1. Activity Reporting.

Activity 1013-2014

Training of trainers, and translation of CC adaptation planning toolkit (The Talking Toolkit) into Vietnamese

Status	Complete	Milestone	1.1.2 2014 (1)
Start date	2013 Oct	End date	2014 Jan

Description: This project builds on the CGIAR-funded project (CRP7.1 and CRP 6.4) in Vietnam (and Philippines). A toolkit for facilitating farmer focus group discussions about climatic exposures, impacts, coping and adaptation strategies was developed for a study on the role of trees for adaptation, which can be used for supporting local government units in developing adaptive land use planning and agroforestry systems. The toolkit is available online in English: http://worldagroforestry.org/regions/southeast_asia/vietnam/products/tools/talking-toolkit). The tools received much interest when presented at the NGO-Centre Climate Change Working Group in Hanoi and has already been used by Stockholm International Water Institute (SIWI) and a Vietnamese Research Organisation VACNE. For further uptake of the approach in Vietnam, the toolkit would need translation into Vietnamese alongside at least one ToT for NGO-representatives.

Status: Complete. The toolkit is a set of 10 tools that are used to facilitate communication with stakeholders during focus group discussions (FGDs). It is provided both in English and Vietnamese with print copies and electronic copy that is available for download in the ICRAF website. A 2-day training workshop was conducted in 30 October 2013 in Hanoi, Vietnam titled 'Talking Toolkit: How smallholder farmers and local governments can together adapt to climate change'. Participants from eight development NGOs attended the workshop and gave positive feedback. Information on the toolkit has been posted in ICRAF website and a blog has been created to facilitate exchange of experiences of users.

Gender Component: The Talking Toolkit approach recommends that focus groups are divided into women and men's groups. During the training, reasons for gender sensitive groups was brought up, and experiences shared among the participants.

Objectives:

1. This project will enable (i) the Toolkit to be translated into Vietnamese for ToT manual and website, (ii) a 2-day ToT for 8 major NGOs operating in Viet Nam who consider using/adopting the tools/methodology for their adaptation projects.

Deliverables:

Description	Type	Year	Status	Justification
The Talking Toolkit translated into Vietnamese for printing and website.	Articles for media or news (radio, TV, newspapers, newsletters,etc.)	2014	Complete	
ToT workshop on The Toolkit - 2-day ToT workshop for representatives of major NGOs in Vietnam	Workshop	2014	Complete	

Partners:

1- World Agroforestry Centre (ICRAF):
Elisabeth Simelton <e.simelton@cgiar.org>

Location(s):

Countries: Vietnam,

Activity 1014-2014

Overview of climate variability and likely climate change impacts on agriculture across the Greater Mekong Sub-region (GMS)

Status	Complete	Milestone	2.2.1 2014
Start date	2013 Oct	End date	2014 Jun

Description: Rainfall and temperature patterns are almost certain to change in the GMS region in the next few decades, although the nature of this change and the likely impacts on agriculture and the environment are not well understood at the national level, let alone at the level of the farmer. Resultant changes in agricultural productivity and water availability will affect income, with concomitant impacts on health, education, and welfare. Potential changes in agricultural production, the natural resource base, and livelihoods need to be understood.

Understanding how climate change may cause impacts on land and on land use, is crucial for the development of long term adaptation and mitigation strategies that may minimize negative impacts of climate change within the context of countries that are undergoing rapid development.

The aim of this study is to give an overview of the likely impacts of climate change on agriculture in the GMS region. The information will be used to guide the research activities of the CGIAR program on Climate Change Agriculture and Food Security (CCAFS) and to inform and provide national and sub-national governments with policy recommendations.

Status: Complete. An analysis of past climate trends, climate variability and calibration of current climate database has been done. The CRU TS 3.10.01 dataset was used to analyze past trends of climate. Current climate was described based on the World Climate (WC) database, and the outputs of Global Circulation Model (GCM) were adapted to predict future climate change and potential emission in the region.

The Ecocrop niche model has been modified to examine climate suitability under current and future (2050) climate condition for 28 important crops for the region. The output also shows distribution of crop climate-suitability over GCM. The analysis of land use change across the GMS has been done using MODISNDVI images for 2001 to 2012. Comparison between land use change and crop climate-suitability was also made to develop recommendation for appropriate strategies to adapt to climate change. Two training workshops were conducted in Vietnam (10-11 March 2014) and in Laos (1-2 April 2014) to introduce the crop suitability models and different data for land use change monitoring.

Gender Component: Not defined

Objectives:

1. Milestone 1:
   Assemble database and quantify impact on crop suitability (by December 18th 2013)

   1.To build a database of available soil, topography, vegetation and climate (current and 2050, A1b, AR4) data for GMS region.
   2.To compare current and future climate for major agricultural systems and agro-ecological zones across GMS.
   3.To assess past and current land use for calibration of crop suitability models and identification of land use trends using available census and spatial data.
   4.To assess the impact of climate variability and climate change on the most important agricultural crop suitability by 2050.
2. Milestone 2:
   Engage with partners and share results (by March 31st 2014)

   1.Closely engage with selected partners in the region to refine analysis by including expert knowledge and data made available by them.
   2.Hold regional workshop with participants from relevant institutions to train people on the use of the databases and models and to validate the results.
3. Milestone 3:
   Incorporate feedback, rerun analysis and finalize report (by May 15th 2014)

   1.To incorporate feed back from regional workshop and rerun analysis where necessary and possible.
   2.Finalize final report including policy recommendations by country.

Deliverables:

Description	Type	Year	Status	Justification
Calibrated crop suitably model for most important crops and current and future suitability of crops modelled.	Platforms - Data Portals for dissemination	2014	Complete	
Detailed report on climate change impacts in GMS region.	Research report (i.e. workshop report, consultant's report, discussion paper, project report, student thesis, etc.)	2014	Complete	
Summary of expected climate change impact for policy makers (policy briefs).	Other	2014	On going	Development of policy brief ongoing
Peer reviewed publication on most relevant and interesting aspect of analysis	Peer-reviewed journal articles	2014	On going	Drafting of paper for peer review ongoing
Regional workshop with participants from relevant institutions to train people on the use of the databases and models and to validate the results.	Workshop	2014	Complete	

Partners:

1- Centro Internacional de agricultura Tropical (CIAT):
Peter Laderach <p.laderach@cgiar.org>

2- Vietnamese Academy of Agricultural Sciences (VAAS):
Nguyen Van Bo <nguyenvanbo2@gmail.com>

Location(s):

Countries: Cambodia, Laos, Vietnam,

Activity 1017-2014

Intra-Household Impacts of Climate Hazards and Risk in Coastal Communities: A Cross Country Perspective

Status	Complete	Milestone	2.1.1 2014
Start date	2013 Oct	End date	2014 Dec

Description: The WorldFish - Philippine Country Office (PCO) has been for the past two years documenting and analyzing adaptive strategies against climate hazards in coastal communities in the Southeast Asian Region. Results of these researches have provided information critical in identifying appropriate and cost-effective public/ planned strategies as well as understanding determinants of autonomous or household adaptive behavior.

An interesting result that surfaced from previous studies of the WorldFish - PCO is the different roles men and women play in adaptation. Regression results showed that women play a more important role in adaptation against saltwater intrusion and that the likelihood of adaptation against it increases with the presence of women in the household. On the other hand, the presence of men in the household increases the likelihood of adaptation against flooding and typhoons. This result in fact, is related to anecdotal fragments of the gender differentiated impacts of climate related hazards (see Lambrou and Piana, 2006; Mabrou and Nelson, 2010; BRIDGE, 2008). For instance, migration mostly by men in search of alternative labor income has been a common adaptation measure against household level shocks. In the presence of climate change, this means that women are often left at home. They bear the burden of increased workload because they now assume the role of the household head as well. This is not to overlook the fact that they also bear the brunt of clean up work in the absence of men. Being left at home also increases the exposure of women to hazards. This is especially true in the cases of flooding and inundations. Also another issue which is implicitly alluded from results of the earlier study is the increase in the amount of time women spend to collect clean water. Access to clean water at times is affected by climate hazards such as flooding and saltwater intrusion.

What the previous discussion has shown is that first, there is an acknowledged and documented differentiated impacts of climate hazards among individual members of the household. This is an important observation since most climate change studies have focused on the household as a unit of analysis. Impacts have been largely measured at the household level and little attention has been given to whether individual household members are more at risk from climate hazards. Similarly adaptive strategies have been looked at as a household activity and choice. Often these actions are viewed as emanating from a consensus among household members. The idea that one member may be a dominant decision maker and that increased household resiliency can be achieved if there is equitable decision making, especially between husband and wife, has never been entertained. Furthermore, the observed distribution of roles among men and women in adaptive action has never

been scrutinized and have been unconsciously accepted as being the best for the household.

This study, therefore, is an attempt to systematically study the intra-household implications and issues of climate related shocks or hazards. In particular, we look at how the internal dynamics of decision-making within the household as well as the joint adaptive action of household members, in particular the husband and wife, affect outcomes/risks for different groups and individuals within the household itself.

Status: Complete. The bulk of the qualitative methodologies have been implemented. In particular, focus group discussions (FGDs) and key informant interview (KII) have been completed for all study sites. Risk and experimental games have also been completed as scheduled. The household survey had also been completed for all study sites. However, cleaning and finalization of the survey data are still in progress due to the voluminous amount of data.

Reports and insights from the completed activities have already been completed and submitted. The insights from these have already been substantial and interesting. However, it is deemed relevant to add the survey data analysis to enrich further the findings of the study.

Gender Component: The study will utilize an intra-household model, which is the closest 'engendered' framework in economics that views the household as a 'collective' entity wherein individual members have different preferences and/or threat points or 'bargaining powers'. The FGDs and household surveys are also developed to better capture the following information at the community level: a) gender differentiated perception of risks and impacts of climate hazards, b) role of women and men in the choice and implementation of adaptation strategies against the identified hazards as well as identifying community norms regarding the role of men and women during disasters, c) typical labor/ time allocation of household members in the communities and how these changes after an extreme event, d) relative awareness of men and women on climate change issues and adaptation choices, and e) gender differentiated risk attitudes and preferences and how this relates to household autonomous adaptation choices.

Objectives:

1. Describe the role of men and women in decisions related to adaptation against various climate hazards in coastal communities.
2. Describe and identify the various adaptation strategies employed by husband and/ or wife for different climate related hazard.
3. Measure the physical and monetary damages in terms of health, individual asset damage, and labor allocation (time cost) incurred by individual members of the household from climate related hazards (i.e. intra-household impacts of climate hazards).
4. Identify community cultural and social norms that affect the degree of women participation in adaptation decision-making and action.

