

Adoption of sustainable rice farming practices in Vietnam: Perceptions of ‘One Must Do, Five Reductions’ technologies

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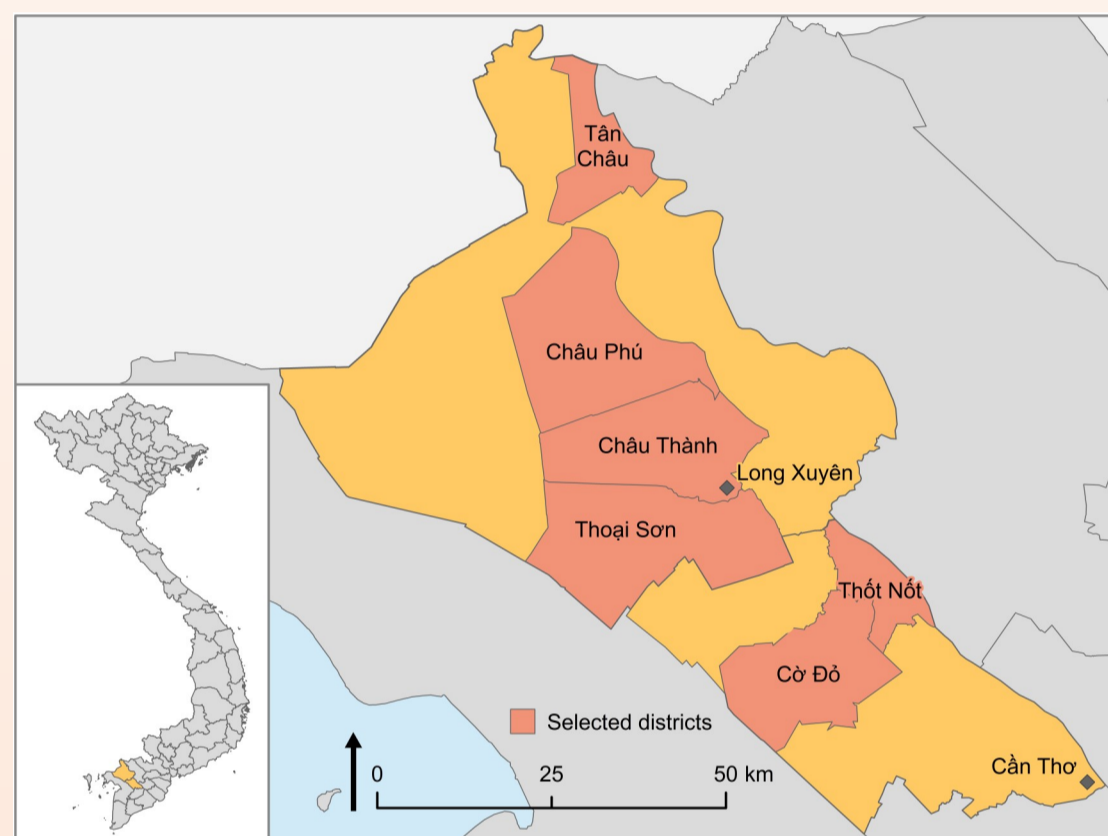
Background

Input overuse, stagnating yields, and environmental degradation are major challenges in Vietnam’s rice agriculture.

- The ‘One Must Do, Five Reductions’ (1M5R) national policy program promotes sustainable rice farming by using certified seeds (1M) in combination with five reductions: seed rate, fertilizer, pesticide, water, and postharvest losses (5R)
- The program has been introduced to farmers in the Mekong River Delta since 2008 and has been widely adopted.
- The objective of this study was to determine farmers’ perceptions of change due to the adoption of 1M5R recommended technologies and evaluate the impact of the program on farmers’ agricultural profitability.

