development, variety testing, and seed production); Plant Protection (protection of crops from pests and diseases); Soil and Water (development of nutrient management systems to increase crop yields); Agricultural Engineering (development of technologies and machineries); and Agronomy and Farming Systems (model farming, crop intensification, crop rotation, organic farming, rice-fish aquaculture, and compost research), among others. The presentation appears as ANNEX 13.

**Brunei Darussalam**

26. Ms Fuziah Haji Hamdan, Acting Senior Special Duties Officer, Primary Resources Research and Development Center, under the Ministry of Industry and Primary Resources briefly discussed the CSA practices for rice in Brunei Darussalam, namely 1) cropping calendar and 2) climate and weather forecasting. One of the country’s initiative launched in April 2009 to promote resiliency in agriculture is the project titled, *Towards Self-sufficiency in National Rice Production* that aims to raise the level of food security in Brunei Darussalam. Apart from this, breeding programs for varietal improvement are also being conducted. Likewise, the improved rice variety *Laila* has been introduced to farmers to enable them to practice double cropping. Drainage and irrigation systems, as well as roads and other infrastructures have also been developed for the farmers. The presentation appears as ANNEX 14.
27. After the session, the meeting provided comments and shared insights on the country presentations, which are highlighted below:

- **Laos**: interested on the web planting calendar of Indonesia, for Lao’s maize production
- **Cambodia**: USAID-IRRI support on the stress-tolerant varieties from other AMS may be linked to the CRN for further support, after consultation with and approval from CARDI
- **Thailand**: suggested a mechanism for a systems approach to recommend and/or attain resiliency on agricultural productivity

### AGENDA ITEM 6: CSA IN INTERNATIONAL ORGANIZATIONS

28. Dr. Alvin Chandra, Doctoral Researcher at the School of Geography, Planning and Environmental Management, University of Queensland, discussed a draft proposal to develop a brief that encompasses a range of CSA policy negotiation options for the ASEAN. It aims to: a) analyze relevant CSA options as well as organizations within the region involved in CSA, and produce a comprehensive mapping of policy frameworks on CSA in ASEAN; b) map existing initiatives being implemented by the AMS, donors, and civil society; and c) develop an ASEAN negotiation strategy that is suited to the Southeast Asia regional policy environment. The research activity will be conducted in three months, starting in June/July 2015. The concept note appears as **ANNEX 15**.

29. The following are the key agreements made after the session.

- The meeting accepted the proposal for the ASEAN-CRN, and agreed that it should be included in the Workplan
- The meeting also noted that the timeframe of three months may be short
- The following documents will be used alongside others: stakeholder mapping (Myanmar and Vietnam are already available); National Adaptation Programmes of Action (NAPAs), and Nationally Appropriate Mitigation Actions (NAMAs)

### AGENDA ITEM 7: PRESENTATION FROM PARTNERS

30. Dr. Bjoern Ole Sander, IRRI Scientist, presented the AWD Technology and an Approach for Dissemination: The Climate and Clean Air Coalition (CCAC) Approach. His presentation, which appears as **ANNEX 16**, is highlighted below.

- **Overview of AWD**: saves irrigation water by 15-30%; reduced greenhouse gases (GHGs) by 50%; irrigates when water is -15cm; keeps flooded until 20 days after transplanting
- **Co-benefits of AWD**: saves water, better root development, lower field inputs, better nutrient availability, and better soil condition among others.
- **Dissemination support**: policy briefs, ICT tools, which can be downloaded in the IRRI and CCAFS websites
- **Enabling Policy Environments in Vietnam**: 20-20-20 Decision by the Prime Minister to reduce GHG emissions, and increase agricultural productions by 2020 – from national level to the provincial levels
- **Overview of CCAC**: aims to reduce short-lived climate pollutants; partnership with governments and non-state entities; hosted by the United Nations
Environment Program; has three components: 1) open agricultural burning, 2) livestock/manure management, and 3) paddy rice production.

- **Paddy Rice component**: aims to disseminate AWD on a large scale to facilitate stable food supply and reduce GHG emissions.
- **Partners and activities**: implementing partners IRRI (Asia) and CIAT (Latin America), partner countries Vietnam, Bangladesh and Colombia
- **Activities**: development of information kiosks, stability mapping and planning in the partner countries, and multi-stakeholder roundtable discussions.

31. The following are the suggestions and agreements of the network after the presentation.

- **From Indonesia**: Indonesia noted that the AWD has been introduced decades ago however despite the presented benefits, implementation remains a challenge and large scale adaptation of the technology did not take place. To put AWD into practice, it is crucial to also take into account the organizational capacities of farmers as well as integrate local weather predictions into the implementation of AWD.