5. Describe and measure how intra-household dynamics (i.e. women's participation in decision making both for adaptation and general decision spheres) result into intra-household impacts from different climate hazards.
6. Identify the determinants of women's participation (empowerment) in deciding on what adaptive measures to take with special focus on whether physical, productive, and informational/knowledge assets of women increase their bargaining power and hence their participation in adaptation action and decision making.
7. Identify determinants of choice of adaptive strategies by husband and wife.
8. Assess whether observed patterns of autonomous adaptation are "behavioral failures" or anomalies
9. Explore and identify emerging issues in the intra-household study of adaptation decision-making and action.

Deliverables:

Description	Type	Year	Status	Justification
Completion of a multi purpose socio-economic survey/ database on gender differentiated adaptation activities and gender specific impacts of climate hazards in coastal communities. 2.Completion of an economic field experiment on gender differentiated risk attitudes and preferences.	Data	2014	On going	The household survey has been completed. Currently, the team is in the process of cleaning and finalizing the gender disaggregated data set for analysis. It is taking some time because of the volume of data that needs to be checked and cleaned.
Community based/ Participatory hazards maps for the study sites.	Information outputs	2014	Complete	
Draft of articles based on synthesis of cross-country results. These articles will be submitted to peer reviewed journals.	Peer-reviewed journal articles	2014	On going	The final analysis would involve analyzing the household survey data which, at this point, are still being finalized.
Final Synthesis Report and Individual Country Study Reports.	Research report (i.e. workshop report, consultant's report, discussion paper, project report, student thesis, etc.)	2014	On going	The final analysis would involve analyzing the household survey data which, at this point, are being finalized. However, the results of the completed activities have already been submitted. The pre-final report already contains worthy insights and interesting results. It will be enriched further by the addition of the survey data analysis.

Partners:

1- WorldFish:

Maripaz Perez <ma.perez@cgiar.org>

Location(s):

Countries: Cambodia, Philippines, Vietnam,

Activity 1018-2014

Mobile Phone Applications for Climate-Informed Rice Crop Management: Incorporating Adaptation and Mitigation Options for Vietnamese Rice Farmers

Status	Complete	Milestone	2.3.1 2014
Start date	2013 Aug	End date	2014 Dec

Description: This project will build on past collaborative IRRI-Vietnam research, which resulted in the initial development of Nutrient Manager for Rice where IRRI has already developed the following: 1) a preliminary template for Nutrient Manager for Rice for alluvial soils in the Mekong Delta (http://webapps.irri.org/nm/vnsouth) ; and 2)a preliminary version of Nutrient Manager for Rice for the Red River Delta in MS Access. These 2 preliminary templates will be converted to an HTML5 app, supplemented with additional data, and field tested.

This project will start the development of Rice Crop Manager from the preliminary Nutrient Manager for Rice for the Mekong Delta and Red River Delta.

IRRI and VAAS are also partnering to develop a project with national support for the development, testing, endorsement, release, and dissemination of Rice Crop Manager in the Mekong Delta and Red River Delta. This envisaged follow-up project is targeting support of $100,000 per year for three years from the government of Vietnam and $100,000 per year for three years from the private sector. The funding sought from Vietnam would complement this project and enable activities to continue beyond year 1 with reduced support from CCAFS.

Status: Complete. The beta version of the Rice Crop Manager (RCM) mobile application customized for the cropping systems of the Mekong Delta and Red River Delta was developed. It is accessible at http://webapps.irri.org/vn/rcm. It will undergo pre-testing in February 2015 in Bac Lieu Province.

A beta version of CIRCLE Manager, using IPCC published guidelines for estimating methane and nitrous oxide emissions, was integrated into the RCM for the Mekong Delta. Information obtained from the CLUES project and the climate-smart village (CSV) in Bac Lieu was used to fine-tune the RCM and CIRCLE Manager for the Mekong Delta. Partnerships were initiated to enable testing at the CSV in Bac Lieu starting in February 2015.

One blueprint developed for the Mekong Delta of Vietnam and transferable to other countries is the integration of CIRCLE Manager into RCM. This enables use of CIRCLE Manager at the start of the crop season to calculate the estimated greenhouse gas emissions for the RCM recommendation assuming an availability of water anticipated by the farmer. Another blueprint, which is feasible with the current configuration of RCM but not yet implemented, is to enable the use of CIRCLE Manager at the end of the cropping season to calculate the estimated greenhouse gas emissions for the water

and crop management practices actually used by the farmer.

IRRI obtained support from PetroVietnam Fertilizer and Chemicals Corporation (PVFCCo) for field research in the Mekong Delta for 2015 to evaluate and refine the fertilizer recommendation in RCM and to promote RCM. RCM was additionally enhanced to enable the setting of climate-adjusted yields based on Oryza crop simulations using historical climate data and seasonal climate forecasts. The testing, verifying, promoting, and disseminating of the updated beta version of RCM and CIRCLE Manager have been delayed to 2015.

Gender Component: The RCM and CIRCLE Manager collect gender information of each farmer receiving RCM recommendation. This enables the archiving of the following information disaggregated by gender: 1) farming practices of each farmer; 2) recommendations on improved farming practice/s provided by the RCM; and 3) greenhouse gas emissions estimated by CIRCLE Manager. This will further enable the RCM, when disseminating information to farmers, to tailor recommendations based on farmers' gender.

Objectives:

1. Develop beta versions of Rice Crop Manager mobile apps customized for the cropping systems of the Mekong Delta and Red River Delta;
2. Incorporate new modules on adjusted rice management practices into a new decision tool called CIRCLE (Climate-Informed Rice Crop and Low Emission) Manager as a means to streamline crop management decisions on adaptation and mitigation options in Vietnamese rice production;
3. Initiate partnerships with relevant projects, namely, the CLUES project in the Mekong Delta, for field testing and fine-tuning of different versions of CIRCLE Manager;
4. Define a blueprint for future CIRCLE Manager versions customized for other countries in Southeast Asia;
5. Complement and stimulate a VAAS-IRRI initiative seeking financial support from Vietnam, envisaged to start in 2014, to support activities for testing, refining, verifying, endorsing, promoting, and disseminating CIRCLE Manager in the Mekong Delta and Red River Delta.

Deliverables:

Description	Type	Year	Status	Justification
Preliminary version of Rice Crop Manager for the Mekong Delta and major rice-growing areas of northern Vietnam programmed in HTML5 and accessible at http://webapps.irri.org/vn/rcm	Platforms - Data Portals for dissemination	2014	Complete	
An initial Climate-Informed Rice Crop and Low Emission (CIRCLE) Manager for the Mekong Delta incorporated within the Rice Crop Manager and supplementing the output of Rice Crop Manager with preliminary estimates of greenhouse gas emissions.	Platforms - Data Portals for dissemination	2014	Complete	

Partners:

1- International Rice Research Institute (IRRI):
Roland Buresh <r.buresh@irri.org>

Location(s):

Countries: Vietnam,

Activity 1019-2014

Development and roll out of climate smart rice farming module in the Infomediary Campaign-participating schools in the Philippines

Status	Complete	Milestone	2.3.2 2014
Start date	2013 Nov	End date	2014 Dec

Description: This proposal is all about creating new communication pathways in conveying climate change-related information, especially those that concern rice farming, by using the school as one nucleus of agricultural extension and the students as infomediaries or information providers for the farmers in their community. The idea to use the students as infomediaries has already been piloted in three high schools in Aurora and Sultan Kudarat provinces in the Philippines through the PhilRice-initiated Infomediary Campaign. In the piloting, high school students were mobilized to search and pass on information on cost-reducing and yield-enhaning technologies on rice farming to the farmers in their community. Presently, the campaign is being implemented in 61 high schools nationwide in collaboration with the Technical Vocational Unit of the Bureau of Secondary Schools of the Department of Education. Hence, modules on rice production and information hubs in Philippine agriculture are now being taught in the infomediary campaign participating schools.
The current initiative to develop module on climate change and rice production will be added on to the existing Infomediary Campaign in the Philippines. The module that will be developed will be taught in the participating schools. More or less 60,000 parents, through the students, will be reached by this project.

Status: Complete. The effectiveness of mobilizing students to deliver climate change information to farmers in their community was tested in 81 vocational schools in the Philippines. Information on CC and CC adaptation and mitigation was provided to students in the Infomediary Campaign, in collaboration with the Technical-Vocational Unit of the Bureau of Secondary Schools of the Philippines's Department of Education. In 2014, three modules on climate change and rice production, and other communication materials were developed. The modules are available via PhilRice website (www.philrice.gov.ph). Ninety-one teachers from 81 participating vocational schools joined the "Training of teachers on the climate change and rice production modules." The trained teachers then lectured the students on topics taken up. Pre- and post-activity surveys were conducted at 10 randomly selected schools to test changes in students' perception on climate change and rice production and to evaluate their ability to deliver information to farmers.

Infomediary Campaign

New communication pathways in delivering climate change information to farmers were created. This study shows that there are three ways to pass on information to farmers: Teacher-Student-Farmer; Teacher –Farmer and Students-Farmers. However, it is concluded that the Teacher-Student-Farmer

is the most effective way.

The study identified five factors that get in the way of successful campaign implementation: 1) failure to re-echo and turnover knowledge by teachers; 2) availability of ICT infrastructure (e.g. such as internet and mobile phone network) and reading materials; 3) certification of teachers to give lectures on climate change; 4) logistics and timing of practical activities; and 5) local specifics related issues, which are often beyond handling

Gender Component: Gender considerations are incorporated in all activities. For instance, in the infomediary-participating schools, it is a requirement that girls will have good representation in a class that will be nominated to participate in the campaign. The infomediary team ensures that gender concerns are addressed properly and promptly in implementing the activities of the campaign.

