

Evidences

Study #3790

Contributing Projects:

- P1608 - A Climate Services Menu for SEA (CiSM): tackling scaling with a diversity of end users in the climate services value chains
- P264 - [Regional Program Leader] SEA: Regional and National synthesis, engagement and support

Part I: Public communications

Type: OICR: Outcome Impact Case Report

Status: Completed

Year: 2020

Title: Vietnam's rice-producing regions (1.3 M ha) cope with water shortage, drought, and salinity intrusion by applying the CCAFS' Climate-Smart Maps and Adaptation Plans

Short outcome/impact statement:

Vietnam's Department of Crop Production (DCP) has been implementing the Climate-Smart Maps and Adaptation Plans (CS-MAP) for the rice production in Mekong River Delta (MRD). To address the salinity intrusion during the Winter-Spring season 2019-2020 and 2020-2021, cropping adjustments guided by CS-MAP were applied in more than 800,000ha and 500,000ha, respectively. CS-MAP has also been applied to other major rice-producing areas of Red River Delta and Northern Midlands (for irrigation management) and South Central Coast (for drought and salinity intrusion).

Outcome story for communications use:

The Climate-Smart Maps and Adaptation Plans (CS-MAP) was implemented by the Department of Crop Production (DCP) under the Ministry of Agriculture and Rural Development (MARD) during the 2018-2019 winter-spring season, saving about 600,000 hectares of rice in the Mekong River Delta (MRD) from salinity intrusion. The DCP will re-implement the CS-MAP for the 2019-2020 winter-spring season to cover more than 800,000 hectares and in the same season for 2020-2021 to include over 500,000 hectares. The Vietnamese government were able to understand risk maps and cropping calendars better through the CS-MAP, which as a result helped them craft context-specific programs at sub-national levels.

The CS-MAP, developed by the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS), has also been implemented in other rice-producing areas in the Red River Delta (RRD) and Northern Midlands and South-Central Coast (SCC).

Vietnam experienced the most extreme levels of salinity intrusion in its recent history in 2016-2017, which destroyed around 263,600 rice hectares in the MRD. The salinity intrusion from the 2019 El Niño was forecasted to be more extreme, prompting the DCP to recommend CS-MAP-based calendar adjustments for drought-prone provinces in the MRD, among other adaptation strategies.

In turn, rice was planted earlier than normal schedule in around 800,000 hectares. In November 2019, early planting covered 1,187,000 hectares, larger than the 346,154 hectares in 2017. Afterwards, the hectares covered for the December 2020-January 2021 planting were reduced from 1,227,146 hectares to 363,000 hectares.

A less extreme salinity intrusion was forecasted for the 2020-2021 winter-spring season, but Vietnam's Prime Minister instructed the MRD to still adjust the cropping calendars based on the CS-MAP. Farmers in drought-prone provinces planted early in over 500,000 hectares (Rice was planted early in 884,852 hectares in November 2020 compared to the 346,154 hectares in 2017).

Due to its successful implementation in 2019 and the significant outcome it generated, the CS-MAP was recognized by MARD as a research project with major influence on national and ministry levels. Since then, it has been scaled to the RRD and SCC by DCP and CCAFS with a USD-23,000 bilateral funding from DeRISK Southeast Asia. Following the CS-MAP approach, maps will be drawn for the 12 RRD provinces to determine areas with water shortage risk, schedule winter-spring rice cultivation, and identify areas for crop restructuring. In the SCC, the CS-MAP will be applied to guide farmers in coping with drought and salinity intrusion.

Links to any communications materials relating to this outcome:

- <https://tinyurl.com/y2jwresa>
- <https://tinyurl.com/y2ws7w3s>

Part II: CGIAR system level reporting

Link to Common Results Reporting Indicator of Policies : Yes

Policies contribution:

- 593 - Deploying the production plan for winter-spring season 2019-2020 in the Mekong River Delta (MRD) region - Vietnam (<https://tinyurl.com/2j3jvg9d>)
- 591 - Prime Minister's Directions on proactive implementation of measures to cope with the risk of droughts, waters shortages, and salinity intrusion in the dry season 2020-2021 in the Mekong River Delta-Vietnam (<https://tinyurl.com/2jafa3g5>)
- 592 - The water release schedule for rice production in winter-spring 2020-2021 for the Red River Delta and Northern Midlands Region-Vietnam (<https://tinyurl.com/2ntcyzwr>)

Stage of maturity of change reported: Stage 3

Links to the Strategic Results Framework:

Sub-IDOs:

- Improved forecasting of impacts of climate change and targeted technology development
- Enhanced individual capacity in partner research organizations through training and exchange
- Enhanced capacity to deal with climatic risks and extremes (Mitigation and adaptation achieved)

Is this OICR linked to some SRF 2022/2030 target?: No

Description of activity / study: <Not Defined>

Geographic scope:

- Sub-national

Country(ies):

- The Socialist Republic of Viet Nam

Comments: Major rice-producing regions in Vietnam, such as Mekong River Delta, Red River Delta and Northern Mountainous Region, and South Central Coast.