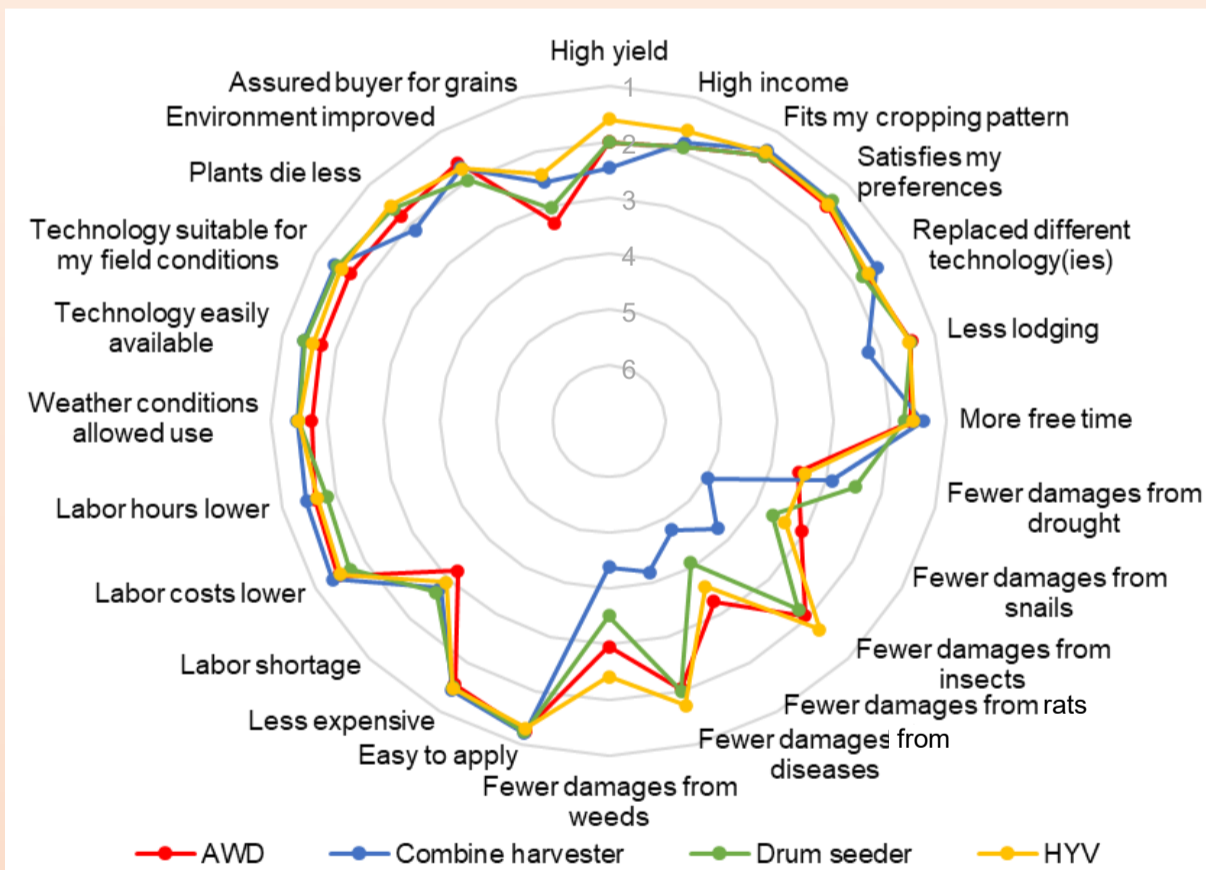
Methodology

- Adoption was assessed cross sectionally in two provinces of the Mekong River Delta (An Giang and Can Tho, n=465).
- Agronomic changes were evaluated through household surveys (1 baseline + 1 endline) using RCT with an adopter and non-adopter group in one province (Can Tho, n=135).
- Data were collected using the CommCare application for tablet-based survey questionnaires.
- Data were analyzed using uni- and multivariate statistics.



Results

- Adoption rate was very high for AWD, drum seeder, combine harvester, and high-yielding varieties (HYV).
- Perceived agronomic benefits of 1M5R adoption were less labor (95.6 % of farmers), lower input cost (79.3 %), better yield (65.9 %), and better crop stand (57.8 %).
- 1M5R technologies were “easy to apply” (rated 5.75 out of 6), “fits my cropping pattern” (5.56/6), and “satisfies my preferences” (5.52/6).
- Farmers increased rice yields significantly to 6.6 t/ha while reducing inputs, especially fertilizer (-12.5 %).
- Highest input savings achieved for seeds (66.5 % of farmers), fertilizer (54.4 %), and pesticides (63.8 %). Farmers saved on average 25.8 % of input cost.



Conclusions

- Farmers are highly satisfied with 1M5R and its technologies due to positive agronomic, economic, and social changes.
- **Impact of 1M5R:** Profitability and nutrient use efficiency improved, farmers’ environmental footprint enhanced, increased human and social capital → Overall greater sustainable rice agriculture due to long-term adoption.