Objectives:

1. To test the effectiveness of mobilizing students to deliver information on climate change to farmers in their community
2. To create new communication pathways in delivering climate change information to farmers
3. To identify factors that will get in the way of successful implementation of this initiative

Deliverables:

Description	Type	Year	Status	Justification
Modules developed on general knowledge on climate change and its impact on rice farming and strategies to adapt and mitigate the impact of climate change in rice production	Articles for media or news (radio, TV, newspapers, newsletters,etc.)	2014	Complete	
Edutainment materials (ppt, flip charts, video, climate change technology catalogue on rice, posters, Q&A on climate change, climate change quiz bee) developed	Articles for media or news (radio, TV, newspapers, newsletters,etc.)	2014	Complete	
Baseline research on information-seeking behaviour of students conducted	Data	2014	Complete	
Briefings on climate change modules conducted among participants from Luzon, Visayas, and Mindanao	Capacity	2014	Complete	
Booklet	Articles for media or news (radio, TV, newspapers, newsletters,etc.)	2014	Complete	

Partners:

1- Philippine Rice Research Institute (PhilRice):
Jaime Manalo <ja.manalo4@philrice.gov.ph>

Location(s):

Countries: Philippines,

Activity 1020-2014

Scoping study on the “State of Climate Information and Services for Agriculture and Food Security in Southeast Asia”

Status	Complete	Milestone	2.3.2 2014
Start date	2013 Nov	End date	2014 Jun

Description: The scoping study focuses on assessing the climate information and services available, for agriculture and food security, from National Meteorological and Hydrological Services (NMHSs) in six (6) priority countries, viz: Cambodia, Indonesia, Lao PDR, Myanmar, Philippines, and Vietnam. These information include: 1) Available climate information products and services available for agricultural production and food security, including: weather and climate forecasts of different timescales, including forecast parameters; extreme climate events/severe weather warnings; climate variability and trends; climate change scenarios and satellite imagery products. 2) Available climate-related agricultural and food security decision-support tools and forecast application capacity building mechanisms for end-users, inter alia: Risk/vulnerability maps; Agriculture/food security advisory; system on onset and cessation of seasonal rainfall, chances of dry and wet spell, etc. ; Monitoring and advisory system on pests and disease outbreaks; Forecast application training for farmers. 3) Institutions involved, in the countries, in forecast generation and application for agriculture and food security, including institutional mechanisms for generation, communication and application. 4) Institutional and farm-level utilization of climate information, user experiences and feedback, and good practices. 5) Gaps in climate information generation and application, and recommendations on addressing the gaps and/or enhancing current mechanisms.

Status: Complete. Research was conducted. Documents of climate information products and services available for agriculture and food security for six countries in Southeast Asia (Cambodia, Indonesia, Lao PDR, Myanmar, Philippines, and Vietnam) were submitted. The documents provide details about: 1) background of countries; 2) capacities in climate information generation and application, including climate information products, tools for informed decision making and capacity building; 3) institutions involved in the generation, interpretation, translation, communication and application of climate information for agriculture and food security; and 4) gaps and recommendations.

Gender Component: Not defined

Objectives:

1. Document types of climate information products and services available for agricultural production and food security in the region
2. Inventory interactions/networking among a wide range of actors in agriculture and food security in climate information generation, communication and application

Deliverables:

Description	Type	Year	Status	Justification
The deliverable will be a report, covering six (6) countries in Southeast Asia: Cambodia, Lao PDR, Vietnam, Myanmar, Philippines, Indonesia:	Research report (i.e. workshop report, consultant's report, discussion paper, project report, student thesis, etc.)	2014	Complete	

Partners:

1- Regional Integrated Multi-Hazard Early Warning System (RIMES):
A.R.Subbiah <subbiah@rimes.int>

Location(s):

Countries: Burma, Cambodia, Indonesia, Laos, Philippines, Vietnam,

Activity 1021-2014

Understanding changing gender roles, constraints, risk- coping mechanisms in response to climate change in rice-based farming systems in South Vietnam

Status	Complete	Milestone	1.3.1 2014 (1)
Start date	2013 Nov	End date	2014 Mar

Description: The Mekong Delta is the major source of agricultural products for home consumption and export. In this region, rice accounts for half of the national rice production. Farmers mainly depend on food and income from rice-based farming systems. Several studies on gender roles in food security reveal that women are mainly responsible for several crop operations such as crop care, harvest and post harvest activities and preparing rice for the daily meal and processing of farm products. Of the total labor inputs in rice production, men and women contribute 53.4% and 46.6 %, respectively. With male labor-outmigration, women's work burden and farm management responsibility increased especially among female headed households (Chi et al., 2005, Paris and Chi 2005, Paris, et al., 2010a, Paris, et al., 2010b). Unfortunately however, these women are often excluded in agricultural training and extension programs (Paris, et al., 2010a; Chi et al., 2005). Women are particularly vulnerable to the impacts of climate change precisely because they play such critical roles in management of natural resources, as a result of their responsibilities for household livelihood. Women's income generating activities are essential for household survival and many of these activities are dependent on adequate supplies of natural resources including activities such as backyard poultry and swine production, vegetable-production and fish production. Floods and submergence result to crop and animal loss, reduction in available food and quality drinking water supply, and energy for their families. Women bear the burden of securing these important resources for their families. With changes in climate, traditional food sources become more unpredictable and scarce. This exposes women to loss of harvests, often their sole sources of food and income. However, efforts to address climate change, even at local grassroots level, tend to neglect and ignore rural women. Most processes are gender-blind and gender analysis (analysis of roles, contributions, gender-specific constraints, needs of both men and women) is not carried out before decisions are made and resources are allocated. Women are seldom consulted by agricultural scientists and extension workers and they do not participate in decision-making of these important processes that affect their lives directly. To address climate change effectively, it is important to increase knowledge of the particularly vulnerabilities of women in different circumstances as well as the critical role women can play as 'agents of change' in addressing climate change. Thus it is important to gain a better understanding of the changing gender roles, gender-specific constraints including gender inequalities in access to information and resources, priorities/needs in rice-based production systems.

Status: Complete. A study was conducted, using quantitative and qualitative research approaches, to determine climate change impacts on women and men in rice-based farming systems. The study examined gender roles, whether these roles are changing due to climate change, whether there are

gender differences in access to and control of resources, and risk-coping mechanisms. Gender-disaggregated questions were: who has access (own or rent) to assets, who has control of assets (decision-maker on the use and disposal of the asset, value of assets, sources of income (off-farm and non-farm), who has access to social networks (membership in organizations), training, information on related climate change access to income (off-farm and non-farm), and other household and farm-related decision-making, and support from government and non-government institutions. Gender – differences in risk-coping mechanisms were also collected. Perceptions with regards to climate smart technologies were also elicited from the principal males and females.
A total of 413 respondents (203 pairs of men and women, and 7 female-headed households) were randomly selected for the surveys. To gather more in-depth information, focus group interviews were conducted separately with groups of men and women. Key informant interviews with local leaders were held to collect secondary information in the study areas. The surveys were done in five (5) villages in the provinces of Hau Giang (Hoa Duc and Xeo Tram in Hoa An, and Phuong Lac and Phuong Thanh in Phung Hiep) and Bac Lieu (Phuoc Thanh in Phuoc Long). Final report was submitted.

Gender Component: The principal men and women of the same households were interviewed as well as a few female-headed households. The study examines gender roles, whether these roles are changing due to climate change, whether there are gender differences in access to and control of resources, and risk-coping mechanisms. Gender-disaggregated questions were: who has access (own or rent) to assets, who has control of assets (decision-maker on the use and disposal of the asset, value of assets, sources of income (off-farm and non-farm), who has access to social networks (membership in organizations), training, information on related climate change access to income (off-farm and non-farm), and other household and farm-related decision-making, and support from government and non-government institutions. Gender – differences in risk-coping mechanisms were also collected. Perceptions with regards to climate smart technologies were also elicited from the principal males and principal females.

Objectives:

1. The study aims to address the climate change impacts on women and men in rice-based farming systems, gender roles and gender-specific constraints. This knowledge will identify effective adaptation strategies that can reduce women's vulnerabilities to climate-induced change in order to protect and enhance the livelihoods of poor people engaged in rice farming in South Vietnam.

Deliverables:

Description	Type	Year	Status	Justification
Data disaggregated questionnaire on coping mechanism to climate change and vulnerability to negative consequences to climate change. Gender-disaggregated data from 200 rice farming households	Data	2014	Complete	
Trained researchers on data collection and data management	Capacity	2014	Complete	

Partners:

1- Cuu Long Delta Rice Research Institute (CLRRI):
Truong Thi Ngoc Chi <truongchi20122012@gmail.com>

2- International Rice Research Institute (IRRI):
Thelam Paris <thelmaparis33@gmail.com>

Location(s):

Countries: Vietnam,

Activity 1022-2014

Regional Workshop on Yield Gap Analysis for Multi-Functional Food & Livelihood Crops: Roots and Tubers Under Changing Climate in Southeast Asia

Status	Complete	Milestone	2.3.1 2014
Start date	2013 Dec	End date	2014 Mar

Description: Roots and tubers crops(RTC) are well recognized for their role in the food security and livelihoods of Asia's rural poor, as a staple/supplementary food and cash income with relatively minimal input. They also help point to the critical link between poverty and climate change. Poorer, smaller-scale RTC producers generally grow the crops in more resource-limited environments, and often under increased abiotic and biotic stresses.

In Southeast Asia, the key resilience and sustainability challenges for RTCs include: 1) degrading natural resources in upland, rainfed and coastal production zones; 2) increasing vulnerability to natural disasters and socio-economic crises; and 3) changing farming goals and practices as driven by dynamic markets. On the other hand, RTCs are traditionally seen as having greater adaptability to changing climate, for example, increases of drought and heat. They thrive even in less favourable production areas and seasons where cultivation of other crops may no longer be agro-economically feasible.

Food Security Through Asian Roots and Tubers (FoodSTART) is a regional partnership of over ten national research and development organizations, jointly coordinated by the International Potato Center (CIP) and the International Fund for Agricultural Development (IFAD). Since 2012, FoodSTART has facilitated collaborative research for in-country GIS mapping to promote and guide large-scale development investments in RTCs for food security.

Building on its initial mapping outputs, FoodSTART seeks to incorporate a climate-change perspective in prioritizing geographic targets for research and development interventions. CIP and national partners plan to undertake yield gap analysis through crop growth modelling tools for long-term scenarios on the climate-change impact on RTCs yield and performance. Yield gap analysis is a relatively simple, widely used methodology for assessing and projecting crop/varietal yields over time, as influenced by biophysical changes in the production system and environment, e.g. water availability, temperature.

Status: Complete. Besides Southeast Asia countries, India and China have been found to be significantly advanced in root and tuber crops. Therefore, partners from these two countries were invited to participate. Two crop growth simulation models (SOLANUM and SPOTCOMs) were used to estimate and analyze yield of potato and sweet-potato. In January 2014, data guidelines on crop growth and varietal performance were developed and provided to national partners. From 24 to 28

February 2014, a 5-day workshop on “Yield Gap analysis for potato and sweet-potato under changing climate in Asia” was held in Manila, Philippines with 22 participants from Vietnam, Lao PDR, Philippines, Indonesia, China and India.

