

Evidences

Study #4233

Contributing Projects:

- P1584 - IRRI Contribution to RICE Flagship Project 1
- P1581 - IRRI contribution to RICE Flagship Project 3

Part I: Public communications

Type: OICR: Outcome Impact Case Report

Status: Completed

Year: 2021

Title: The improved rice management package '1 Must Do-5 Reductions' (1M5R) reached 104,448 smallholder rice farmers and was adopted on 114,870 ha in the Mekong River Delta of Vietnam

Short outcome/impact statement:

After five years of the promotion of the improved rice management package '1 Must Do-5 Reductions' (1M5R), the package was reached by 104,448 smallholder rice farmers and adopted on 114,870 ha in the Mekong River Delta of Vietnam. More importantly, of the farmers who used either 3R3G (the precursor technology) or 1M5R, there is evidence of higher incomes, of between 19% to 36%, across different provinces.

Outcome story for communications use:

Recent evidence of uptake at the farmer level by Flor et al. (2021) show that five years of the promotion of the improved rice management package '1 Must Do-5 Reductions' (1M5R) through the VnSAT project (Vietnam Sustainable Agriculture Transformation Project) in Vietnam, the technology was adopted in approximately on 114 thousand ha in the Mekong River Delta. In some areas, 3R3G was introduced first, and these practices were adopted in higher numbers. More importantly, of the farmers who were part of VnSAT program and used either 3R3G or 1M5R, there is evidence of higher incomes, of between 19% to 36%, across different provinces. Another study on the adoption of 1M5R by farmers in An Giang and Can Tho provinces (Wehmeyer, 2021) revealed that all farmers who adopted the 1M5R experienced a reduction in postharvest loss.

References:

Flor, R.J.; Tuan, L.A.; Hung, N.V.; My Phung, N.T.; Connor, M.; Stuart, A.M.; Sander, B.O.; Wehmeyer, H.; Cao, B.T.; Tchale, H.; et al. Unpacking the Processes that Catalyzed the Adoption of Best Management Practices for Lowland Irrigated Rice in the Mekong Delta. *Agronomy* 2021, 11, 1707.

<https://doi.org/10.3390/agronomy11091707>

Connor, M., , H. Sustainable rice production in the Mekong River Delta: Factors influencing farmers' adoption of the integrated technology package "One Must Do, Five Reductions" (1M5R). *Outlook Agric.* 2021, 50, 90–104; <https://doi.org/10.1177/0030727020960165>

Links to any communications materials relating to this outcome:

- <https://doi.org/10.1177/0030727020960165>
- <https://doi.org/10.3390/agronomy11091707>

Part II: CGIAR system level reporting

Link to Common Results Reporting Indicator of Policies : No

Stage of maturity of change reported: Stage 3

Links to the Strategic Results Framework:

Sub-IDs:

- More efficient use of inputs
- Reduce pre- and post-harvest losses, including those caused by climate change

Is this OICR linked to some SRF 2022/2030 target?: Yes

SRF 2022/2030 targets:

- # of more farm households have adopted improved varieties, breeds or trees

Description of activity / study: -none

Geographic scope:

- National

Country(ies):

- The Socialist Republic of Viet Nam

Comments: <Not Defined>

Key Contributors:

Contributing CRPs/Platforms:

- Rice - Rice

Contributing Flagships:

- F3: Sustainable farming systems

Contributing Regional programs: <Not Defined>

Contributing external partners:

- MARD - Ministry of Agriculture and Rural Development (Vietnam)
- Ministry of Natural Resources and Environment (Vietnam)

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

The development of 1 Must Do, 5 Reductions (1M5R) was based on evidence-based scientific findings obtained from: (i) Baseline studies providing a needs assessment of smallholder farmers, via a rapid rural appraisal (RRA), coupled with national policy priorities (e.g., promotion of certified seeds). (ii) Research trials of replicated plots conducted in the fields of farmers (scientist-led). At the end of each cropping season, the researchers met with farmers to discuss the findings and to plan, with input from farmers, what should be tested in the next season. The researchers had to adapt to the requests of the farmers, given that the trials were in the fields of farmers. (iii) Engagement of farmers with the outcomes of the field trials and then requests for volunteers (early adopters) to test the new practices that appealed to them in a section of their rice fields. The farmers led these trials while researchers provided technical advice, certified seeds, and fertilizer. The latter was provided on the condition that it was applied following the recommended practice. The researchers assisted farmers in keeping a diary of their activities during the cropping season, and, at harvest, researchers collected data on yield and pest losses. Again, farmers and researchers met at the end of the season to discuss the findings and plan for the next season.