Key Contributors:

Contributing CRPs/Platforms:

- CCAFS - Climate Change, Agriculture and Food Security

Contributing Flagships:

- FP4: Climate services and safety nets

Contributing Regional programs:

- SEA: Southeast Asia

Contributing external partners:

- MARD - Ministry of Agriculture and Rural Development (Vietnam)

CGIAR innovation(s) or findings that have resulted in this outcome or impact:

Climate-Smart Maps and Adaptation Plans (CS-MAP) developed for Mekong River Delta, Red River Delta and Northern Mountainous Region, and South Central Coast.

Innovations:

- 275 - Climate-Related Risk Maps and Adaptation Plans (Climate Smart MAP) for Rice Production in Vietnam's Mekong River Delta (<https://tinyurl.com/2eq5rkg2>)

Elaboration of Outcome/Impact Statement:

To address salinity intrusion during Winter-Spring 2018-2019, CS-MAP was initially implemented, which guided cropping calendar adjustments of about 600,000ha rice areas in the Mekong River Delta (MRD)[1]. With this success, the Department of Crop Production (DCP) and the Ministry of Agriculture and Rural Development (MARD) continued adopting CS-MAP in MRD and scaled it in other major rice-producing areas in Vietnam[2].

With the mild El Niño in 2019, salinity intrusion was forecasted[3] to be even higher than the levels in 2016-2017 (the most extreme in recent history damaging around 263,600ha of rice in MRD[4]). To prevent this, DCP recommended an adaptation strategy[5] for the drought-prone provinces of MRD, including the cropping calendar adjustment guided by CS-MAP. Based on risk maps and crop calendars for each province, local governments were able to implement the adaptation plans[6,7]. Around 800,000ha of rice were planted earlier (November 2019 early planting reached 1,187,000ha from 346,154ha in 2017 and the December to January planting went down to 363,000ha from 1,227,146ha) to avoid salinity intrusion[8,9].

Salinity intrusion was also forecasted for the Winter-Spring season 2020-2021 although less severe than in the 2019-2020[10]. An instruction from the Prime Minister[11] was issued to address this problem in the MRD, including the cropping adjustments based on CS-MAP. Following the instructions[12], especially by the drought-prone provinces[13], more than 500,000ha of rice were planted earlier (November 2020 early planting reached 884,852ha from 346,154ha in 2017)[14][15] and the harvest commanded high prices[16].

In 2020, CS-MAP is recognized as one of the research activities listed in the Vietnam MARD's Decision No. 2559[17] recognizing initiatives and scientific research projects that have the scope of influence and effects at national and ministry levels.

With its success in MRD, DCP and CCAFS, together with DeRISK Southeast Asia program (providing bilateral funding of USD 23,000[18]), applied CS-MAP for rice production in Red River Delta and Northern Midlands (RRD)[19] and South Central Coast (SCC). Maps on water shortage risk, winter-spring rice cultivation schedule, and areas that need crop restructuring in winter-spring cropping to adapt to the water shortage situation were developed for 12 provinces in the RRD[20,21,22]. To implement the adaptation plans based on the CS-MAP, the MARD issued an instruction[23] for the provinces and related agencies to follow the water discharge schedule and cropping calendar for winter-spring season 2020-2021. Furthermore, CS-MAP was developed for the provinces in SCC to help rice farmers cope with drought and salinity intrusion problems[24].

References cited:

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- [4] CCAFS News. Research Centers Respond to Drought and Salinity Intrusion In Vietnam:
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All the documentary evidence is uploaded in this drive:

<https://drive.google.com/drive/folders/1mSdyrn7rfVpzkg4r0lNy6Q2lvYlISxqY>

Quantification:

Type of quantification: b) Extrapolated estimates

Number: 1300000.00

Unit: hectares

Comments: Areas of rice plants that avoid salinity intrusion during Winter-Spring season in two consecutive years

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Gender, Youth, Capacity Development and Climate Change:

Gender relevance: 0 - Not Targeted

Youth relevance: 0 - Not Targeted

CapDev relevance: 2 - Principal

Main achievements with specific **CapDev** relevance: DCP, provincial Departments of Agriculture and Rural Development, and other stakeholders learned about the CS-MAP process. They were able to use the information from the risk maps and cropping calendars to develop local and sub-national policies in rice production.

Climate Change relevance: 2 - Principal

Describe main achievements with specific **Climate Change** relevance: An adaptation strategy for the rice sector in MRD to address drought and salinity risks was developed and proven to be effective. Specifically, the cropping adjustments guided by CS-MAP covered more t1 million hectares of rice (800,000 ha in 2019-2020 and 500,000 ha in 2020-2021). CS-MAP was also used to develop an irrigation schedule to address water shortage in the RRD region.

Other cross-cutting dimensions: NA

Other cross-cutting dimensions description: <Not Defined>

Outcome Impact Case Report link: [Study #3790](#)

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