Gender Component: The yield gap analysis targets potato and sweetpotato varieties which are closely associated with the local livelihoods of both women and men farmers. Results of the modelling exercise will also guide the identification and prioritization of on-farm adaptation strategies that particularly benefit women small-scale farmers.

Objectives:

1. To enhance national capacities particularly in Southeast Asia, for yield-gap analysis in assessing climate change impact on RTCs production.
2. To synthesize baseline information on crop and varietal performance for key RTCs-growing communities in the region.
3. To formulate long-term scenarios of RTCs as decision-support tool in investment planning for RTCs research and development.

Deliverables:

Description	Type	Year	Status	Justification
Core group of Southeast Asian researchers with enhanced capacities in yield gap analysis for potato and sweetpotato.	Capacity	2014	Complete	
Long-term scenarios (10- and 20-year perspective) for both crops in 6 Asian countries, including those from the Mekong region.	Platforms - Data Portals for dissemination	2014	Complete	
Synthesis paper with guidelines in using scenario information for in-country policy and planning.	Policy briefs - Briefing paper	2014	Complete	

Partners:

1- Centro Internacional de la Papa (CIP):
Christopher Wheatley <c.wheatley@cgiar.org>

Location(s):

Countries: China, Indonesia, Laos, Philippines, Vietnam,

2. Succinct summary of activities and deliverables by Output level.

Output: 1.1.2

Summary: Output 4.2.1

CCAFS SEA established 6 Climate-Smart Villages in the region, including 3 in Vietnam, 2 in Laos and 1 in Cambodia. In 2014, three training workshops were organized to strengthen capacity of national partners in implementing activities at CSVs. Materials and training modules of (1) village baseline study, (2) participatory approaches to Gender & Socially Inclusive Climate Change Research and (3) participatory methods, facilitation and community engagement techniques for Climate Smart Villages were developed and provided to participants. As the output, CSV teams were built with good skills to follow community-based study approaches.

From September to December 2014, we conducted village and institution baseline survey at all 6 CSVs in 3 countries: Vietnam, Laos and Cambodia. Two of CSVs have submitted reports, including site analysis report, debriefing document and filled questionnaires. The remaining CSVs are revising the reports and will submit them in few days.

A training on conducting household baseline survey was organized under collaboration with the University of Reading, UK. Household baseline survey is intended to carry out at 3 CSVs, each in a country. 2 CSVs have done the household survey (Tra Hat -Vietnam and Rohal Soung -Cambodia). The mobile devices were used to collect household information. 280 questionnaires collected from the 2 villages have been submitted to SSC server right after the survey. Household baseline survey for Ekxang village – Laos will be implemented in March 2015.

In addition to baseline surveys, CCAFS SEA also carried out the Situation Analysis and Needs Assessment (SANA) at all sites. The SANA covers information of natural resources, socio-economics and the urgent needs of local stakeholders, including local organizations and farmers at provincial and village levels. The SANA reports were provided in both English and local languages. This is very useful material for Flag Ship projects and partners to prioritize interventions.

Output 1.1.2

The “Talking toolkit”, a set of 10 communication tools for focus group discussions, has been compiled. The toolkit is provided in both English and Vietnamese. A hard copy of the toolkit has been delivered to CCAFS. The soft copy is also available on ICRAF website for download (http://worldagroforestry.org/regions/southeast_asia/vietnam/products/tools/talking-toolkit).

A 2-day training workshop was conducted on 30 October 2013 in Hanoi, Vietnam titled 'Talking Toolkit: How smallholder farmers and local governments can together adapt to climate change'. Participants from eight development NGOs attended the workshop and gave positive feedback.

Information on the toolkit has been posted on ICRAF website and a blog has been created to facilitate exchange of experiences of users.

A workshop titled “The effective implementation of crop diversification strategies for Cambodia, Lao PDR and Vietnam: Insights from past experiences and ideas for new research” was organized on 2-3 October 2014, in Vientiane, Lao PDR. Desk study reports (Cambodia, Lao PDR, Vietnam) and workshop report were completed and submitted. An article on the workshop was posted on Vientiane Times. Workshop highlights were also shown on NAFRI website: http://www.nafri.org.la/index.php/en/component/categoryblock/the-effective-implementation-of-crop-diversification-strategies-for-cambodia-lao-pdr-and-vietnam-insights-from-past-experiences-and-ideas-for-new-research?Itemid=101.

Output: 1.3.1

Summary: In order to get insights of gender-related issues in rice-based production systems under climate change, CCAFS SEA together with national partners in Vietnam studied gender roles, constraints, risk- coping mechanisms in response to climate change in rice-based farming systems following quantitative and qualitative research approaches. A survey was conducted with participation of 413 men and women in Hau Giang and Bac Lieu province, Mekong River Delta, Vietnam. Besides, 200 households were also interviewed separately. Focus group and key informant interviews were conducted to collect secondary information in the study areas. A final technical report and a research paper were submitted.

The report indicates that nearly half of the households were poor/relatively poor households and most of them often experience severe flooding. Income from rice is mostly from joint effort of both husband and wife meanwhile, the income from upland crops and small animals are mostly contributed by wife’s activities. Under unpredictable weather events, men and women have different risk coping mechanisms because men are more engaged in rice farming and non-farm employment within and outside the villages, while women stay behind and take care of small animals and poultry.

The research paper shows that men have more decision-making power on choices for farming strategies of the household (e.g. investment, crop and animal types, etc.) while women are highly empowered in deciding food and other family’s expenditures. Thus, women play an important role in ensuring food security of the household. Although floods and salinity intrusion affected human lives, crops, livestock and aquaculture in the area, it is concluded that the rice farming households were negatively affected by consequences of climate change.

There were several sources of climate change information like radio, television, newspaper, bulletin, and government loudspeaker, meetings, trainings and from individuals sharing. However, majority of male and female farmers are not members of any organization/association, thus farmers, especially the women, lack access to farming information and climate change coping strategies. In last years, more men attended meetings/trainings on farming than women. Similarly, more males get to meet with extension agents but not frequently (1 - 4 times a year). As a conclusion, it is important for CCAFS

SEA to pay attention to gender inequalities in access to information resources by engaging more women in all project activities.

The involvement of women in rice varietal improvement and seed dissemination was also tested in the Mekong River Delta. Seeds of new rice variety (OM3673) were distributed to 100 women famers. The women farmers were trained on farming management with the new seed. Training activities were conducted by staffs of CLRRI and Hau Giang Extension Center, focusing on “Three Reduction-Three gains with Fertilizer management” program, rice harvesting, producing quality seeds, integrated pest management (weed, insect, disease, rat and golden snail). One women farmer was interviewed on improved crop management technologies before and after training. Questionnaires for pre and post surveys and pictures of insect and disease were designed both in English and Vietnamese. Data analysis of the pre-survey is ongoing and will be completed in 2015. The post-survey is ongoing and about 30% completed.

Under a study on “Climate change risk management and resilience building among small holder farmers: developing community-based models for climate-smart agriculture across municipal landscapes” in Philippines, several workshops were conducted with participants from 10 target villages. The workshops aims to (1) establish farmers-perceived climatic variations, its impacts and the local mechanisms developed to cope with said variations, (2) develop a framework for the ridge-to-reef approach to building adaptive capacities of smallholder farmers, (3) introduce the basic principles of low external input rice production stressing principles from Palay Check (developed by PhilRice) and SRI (System of Rice Intensification), (4) discuss on impact of the prolonged dry season which had been a major problem in the area. A number of outputs were produced as results of this study: introduction of new drought resilient rice varieties (e.g. sorghum and pigeon pea), promotion of native species of small livestock (e.g. goats, pigs and ducks), intensive feed gardens and root and tuber crops production, establishment of central nurseries for large-scale production of seedlings, pilot establishment of small scale rain water harvesting systems, establishment of three goat farmer learning groups, promotion of swine production using alternative pig feed using locally sourced materials, etc.

Output: 2.1.1

Summary: Agricultural areas in Southeast Asia that are most vulnerable to changes in climate were determined based on analysis of historical and future climate information. This study was done through analyzing Coupled Model Inter-comparison Project Phase 5 (CMIP5) global climate model (GCM) output, for both historical and future climate with RCP4.5 scenario. The period of analysis is 1961-1990 for the historical climate and 2021-2050 for future climate. Climate variables, such as temperature, precipitation (rainfall), humidity and solar radiation, have been analyzed to determine the future changes relative to the baseline, in terms of the means and extremes. The Southeast Asia region was divided into 20 different areas which were largely influenced by the variations in climate types. This was the basis in ranking these regions according to areas indicating strong changes in future climate, in order to identify potential global warming hotspots in SEA. Five climate change impacts hotspots agricultural areas in Southeast Asia, which cover Borneo island and west Papua,

was determined.

Adaptive strategies against climate hazards in coastal communities in the Southeast Asian Region has been analyzed and documented in corroboration with WorldFish-Philippine Country Office. The study is a cross-country study involving three countries (Vietnam, Philippines, and Cambodia). The project report provides highlights of information critical in identifying appropriate and cost-effective public/ planned strategies as well as understanding the determinants of autonomous or household adaptive behavior. Women play a more important role in adaptation against saltwater intrusion and that the likelihood of adaptation against it increases with more women in the household. The presence of men in the household increases the likelihood of adaptation against flooding and typhoons. Men often migrate to search for off-farm employments while women are left at home. Thus, under impact of climate change women will have more workload. This leads to the increase of the exposure of women to hazards. Report shows that impacts of climate hazards are different among individual members of the household. Adaptive strategies of a household often emanate from a consensus among household members.

A toolkit was developed including modules for: (1) Historical and Seasonal Timeline Analysis, (2) Vulnerability Matrices, (3) Hazard Mapping and Physical Vulnerability Mapping and (4) Household and Sectors at Risk from Bio-geophysical Impacts. By using the toolkit in the gender-disaggregated approach, several gender- related climate change issues were identified, such as differences in perception on various hazards; climate related hazards and the corresponding sectors and resources that are affected in coastal marine based ecosystems; risk and exposure in prioritization of various hazards; household roles and varying impacts of climate hazards.