Innovations:

- 652 - '1 Must 5 Reductions (1M5R)' integrated rice management package adopted in Vietnam (<https://tinyurl.com/2kqvrpol>)

Elaboration of Outcome/Impact Statement:

Recent evidence of uptake at the farmer level by Flor et al. (2021) show that five years of the promotion of 1M5R through the VnSAT project in Vietnam, the technology was adopted in approximately on 114 thousand ha in the Mekong River Delta. In some areas, 3R3G was introduced first, and these practices were adopted in higher numbers. More importantly, of the farmers who were part of VnSAT (Vietnam Sustainable Agriculture Transformation Project) project and used either 3R3G or 1M5R, there is evidence of higher incomes, of between 19% to 36%, across different provinces. Another study on the adoption of 1M5R by farmers in An Giang and Can Tho provinces (Connor, 2021) revealed that all farmers who adopted the 1M5R experienced a reduction in postharvest loss. Over the last few decades Vietnam has benefited from a rapid intensification of rice production ensuing high yields and economic gains. However, this has led to environmental degradation and adverse health effects. As a result, complex sustainable rice farming packages have been introduced but adoption still appears to be low. The present study aimed to investigate the factors affecting the adoption of sustainable rice farming practices combined in the national program "One Must Do, Five Reductions" (1M5R). Furthermore, a special focus was placed on identifying adoption constraints. Adoption was investigated by means of a survey questionnaire with 465 farmers in An Giang and Can Tho Province. Overall, results show that almost all farmers followed the requirements of pesticide reduction, post-harvest loss reduction, and the use of certified seeds. However, farmers had problems reducing their fertilizer use, water use, and seed rate. Results show that farmers perceive these practices to be difficult to implement, they do not fit farmers' cropping pattern and the weather conditions hindered the implementation. The study further shows that ease of implementation, education, satisfaction and non-rice income are the main drivers for adopting the whole package. Adoption of the individual requirements is mainly driven by the ease of implementation and non-rice income for practices with lower adoption rates. This shows that farmers face physical adoption barriers, and that farmer satisfaction with the whole program is essential for a successful implementation. Results highlight the need for adoption monitoring and the continuation of extension services for the specific requirements specified under 1M5R.

References cited:

- [1] Flor, R.J.; Tuan, L.A.; Hung, N.V.; My Phung, N.T.; Connor, M.; Stuart, A.M.; Sander, B.O.; Wehmeyer, H.; Cao, B.T.; Tchale, H.; et al. Unpacking the Processes that Catalyzed the Adoption of Best Management Practices for Lowland Irrigated Rice in the Mekong Delta. *Agronomy* 2021, 11, 1707. <https://doi.org/10.3390/agronomy11091707> (<https://doi.org/10.3390/agronomy11091707>)
- [2] Connor, M., . Sustainable rice production in the Mekong River Delta: Factors influencing farmers' adoption of the integrated technology package "One Must Do, Five Reductions" (1M5R). *Outlook Agric.* 2021, 50, 90–104. (<https://doi.org/10.1177/0030727020960165>)

Quantification:

Type of quantification: a) Actual counts or estimates from a particular study (please provide reference)

Number: 104448.00

Unit: number

Comments: At least 104,448 smallholder rice farmers were reached with the 1M5R package

Type of quantification: a) Actual counts or estimates from a particular study (please provide reference)

Number: 113870.00

Unit: hectares

Comments: 1M5R practices adopted on 113,870 hectares

Gender, Youth, Capacity Development and Climate Change:

Gender relevance: 0 - Not Targeted

Youth relevance: 0 - Not Targeted

CapDev relevance: 0 - Not Targeted

Climate Change relevance: 0 - Not Targeted

Other cross-cutting dimensions: NA

Other cross-cutting dimensions description: <Not Defined>

Outcome Impact Case Report link: [Study #4233](#)

Contact person:

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