32. Ms. Nora Guerten from CIAT discussed Cost-Benefit Analysis (CBA) as a Tool for CSA practices. The project aims to develop user-friendly CBA tool at household level. She gave an overview of CIAT and the project team, project design and partners, and project outputs, which are highlighted below. The presentation appears as **ANNEX 17**.

- According to FAO (2010), CSA is the agriculture that sustainably increases productivity, enhances resilience, reduces GHGs, and enhances achievement of national food security and development goals
- CIAT’s work in Asia is crop-specific, particularly cassava value chains, but also works on integrated farming systems, forages and livestock, gender, and climate change
- The team of the specific project works across Vietnam (ASEAN), Uganda (Consejo Agropecuario Centroamerica) and Nicaragua (CSA Alliance)
- **Project components**: 1) capacity building for climate change adaptation; 2) providing financial means and facilities to scale-up results of community-based research and development
- **Steps**: 1) risk hotspot maps; 2) CSA prioritization framework; 3) CBA tool development.

33. The following are the suggestions and agreements of the network after the presentation.

- The CBA tool may be applied in a pilot CRN project/community
- Develop a generic CBA tool for adoption of other AMS
- Develop subsequent capacity building activities in applying the CBA tool

34. On behalf of Dr. Leocadio S. Sebastian, CCAFS Regional Program Leader, IRRI Project Scientist Mr. Michael Sheinkman, presented CCAFS Southeast Asia Research for Development (R4D). CCAFS is a strategic collaboration and a research initiative of the CGIAR and Future Earth that aims to overcome the threats of the changing climate to agriculture and food security. Its focus countries are Vietnam, Cambodia and Lao PDR but it also conducts additional activities in Indonesia, Philippines and Myanmar. The following are the highlights of the flagship programs of CCAFS SEA. The full presentation appears as **ANNEX 18**.
• **Flagship 1 - CSA practices**: integrated CSA technologies and practices in Climate Smart Villages (CSVs); upscaling CSVs in Mekong; evidence based upscaling of CSVs

• **Flagship 2 - Climate information services and climate informed safety nets**: ICT-based agro-advisory service; improved community-based agro-climate information for women and ethnic minorities; surveillance and early warning systems for climate sensitive diseases

• **Flagship 3 - Low-emissions agricultural development**: assessing effectiveness of landscape approach; identification and implementation support of mitigation priorities; reducing GHGs in oil palm plantations; mitigation strategies in rice; support for national partners' mitigation efforts using AWD

• **Flagship 4 – Policies and institutions for Climate-Resilient Food Systems**: PIRCCA; decision-support mechanism on agricultural, climate change and food security policies; Remote Sensing-based Information and Insurance for Crops in Emerging Economies (RIICE).

35. The following are the suggestions and agreements of the network after the presentation.

- CSV is a good integrated approach to analyze the impacts of climate change
- Activities of CCAFS are synergized and coordinated with CRN activities

**AGENDA ITEM 8:** RICE RESILIENCY PROMOTION IN VIETNAM

36. Mr. Pham Quang Huy from the ICD of Vietnam MARD provided an introduction on existing rice resiliency models, particularly on rice ecological engineering in the Mekong Delta to be visited by the participants at the last day of the 10th ATWGARD Meeting. The meeting took note of the rice resiliency project of Vietnam.

**AGENDA ITEM 9:** SYNTHESIS AND CLOSING CEREMONIES

37. Ms. Imelda Bacudo (GIZ) briefly wrapped-up the agreements gathered from the workshop. She also reminded the AMS to review and provide comments on the Regional Guidelines as well as on the academic posters that had been developed to summarize the national studies. Ms. Bacudo also asked the meeting on how to engage Singapore in the ASEAN-CRN which is also working on resiliency promotion in the region.

38. Dr. Margaret Yoovatana also informed the meeting that Thailand will suggest to the 10th Meeting to put the ASEAN-CRN in the regular agenda, as it is still under Other Matters.

39. Ms. Bacudo delivered the closing remarks and thanked Thailand for its leadership, Vietnam for hosting the workshop, the partners for their continuous support, and especially to all of the AMS for their valuable contributions and support to the project. She encouraged the network to continue to gain more support that will sustain the CRN to further promote climate resiliency in the region.

40. Dr. Suwit Chaikiattiyos expressed his gratitude towards Vietnam for hosting the workshop, the respective ATWGARD focal points for their active participation and to CCAFS, IRRI and CIAT for their continuous partnerships. He closed the workshop and expressed Thai DOA’s sincere appreciation to all the delegates.