Output: 2.2.1

Summary: A final report on “Overview of climate variability and likely climate change impacts on agriculture across the Greater Mekong Sub-region (GMS)” has been submitted. The report presents analysis of past climate trends, climate variability and calibration of current climate database. The CRU TS 3.10.01 dataset was used to see the part trends of climate. Current climate was described based on the World Climate (WC) database; and the outputs of Global Circulation Model (GCM) were adapted to predict future climate change and potential emission in the region.

The Ecocrop model has been modified and calibrated to examine climate suitability under current and future (2050) climate condition for 28 important crops for the region. The output also shows distribution of crop climate-suitability over GCM. The analysis of land use change across the GMS has been done using MODISNDVI images for 2001 to 2012. Comparison between land use change and crop climate-suitability was also made to develop recommendation for appropriate strategies to adapt to climate change.

Two training workshops were conducted in Vietnam and in Laos. The training workshop titled “climate change impacts on agriculture across the Greater Mekong Sub-region” was conducted in Hanoi, Vietnam on 10-11 March 2014. Participants from Agriculture Research Institutes and Universities of

Vietnam, Laos, Myanmar, Cambodia, Thailand and two neighboring provinces of China Yunnan and Guangxi attended the event.

The training workshop titled “climate change, crop modeling and land use change monitoring” in Vientiane, Laos on 1-2 April 2014. Participants from the Agriculture and Forestry Policy Research Centre, the National Meteorology department, Department of Agriculture (DOA), National Agricultural and Forestry Research Institute (NAFRI), Department of Agriculture Land Management (DALaM), University of Laos , Department of Planning and Cooperation/ Ministry of Agriculture (DoPC/ MAF), IWMI, IFPD, CNNCD, IRRI attended the workshop.

The two training workshops: (1) provided an overview of the likely impacts of climate change on agriculture in the GMS region; (2) presented and discussed the methodology of suitability analysis and land use change assessment; (3) presentation from participants and discussion on climate change, crop modeling and (4) land use change and training on the use of the climate-suitability model Ecocrop.

Peer-review paper and policy brief related to this activity are in progress.

Output: 2.3.1

Summary: Under the activity on Yield Gap Analysis for Multi-Functional Food & Livelihood Crops: Roots and Tubers Under Changing Climate in Southeast Asia, two crop growth simulation models (SOLANUM and SPOTCOMs) were used to estimate and analyze yield of potato and sweet-potato. Besides Southeast Asia countries, India and China have been found to be significantly advanced in root and tuber crops. Therefore, partners from these two countries were invited to participate. Two crop growth simulation models (SOLANUM and SPOTCOMs) were introduced to estimate and analyze yield of potato and sweet-potato. In January 2014, data guidelines on crop growth and varietal performance were developed and provided to national partners. A network of researchers from NARS of Vietnam, Lao PDR, Philippines, Indonesia, China and India has been established. They significantly facilitated pre-workshop preparation and contributed data on varieties, agronomic performance and climate parameters to comply yield gap analysis. A workshop on “Yield Gap analysis for potato and sweet-potato under changing climate in Asia” was held in Manila, Philippines with 22 participants from Vietnam, Lao PDR, Philippines, Indonesia, China and India. The regional workshop identified 5 types of yield gaps for sweet-potato, and four types of yield gaps for potato. As agreed, CIP, CRP RTB, CCAFS, IFAD and national partners will further collect and consolidate agronomic data and develop/promote scenario analysis for potato, sweet potato and other key root crops. The long-term scenarios (10- and 20-year perspective) for both crops in Asian countries was presented and discussed among participants. A project brief with highlights of the regional workshop and guidelines in using scenario information has been published and disseminated.

A beta version of a computer- and smartphone-based Rice Crop Manager (RCM) for the Mekong Delta and major rice-growing provinces of northern Vietnam has been developed. The developed RCM has capabilities for computing field-specific nutrient management based on target yields and

optimized crop management options. It has the additional capability to archive in a data management system all the information collected from each farmer during the RCM interview and the information provided through each RCM recommendation. Furthermore, a beta version of computer- and smartphone-based CIRCLE Manager for the Mekong Delta CIRCLE Manager has also released. It allows estimating the greenhouse gas footprint of different management practices based on IPCC published guidelines for estimating methane and nitrous oxide emissions. The CIRCLE Manager is integrated into RCM, and it is accessible through RCM. It provides an estimate of greenhouse gas emissions for the field receiving an RCM recommendation. There is the capability to archive in a database all the information provided to each user through the CIRCLE Manager output.

The project established partnerships through the Vietnam Academy of Agricultural Sciences (VAAS) with Cuu Long Rice Research Institute (CLRRI) in the Mekong Delta and the Soils and Fertilizers Research Institute in Hanoi (SFRI). The partnership with CLRRI in the Mekong Delta will facilitate future testing, refining, verifying, promoting, and disseminating at the CSV in Bac Lieu, and the partnership with SFRI will facilitate future testing, refining, verifying, promoting, and disseminating at the CSV in Yen Bai.

IRRI obtained support from PetroVietnam Fertilizer and Chemicals Corporation (PVFCCo) for field research in the Mekong Delta in 2015 to evaluate and refine the fertilizer recommendation in RCM and to promote RCM. Leaders of the Department of Crop Production, National Agriculture Extension Center, and Plant Protection Department in southern Vietnam were provided with an orientation to RCM. These organizations will from 2015 onward become partners in the dissemination of RCM and CIRCLE Manager.

CCAFS SEA supported Vietnam Institute of Fisheries Economics and Planning (VIFEP) in improving quantitative methods for assessing impacts of climate change on aquaculture. A workshop was organized on 5 September 2014 to collect feedbacks from experts and agencies. A technical guideline was then developed and completed. The guideline focused on the econometric/production function approaches, cost benefit analysis, cost-effectiveness analysis, and multi-criteria assessment. The guideline was prepared both in Vietnamese and in English. A working paper assessing impacts of climate change related variables on Vietnam's aquaculture was written and now being finalized. This output was prepared to demonstrate the application of econometric approaches and support building research capacity for VIFEP's staff. In August 2014, the national consultant travelled to project sites in the North Central Region (Thanh Hoa, Nghe An, Ha Tinh, Quang Binh and Quang Tri province) to test prepared tools and collect data. The assessment report was completed in Vietnamese.

Output: 2.3.2

Summary: 2.3.2

We collaborated with the Regional integrated Multi-Hazard Early Warning System (RIMES) to produce country reports on "State of Climate Information and Services for Agriculture and Food Security in Southeast Asia". The documents describe situation of climate information products and services available for agriculture and food security for 6 countries in Southeast Asia (Cambodia, Indonesia, Lao

PDR, Myanmar, Philippines, and Vietnam). Each of the country reports evaluates the mechanisms and systems used to generate, communicate, and apply climate information and services for agriculture and food security highlights strengths and weaknesses and provides recommendations for further development.

A pilot learning workshop for integrating a Climate Change Perspective in the Farmer Business School (FBS) approach was organized. A pilot of learning workshop was held on 24-26 March 2014 in Pampanga, Philippines with participants from government institutions, climate change experts, NGOs and Local Government units (LGUs) in the Philippines. A filed visit was also organized for participants in Tarlac and Central Luzon, Philippines. As the output of discussions on integration of climate change and the farmer business school approach, the 2 subsequent activities were implemented: The FBS-CC stakeholders' Consultation workshop (29 May 2014 in Pasig, Philippines) for discussing with potential institutional partners for piloting and upscaling the FBS with climate change perspective in new and on-going initiatives; and the FBS-CC Training of Facilitators (4-9 August 2014 in Baguio, Philippines) for building capacity of institutions interested to pilot/ upscale the FBS with climate change perspective.

Workshop addressed five objectives namely to: 1) assess vulnerability threats and other afro-environment risks to small scale farmer business; 2) identify opportunities for resilience-building in business planning and development, through proven best practices and other innovations for climate change adaptation/mitigation; 2) integrate climate-smartness in the FBS approach; to include target learning contents in the FBS curriculum; and to develop an action plan for piloting climate-smart FBS in new/on-going initiatives for agri-value chain development.

We also collaborated with partners in the Philippines to carry out the "Development and roll out of climate smart rice farming module in the Infomediary Campaign-participating schools in the Philippines". A final report was submited.

Within the campaign, three modules on climate change and rice production were built. The modules are posted on PhilRice's website (www.philrice.gov.ph or http://www.infomediary4d.com/resources/teaching-materials/). A teaching guide accompanies the modules and is also available to access via PhilRice website. Module 1 is on introduction to Climate Change; module 2 is on climate change adaptation for rice-based farming systems; and module 3 discusses the climate change mitigation schemes. Edutainment materials (presentation, flip charts, video, climate change technology catalogue on rice, posters, Q&A on climate change, climate change quiz bee) were developed. Materials were provided to teachers, who attended the "training of teachers on the Climate Change and Rice Production Modules". Data of a baseline research on information-seeking behavior of students was released. Surveys, field observations, and focus group discussions (FGDs) with school officials and students were organized to capture baseline perception on climate change.

Several deliverables were generated:

1. Briefings on climate change modules were given among participated schools in in Luzon, Visayas, and Mindanao in order to promote the informediary campaign.

2. Two webpages (http://www.infomediary4d.com/resources/teaching-materials/ and http://www.infomediary4d.com/gallery/videos/)and one Newsletter (http://www.philrice.gov.ph/youth-potential-ally-in-climate-change-solutions/) were developed.

3. Six videos

a. Infomediary campaign (https://www.youtube.com/watch?v=8X0P3F17Btw)
b. Infomediary campaign 2 (https://www.youtube.com/watch?v=nz4CIMrf-gE)
c. Panata ng isang infomediary (Infomediary pledge @ http://www.infomediary4d.com/gallery/videos/; Visayan version: https://www.youtube.com/watch?v=QZR_mbCVHjw)
d. Documentary in Aklan (https://www.youtube.com/watch?v=OvhSFJLzEyA#t=46)
e. Infomediary Graduation (https://www.youtube.com/watch?v=xMkFYA1JXQk)
f. Youth on Climate Change (https://www.youtube.com/watch?v=dAX0KtMLiOs)

4.2.1
CCAFS SEA established 6 Climate-Smart Villages in the region, including 3 in Vietnam, 2 in Laos and 1 in Cambodia. In 2014, three training workshops were organized to strengthen capacity of national partners in implementing activities at CSVs. Materials and training modules of (1) village baseline study, (2) participatory approaches to Gender & Socially Inclusive Climate Change Research and (3) participatory methods, facilitation and community engagement techniques for Climate Smart Villages were developed and provided to participants. As the output, CSV teams were built with good skills to follow community-based study approaches.

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village levels. The SANA reports were provided in both English and local languages. This is very useful material for Flag Ship projects and partners to prioritize interventions.

3. Communications.

Media Campaigns:

The articles below were offshoots of the Media Workshop conducted in the Philippines:

1. IRRI expands tech that cuts farmer's water expense, greenhouse gas emission (http://www.mb.com.ph/irri-expands-tech-that-cuts-farmers-water-expense-greenhouse-gas-emission/)

2. IIRI to put up climate smart village in Quezon (http://www.mb.com.ph/irri-to-put-up-climate-smart-village-in-quezon/)

The articles below were offshoots of the Media Workshop conducted in Vietnam:

1. 'Climate-smart' villages to be built in three regions in Vietnam (http://tuoitrenews.vn/society/24242/climatesmart-villages-to-be-built-in-three-regions-in-vietnam)

2. "Climate-smart" villages to be built (http://www.baokhanhhoa.com.vn/english/socio_politic/201411/climate-smart-villages-to-be-built-2354672/)

3. Xây dng "Làng ng phó thông minh vi bin i khí hu" (http://dantri.com.vn/moi-truong/xay-dung-lang-ung-pho-thong-minh-voi-bien-doi-khi-hau-998437.htm)

4. Mi nm nhit Vit Nam tng 0,5 - 0,7 C (http://www.thanhnien.com.vn/chinh-tri-xa-hoi/moi-nam-nhiet-do-o-viet-nam-tang-05-07-do-c-510031.html)

5. Truyn thông vi bin i khí hu và an ninh lng thc (http://baodientu.chinhphu.vn/Utilities/PrintView.aspx?distributionid=213579)

6. http://vov.vn/xa-hoi/truyen-thong-voi-bien-doi-khi-hau-va-an-ninh-luong-thuc- 365144.vov

7. ng dng khoa hc vào công cuc chng bin i khí hu vì an ninh nông nghip và lng thc ti Vit Nam (http://www.dmc.gov.vn/tabid/91/language/vi-VN/item/1848/Default.aspx)

The Infomediary Campaign was also promoted through the following published articles in print media:

1. Campaign mobilizes youth for climate change solutions
http://www.philstar.com:8080/agriculture/2014/06/08/1332225/campaign-mobilizes-youth-climate-change-solutions

2. Teachers train on climate change resilient farming
http://panaynewsphilippines.com/2014/09/10/teachers-train-climate-change-resilient-farming/

3. Youth: Potential ally in climate change solution
http://www.ugnayan.com/ph/Pampanga/SanFernando/ArticleView/3S1V
4. Student tap to disseminate information on climate change mitigation in rice farming sector
http://bayanihan.org/2014/05/22/students-tap-to-disseminate-information-on-climate-change-mitigation-in-rice-farming-sector/

5. Antique teachers train on CC resilient farming
http://news.pia.gov.ph/article/view/981410245128/antique-teachers-train-on-cc-resilient-farming

Blogs:

1. New rice helps Mekong farmers battle worsening floods, salt intrusion
(http://www.trust.org/item/20140925100008-8j4uh/)

2. Brainstorming with the media on climate change in Vietnam
(http://ciat.cgiar.org/news-2-2/brainstorming-with-the-media-on-climate-change-in-vietnam)

3. Crop diversification strategies for Cambodia, Laos and Vietnam
(http://ccafs.cgiar.org/blog/crop-diversification-strategies-cambodia-laos-and-vietnam#.VNxrNfmUco5)

4. Sweetpotato gives hope: ensuring climate-smart food systems, livelihoods and resilience
(http://ccafs.cgiar.org/blog/sweetpotato-gives-hope-ensuring-climate-smart-food-systems-livelihoods-and-resilience#.VNxrTPmUco5) (http://cipotato.org/press-room/blogs/sweetpotato-gives-hope-ensuring-climate-smart-food-systems-livelihoods-resilience/)

5. Elite rice to combat flooding in Vietnam's Mekong Delta
(http://ccafs.cgiar.org/blog/elite-rice-combat-flooding-vietnam%E2%80%99s-mekong-delta#.VNxrYPmUco5) (http://www.merid.org/en/Content/News_Services/Food_Security_and_AgBiotech_News/Articles/2014/Sep/24/rice.aspx)

6. Future scenario development now part of Cambodia's Action Plan for Agriculture
(http://ccafs.cgiar.org/blog/future-scenario-development-now-part-cambodias-action-plan-agriculture#.VNxrdfmUco5)

7. Toolkit training for climate change talks with farmers
(http://ccafs.cgiar.org/blog/toolkit-training-climate-change-talks-farmers#.VNxriPmUco5)
(http://www.worldagroforestrycentre.org/wca2009/newsroom/highlights/talking-toolkit-training)

8. Getting climate-smart talk on the top agenda
(http://ccafs.cgiar.org/blog/getting-climate-smart-talk-top-agenda#.VNxjbfmUco4)

9. What do we need to know to make climate-smart agriculture a reality? (http://ccafs.cgiar.org/blog/what-do-we-need-know-make-climate-smart-agriculture-reality#.VNxruPmUco5) (http://globalmilling.com/need-know-make-climate-smart-agriculture-reality/)

10. New irrigation technique can ease drought effects for rice farmers (http://ccafs.cgiar.org/blog/new-irrigation-technique-can-ease-drought-effects-rice-farmers#.VNxrzvmUco5)

11. Communicating climate change with greater impact: Next steps for Southeast Asia (http://ccafs.cgiar.org/blog/communicating-climate-change-greater-impact-next-steps-southeast-asia#.VNxr4PmUco5) (http://irri-news.blogspot.com/2014/06/vietnam-ccafs-sea-holds-workshop-on.html) (http://www.isaaa.org/kc/cropbiotechupdate/article/default.asp?ID=12403) (http://iasvn.org/en/tin-tuc/CCAFS-SEA-and-Partners-Discuss-Effective-Communication-on-Climate-Change-2508.html)

12. New study sheds light on climate concerns in Mekong Delta (http://ccafs.cgiar.org/blog/new-study-shreds-light-climate-concerns-mekong-delta#.VNxlh_mUco4)

13. Tracing Vietnam's climate scars (http://ccafs.cgiar.org/blog/tracing-vietnam%E2%80%99s-climate-scars#.VNxsEPmUco5)

14. FoodSTART collaborates with CCAFS to bridge the yield gap for potato and sweetpotato in Asia (http://asia.ifad.org/web/foodstart/home?p_p_id=1_WAR_ifad_newsportlet&_1_WAR_ifad_newsportlet_jspPage=%2Fview_entry.jsp&_1_WAR_ifad_newsportlet_entryId=10209)

15. Youth:Potential ally in climate change solutions (http://www.philrice.gov.ph/youth-potential-ally-in-climate-change-solutions/)

16. Launching of program to reduce methane emission from rice production (http://rice-climatechange-research.blogspot.com/2014/10/launching-of-program-to-reduce-methane.html)

17. New CCAC Agriculture Effort Tackles Climate Change, Supports Rice Production (http://rice-climatechange-research.blogspot.com/2014/11/new-ccac-agriculture-effort-tackles.html) (http://ccafs.cgiar.org/news/media-centre/press-releases/new-climate-and-clean-air-coalition-agriculture-effort-tackles#.VNy2D_mUco5) (http://futureag.info/news/new-climate-and-clean-air-coalition-agriculture-effort-tackles-climate-change-supports-rice-production/)

18. IRRI and CCAFS discuss better collaboration of climate-change-related research activities (http://rice-climatechange-research.blogspot.com/2014/11/irri-and-ccafs-discuss-better.html)

19. CCAFS-SEA kicks off first media workshop on how to report about climate change with impact (http://irri-news.blogspot.com/2014/08/ccafs-sea-kicks-off-first-media.html)

20. IRRI and CCAFS regional program office/ Southeast Asia organize training on greenhouse gas emission measurements (http://irri-news.blogspot.com/2014/01/irri-and-ccafs-regional-program-office.html)

21. Mobilizing science for climate change, agriculture and food security in Vietnam (http://ccafs.cgiar.org/mobilizing-science-climate-change-agriculture-and-food-security-vietnam#.VNy6sfmUco4)

22. FoodSTART collaborates with CCAFS to bridge the yield gap for potato and sweetpotato in Asia (http://asia.ifad.org/home/-/news/10209/normal?&)

23. International Potato Center upgrades Farmer Business School program in Philippines (http://cipotato.org/press-room/blogs/cip-upgrades-farmer-business-school-program-philippines/)

24. Learning Workshop for Integrating Climate Change Perspective in the Farmer Business School (FBS) Approach (http://asia.ifad.org/web/foodstart/home/-/news/10218/normal?_1_WAR_ifad_newsportlet_redirect=http%3A%2F%2Fasia.ifad.org%2Fweb%2Ffoodstart%2Fhome%3Fp_p_id%3D1_WAR_ifad_newsportlet%26p_p_lifecycle%3D0%26p_p_state%3Dnormal%26p_p_mode%3Dview%26p_p_col_id%3Dcolumn-1%26p_p_col_pos%3D1%26p_p_col_count%3D2%26%23p_1_WAR_ifad_newsportlet&#p_1_WAR_ifad_newsportlet)

25. Hanoi: Cooperatively to map out a R&D agenda and strategy for Climate Change, Agriculture and Food Security in Southeast Asia (http://cansea.org.vn/hanoi--cooperatively-to-map-out-a-r-d-agenda-and-strategy-for-climate-change--agriculture-and-food-security-insoutheast-asia-792-815-12624.aspx)

26. Workshop on impact of climate change on crop pests & diseases, and adaptation strategies for the GMS (http://ricehoppers.net/2014/09/workshop-on-impact-of-climate-change-on-crop-pests-diseases-and-adaptation-strategies-for-the-gms/)

27. Piloting MET for Rainfed Lowland Rice (http://irri-news.blogspot.com/2014/04/piloting-met-for-rainfed-lowland-rice.html) (http://afrim.org.ph/newafrim/tag/piloting-met-for-rainfed-lowland-rice)

28. Mobilizing Science for Climate Change, Agriculture and Food Security in Vietnam (http://www.redrawtheline.org/mobilizing-science-for-climate-change-agriculture-and-food-security-in-vietnam/)

29. RTL co-sponsors workshop on media & climate change (http://www.redrawtheline.org/rtl-co-sponsors-workshop-on-reporting-climate-change/)

Websites:

1. Infomediary website (http://www.infomediary4d.com/)

2. Rice crop manager Mekong Delta with CIRCLE Manager (Beta version: http://webapps.irri.org/vn/rcm)

Social Media Campaigns:

1. Infomediary Campaign in the Philippines

Newsletters:

No newsletter

Events:

1. Workshop on yield gap analysis for potato and sweet-potato under changing climate in Asia was held in Manila, Philippines on 24-28 February 2014

2. Training workshop on “climate change impacts on agriculture across the Greater Mekong Sub-region,” Hanoi, Vietnam, 10-11 March 2014

3. Training workshop on climate change, crop modeling and land use change monitoring, Vientiane, Laos on 1-2 April 2014

4. Learning workshop for integrating a Climate Change Perspective in the Farmer Business School (FBS) approach in Pampanga, Philippines on 24-26 March 2014

5. FBS-CC stakeholders’ Consultation workshop in Pasig, Philippines on 29 May 2014

6. FBS-CC Training of Facilitators in Baguio, Philippines on 4-9 August 2014

7. Workshop on Mapping out a CCAFS R4D Agenda & Strategy for Southeast Asia in Hanoi, Vietnam on 12-14 March 2014

8. Workshop on "Collective Engagement and Communication Plan for CCAFS - SEA" in Hanoi, Vietnam on 29-30 May 2014

9. Workshop on "CSV Implementation Plan in SEA"in Hanoi, Vietnam on 16-18 July 2014

10. Workshop on "Reporting Climate Change, Agriculture & Food Security: Challenges &

Opportunities for the Philippine Media" in Laguna, Philippines on 14 – 15 August 2014

11. Workshop on "Mapping-out Myanmar's Climate Smart Agriculture Strategy Focused on Rice-Based Farming Systems" in Yezin Agricultural University, Myanmar on 9-11 September 2014

12. Workshop on "CCAFS Regional Impact Pathways and Theory of Change" in Bangkok, Thailand on 19-22 October 2014

13. Workshop on "Mobilizing Science for Climate Change, Agriculture & Food Security: Engaging the Media in Vietnam" in Hanoi, Vietnam on 17 – 18 November 2014

14. Workshop on "Climate Change Agriculture and Food Security: Opportunities for Regional Collaboration" in Ho Chi Minh City, Vietnam on 19-21 November 2014

15. Training Course on "Implementation of the Village Baseline Study (VBS) and Organizational Baseline Study (OBS)" in Ho Chi Minh City, Vietnam on 1-6 Sep 2014

16. Training Course on "Participatory Methods, Facilitation and Community Engagement Techniques for Climate Smart Villages (CSVs)" in Cavite, Philippines on 6-10 Oct 2014

17. Training Course on "Implementation of the Household Baseline Study (HBS)" in Can Tho City, Vietnam on 10-14 Nov 2014

18. Training Course on "Participatory Approaches to Gender & Socially Inclusive Climate Change Research" in Can Tho City, Vietnam on 1-10 Dec 2014

19. Workshop on “Assessment of climate change impacts on brackish water shrimp aquaculture in the North Central Region” in Hanoi, Vietnam on 5 September 2014

20. Media Workshop: Mobilizing Science for Climate Change, Agriculture and Food Security: Engaging the Media in Vietnam. 17-18 November 2014, Hanoi, Vietnam

21. Published articles evolving from the activity (outputs):

http://dantri.com.vn/moi-truong/xay-dung-lang-ung-pho-thong-minh-voi-bien-doi-khi-hau-998437.htm

http://www.thanhnien.com.vn/chinh-tri-xa-hoi/moi-nam-nhiet-do-o-viet-nam-tang-05-07-do-c-510031.html

http://baodientu.chinhphu.vn/Utilities/PrintView.aspx?distributionid=213579

http://vov.vn/xa-hoi/truyen-thong-voi-bien-doi-khi-hau-va-an-ninh-luong-thuc- 365144.vov

22. Media Seminar-Workshop on Reporting Climate Change, Agriculture and Food Security: Opportunities and Challenges, 14-15 August 2014, Los Baños, Laguna, Philippines.

Videos and other Multimedia:

The videos below are all part of the Infomediary campaign:

1. Infomediary climate change seminar teaser (http://www.infomediary4d.com/gallery/videos/)
2. Infomediary campaign (https://www.youtube.com/watch?v=8X0P3F17Btw)
3. Infomediary campaign 2 (https://www.youtube.com/watch?v=nz4CIMrf-gE)
4. Panata ng isang infomediary (Infomediary pledge @ http://www.infomediary4d.com/gallery/videos/ ; Visayan version: https://www.youtube.com/watch?v=QZR_mbCVHjw)
5. Documentary in Aklan (https://www.youtube.com/watch?v=OvhSFJLzEyA#t=46)
6. Infomediary Graduation (https://www.youtube.com/watch?v=xMkFYA1JXQk)
7. Youth on Climate Change (https://www.youtube.com/watch?v=dAX0KtMLiOs)

8. Climate proofing rice in Vietnam (https://www.youtube.com/watch?v=okW0tDZlmFM&list=UU6RPxIIMQ6E4ZjOBPWr3ycg)

9. A sustainable fishery model: https://www.youtube.com/watch?v=PHNN5Kyy8_Y
The video is about the climate change adaptive brackish water shrimp farming systems in Thanh Hoa province. It was broadcasted on the National VTV television of Vietnam for several times in July and August. It is also posted in the websites of the Ministry of Agriculture and Rural Development of Vietnam and Directorate of Fisheries in Vietnam.

10. IRRI and Vietnam partnership to boost country's rice sector (https://www.youtube.com/watch?v=QrNE4fJrYtM#t=13)

Other Communications and Outreach:

Collaterals (print and online)

1. The Talking Toolkit (http://worldagroforestry.org/regions/southeast_asia/vietnam/products/tools/talking-toolkit)

2. CCAFS SEA brochure (https://www.dropbox.com/s/yk1sg5yqjrlv6ql/CCAFS%20Brochure%20Final_online.pdf?dl=0)

Teaching modules developed by PhilRice as part of the Infomediary campaign:

1. Climate Change: Adaptation and Mitigation - Integrated Crop Management (http://www.slideshare.net/cgiarclimate/lesson-2bs-adaptation-mitigation-final-2?qid=1d0893b9-5273-4d61-bad3-bab77b0a6b6c&v=default&b=&from_search=6)

2. Climate Change: Adaptation and Mitigation - Palayamanan (http://www.slideshare.net/cgiarclimate/lesson-2a-s-adaptation-mitigation-1?related=1)

3. Climate Change 101 (https://www.dropbox.com/s/nersbdwuv24x0w7/LESSON%201%28s%29_CLIMATE%20CHANGE.pdf?dl=0)

BRIEFS

1. Yield Gap analysis for potato and sweet-potato under changing climate in Asia (https://www.dropbox.com/s/h1yzz6as5o266b1/CCAFS%20-%20Yield%20Gap%20Brief%20-%20final.pdf?dl=0)

Insert: Yield Gap Analysis Through Crop Growth Simulation: General Overview (https://www.dropbox.com/s/pb2on824fbq805x/CCAFS%20Yield%20Gap%20Insert%20-%20corrected%20final%20version.pdf?dl=0)

2. Integrating Climate Change Perspective in the Farmer Business School (FBS) Approach (https://www.dropbox.com/s/n3oowy83qc7siie/FBS-CC%20Brief_final.pdf?dl=0)

Insert: Climate Change Mitigation and Adaptation: Initiatives in the Philippines (https://www.dropbox.com/s/5rco38wd2t9nxra/FBS-CC%20Insert.pdf?dl=0)

Bulletin

1. Media Workshop Bulletin (https://www.dropbox.com/s/1dyjwsud5787j1e/Media%20Workshop%20Bulletin.pdf?dl=0)

4. Case studies.

Case Study #1

Title: Use of Participatory Methods to Identify Climate Related Hazards and Risks: The Case of Selected Coastal Areas in Zamboanga del Norte , Philippines

Author: WorldFish-Philippine Country Office (PCO)

Type: Social differentiation and gender;

Project Description:

Adaptive strategies against climate hazards in coastal communities in the Southeast Asian Region has been analyzed and documented in corroboration with WorldFish-Philippine Country Office. The study is a cross country study involving three countries (Vietnam, Philippines, and Cambodia). The project report provides highlights of information critical in identifying appropriate and cost-effective public/ planned strategies as well as understanding the determinants of autonomous or household adaptive behavior.

Introduction / objectives:

This case study highlights the use of participatory methods to generate gender differentiated local level planning materials. The particular objective of the case study is to show the use of participatory hazard mapping and historical timelines as a quick method to generate information that can be used for local level planning.

Project Results:

Community generated hazard maps and historical timelines as perceived by men and women were generated and are ready for use local level planning.

Partners:

WorldFish, JRMSU

Case Study #2

Title: Use a combination of qualitative and quantitative methods to study social, culttural and economic outcomes of involving women in improving rice farming

Author: Truong Thi Ngoc Chi, Thelma Paris

Type: Social differentiation and gender;

Project Description:

The project aims to train 100 women farmers to manage the field using the new seed (OM3673) and associated crop management practices for submergence conditions. Training activities will be conducted by the staff members of Cuu Long Rice Research Institute (CLRRI) and Provincial Extension Center. Women's technical knowledge gained through training will be assessed through pre and post knowledge tests to be given to 100 women volunteers. The outcomes of this project will be assessed by comparing two groups of women (trained and untrained) women farmers, using gender-sensitive indicators. Some of these indicators are: rice productivity, yield, pesticide use, use of women' extra time and income, social status in household and community and women's empowerment

Introduction / objectives:

(1) train women farmers on conducting farmer-managed trials using new seeds of improved rice varieties that are tolerant to submergence condition (selected from the researcher-managed trials) and associated improved crop management practices; (2) assess the knowledge gained through the training activities conducted and returns to their labor and land; (3) assess the improvement in women' social status within the household and the community as well as family welfare.

Project Results:

Questionnaire on knowledge, rice production practices, productivities, income and other on-farm and off-farm activities was tested. A training on the collection of gender- disaggregated information and data through PRA and household survey was given to researchers. A pre-survey was done and data is being analyzed

Partners:

Cuu Long Rice Research Institute, Vietnam
International Rice Research Institute

5. Outcomes.

Outcome #1:

The Talking Toolkit – reaching broader use in Vietnam

What is the outcome of the research (i.e. use of research results by non-research partners)?

The Talking Toolkit has been adopted by various stakeholders in Vietnam as tool for participatory focus group discussion in assessing climate change impacts and coping strategies. Through online platforms, it has also been accessed broadly by users.

What outputs produced in the three preceding years resulted in this outcome?

The Talking Toolkit for facilitating farmer focus group discussions about climate impacts and coping adaptation strategies:
http://www.worldagroforestry.org/sea/Publications/files/manual/MN0057-14/MN0057-14-1.PDF
http://www.worldagroforestry.org/sea/Publications/files/manual/MN0057-14/MN0057-14-2.PDF

What partners helped in producing the outcome?

CRP 6-FTA - co-funded the project
Stockholm International Water Institute and the Vietnamese Research Organization VACNE helped in field testing

Who used the output?

5700 online viewers accessed the toolkit
Thai Nguyen University of Agriculture and Forestry
Over 70 university teachers and 30 students who participated in the ToT.
Second year students of VNUA

How was the output used?

Modules were used in facilitating participatory focus group discussions on CC adaptation. NGOs, extension departments and farmers association use some of the tools in their own work. In VNUA, the toolkit was the basis in developing a common methodology for scoping surveys for joint research proposals.

What is the evidence for this outcome? Specifically, what kind of study was conducted to show the connection between the research and the outcome? Who conducted it?

Toolkit website recorded over 5700 views
NGOs, extension departments, Farmers' Association in Viet Nam are using some of the tools
Second year MSc students in Vietnam National University of Agriculture in Hanoi (VNUA) use it in preparation for internship and future jobs

Outcome #2:

GIZ GAP CC Supports CCAFS in ASEAN Strategy Paper

What is the outcome of the research (i.e. use of research results by non-research partners)?

The ASEAN Secretariat and 10 Member States are drafting and negotiating a 10-year Strategy Paper for food, agriculture and forestry sectors, with the support of FAO and GIZ GAP-CC. The final Strategy Paper is scheduled for endorsement by ASEAN leaders in the 2nd half of 2015. The sectoral bodies will develop their respective Strategic Plan of Action (= operational plan) based on the document.

What outputs produced in the three preceding years resulted in this outcome?

The CCAFS SEA research agenda and portfolio was presented during the GIZ GAP CC meeting last November 2014 and was proposed as possible program framework on climate change work for SEA. GIZ supported the offer and endorsed it for inclusion in the draft document.

What partners helped in producing the outcome?

None

Who used the output?

ASEAN member states

How was the output used?

The CCAFS framework was drafted in the proposed 10 year Strategy paper

What is the evidence for this outcome? Specifically, what kind of study was conducted to show the connection between the research and the outcome? Who conducted it?

Action program 4.1 in ASEAN Strategy paper: invest in R&D for technologies and management systems with a focus on resilience to facilitate CSA, land use, and fishery in cooperation with research programme (Climate Change Agriculture and Food Security -CCAFS) and on the basis of best practices

Outcome #3:

The Rice Crop Manager (RCM) mobile apps to be tested in Vietnam

What is the outcome of the research (i.e. use of research results by non-research partners)?

The national research partners gained awareness and skills in consolidating existing knowledge and findings of research into decision making tools that provide climate-smart crop management recommendations and estimates of greenhouse gas emissions based on water and crop management. National partners are keenly interested in the use of information and communications technology (ICT) as a tool for enhancing and accelerating extension services. The project helped influence the fertilizer sector in Vietnam to invest in research to improve and disseminate.

What outputs produced in the three preceding years resulted in this outcome?

A beta version of the computer- and smartphone-based RCM for the Mekong Delta and in major rice-growing provinces of northern Vietnam was compiled (http://webapps.irri.org/vn/rcm). It was programmed in HTML5 for use on web browser of computers and smartphones.

A beta version of the computer- and smartphone-based CIRCLE Manager for the Mekong Delta was produced. It is integrated into RCM, and can be accessed through RCM.

What partners helped in producing the outcome?

IRRI developed and tested the application
CLRRI agreed to facilitate future testing in the Mekong Delta
SFRI will also conduct future testing and disseminating the application in the north of Vietnam

Who used the output?

Vietnam Academy of Agricultural Sciences (VAAS) and its institutes (Cuu Long Rice Research Institute (CLRRI), Soils and Fertilizers Research Institute) and famers are users of the Rice Crop Manager.

How was the output used?

National partners in Vietnam are interested in using the Rice Crop Manager as a tool for enhancing and accelerating extension services. This activity also helped influence the fertilizer sector in Vietnam to invest in research to improve and disseminate RCM

What is the evidence for this outcome? Specifically, what kind of study was conducted to show the connection between the research and the outcome? Who conducted it?

PetroVietnam Fertilizer and Chemicals Corporation (PVFCCo) will support the evaluation and refinement of the fertilizer recommendation in RCM and to promote RCM

The department of Crop Production, National Agriculture Extension Center, and the Plant Protection Department in southern Vietnam will support the dissemination RCM in the region from 2015

Outcome #4:

CCAFS supports Cambodia's action plan on climate change for agriculture, forestry and fisheries

What is the outcome of the research (i.e. use of research results by non-research partners)?

CCAFS helped the Cambodian government draft the 4-year Climate Change Priorities Action Plan (CCPAP) for Agriculture, Forestry and Fisheries Sector (2014-2018). It incorporates capacity development around scenario-based strategic planning, and the climate-smart agriculture (CSA) practices based on CCAFS' research and strategy in SEA. Some targets of the action plan are: 10,000 farmers using climate resilient aquaculture, 5 M climate change resilient farmers and rehabilitation of 10,000 ha of forest to enhance carbon stock and biodiversity.

What outputs produced in the three preceding years resulted in this outcome?

The scenarios approach and various CCAFS science outputs were integrated into the plan

What partners helped in producing the outcome?

The Technical Working Group of Climate Change for Agriculture, Forestry and Fisheries (TWG-CCAFF) has responsibility to conduct research, formulate policy, strategies, legal instrument, plan programs and projects on the climate change including emission reduction in agriculture, forestry and fisheries sectors

Who used the output?

Cambodian Ministry of Agriculture, Forestry and Fisheries (MAFF)
Technical Working Group of Climate Change for Agriculture, Forestry and Fisheries (TWG-CCAFF)

How was the output used?

CCPAP is one of the starting points in mainstreaming climate change plan into formal development planning. These actions are included in the next or on-going and roll-out plan for the Public Investment Programme of the ministry. The CCPAP can be a very effective tool in mobilizing national and international resources

What is the evidence for this outcome? Specifically, what kind of study was conducted to show the connection between the research and the outcome? Who conducted it?

Cambodian MAFF CCPAP includes scenarios and other approaches in CCAFS domain . Final CCPAP was signed by the MAFF minister.

7. Outcome indicators.

Outcome Indicator:

Integrated adaptation strategies for agricultural and food systems inserted into policy and institutional frameworks at regional, national or sub--national level in 2 target regions. Policy makers and key stakeholders use CCAFS research outputs - guidelines, tools and methods-- to support the development of NAPAS, sector specific adaptation plans, or germplasm benefit sharing policies.

Achievements:

The mobile phone applications for climate-informed Rice Crop Management (RCM) was developed. Partnerships have been established during the implementation of the activity so that the output was well adopted by local partners.

A “Talking toolkit” for focus group discussions, has been compiled.

Evidence:

A Vietnamese version of the RCM was developed (http://webapps.irri.org/vn/rcm). The Vietnam Academy of Agricultural Sciences (VAAS), its institutes (Cuu Long Rice Research Institute - CLRRI, Soils and Fertilizers Research Institute) and farmers are the users of RCM.

The main Talking Toolkit website recorded over 5000 views. (http://worldagroforestry.org/regions/southeast_asia/vietnam/products/tools/talking-toolkit)

SDC/Care uses the Talking Toolkit in their community-based adaptation project. It is being used in lectures at Hanoi Agriculture University. Thai Nguyen University of Agriculture and Forestry expects to use the toolkit as a teaching material, particularly among 2nd year MSc students.

Outcome Indicator:

Agriculture mainstreamed into the global climate change policies, and major international food security initiatives fully incorporate climate change concerns

Achievements:

The ASEAN Secretariat and 10 Member States are drafting and negotiating a 10-year Strategy Paper for the food, agriculture and forestry sectors with the support of FAO and GIZ GAP-CC. The final Strategy Paper is scheduled for endorsement by ASEAN leaders in the 2nd half of 2015. The sectoral bodies will develop their respective Strategic Plan of Action (= operational plan) based on the document. With the support of GIZ, the CCAFS framework has been integrated under the action program of component 1, Strategic Thrust 4 (there are 5 Strategic Thrusts). The plan is scheduled for endorsement by ASEAN leaders in the 2nd half of 2015.

Evidence:

Draft of the section that includes CCAFS in the proposed 10 year Strategy paper.

Strategic Thrust 4: Increase resilience to climate change, natural disasters and other shocks

Action Programmes

4.1 Invest in R&D for technologies and management systems with a focus on resilience to facilitate climate smart/friendly agriculture, land use, and fishery in cooperation with research program (Climate Change Agriculture and Food Security (CCAFS) and on the basis of best practices.

8. Leveraged funds.

Leveraged funds #1

Title:

Media Seminar-Workshop on Reporting Climate Change, Agriculture and Food Security - workshop in Manila and Hanoi

Partner Name: Redraw the Line

Budget: $8,000.00

Theme :4

Leveraged funds #2

Title:

Learning workshop for Integrating a Climate Change perspective in the Farmer Business School Approach

Partner Name: CIP FoodSTART

Budget: $5,000.00

Theme :1

Leveraged funds #3

Title:

Learning workshop for Integrating a Climate Change perspective in the Farmer Business School Approach (Leverage in kind of contribution)

Partner Name: PhilRootcrops

Budget: $5,000.00

Theme :1

Leveraged funds #4

Title:

Workshop on assessing vulnerability of major food crops to threats by pests and diseases induced by climate change and developing adaptation strategies for the Greater Mekong Sub-Region

Partner Name: CABI

Budget: $10,000.00

Theme :1

Leveraged funds #5

Title:

Climate change risk management and resilience building among smallholder farmers: developing community-based models for climate-smart agriculture across municipal landscapes

Partner Name: IIRR

Budget: $6,000.00

Theme :1

Leveraged funds #6

Title:

Climate change risk management and resilience building among smallholder farmers: developing community-based models for climate-smart agriculture across municipal landscapes

Partner Name: Local government of Guinayangan, Quezon, Philippines

Budget: $11,000.00

Theme :1

9. Publications.