Impact of system of rice intensification on rice yield and food security of farm households in Mali

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Introduction

- Cereals are the staple food in Mali. The total cereal consumption was estimated at 4,371,840 tons/year, and rice was the most (30%) consumed cereal (CPS/SDR, 2016). In 2018, rice per capita consumption was estimated at 102 kg/year (Styger & Traore, 2018). In Mali, rice is the major contributor to the total cereal production with 32%.
- The system of rice intensification (SRI) was introduced in 2007 in Mali to
  - ➢increase the rice productivity
  - ➢deal with unsustainability issues associated with the conventional system such as the expansion of the cultivated land area.

To the best of our knowledge, among the plethora of literature on SRI (Mariko et al., 2019; Styger & Traore, 2018; Agarwal & Kumar, 2017; etc.) , none of them has investigated the link between SRI adoption and food security. This study is filling this void.

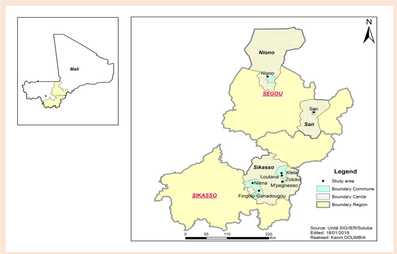
Objective

- 1. Assess the impact of SRI adoption on rice yield in Mali
- 2. Assess the impact of SRI adoption food security of farm households in Mali

Method of data collection

- A structured questionnaire was used to collect primary data.
- The multi-sampling technique was used to randomly select 552 rural households including 209 SRI and 343 non-SRI households in Segou and Sikasso regions

Map of the study area



SRI field

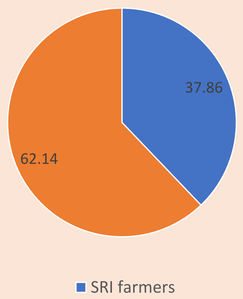
Method of data analysis

- Inverse probability weighted regression adjustment (IPWRA) method was used.
- Propensity score matching (PSM) was also used for robustness check of the results.

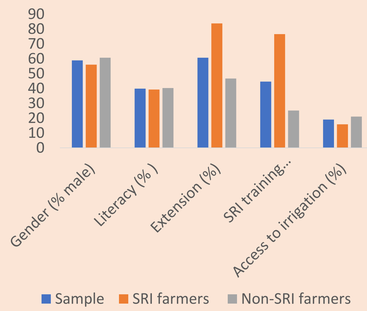
Results

Descriptive statistics

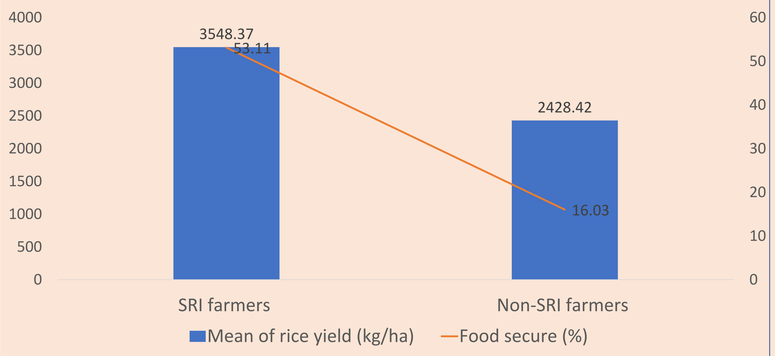
SRI adoption rate by farmers



Farmers and plots characteristics



SRI adoption and rice yield and food security armers

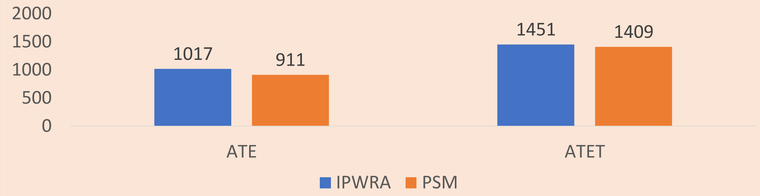


Main factors influencing SRI adoption

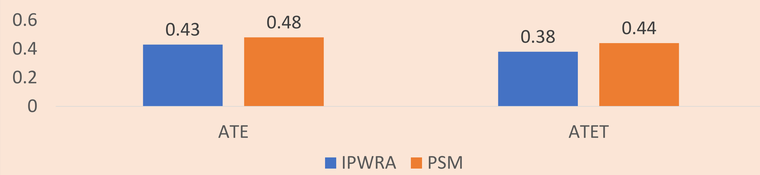
- Key factors that the study identified to influence SRI adoption were: SRI training participation and labour

Impact of SRI adoption

1. Impact of SRI adoption on Rice yield



2. Impact of SRI adoption on food security



Conclusion and recommendation

- SRI adoption increased rice yield and improved food security status of rice farmers in Mali.
- Government and its partners involved in SRI scalling up programme should
  - ✓ continue to provide SRI training to farmers
  - ✓ provide mechanical equipment (mainly for transplanting and weeding) in order to reduce the high demand of labour in SRI practices through subsidize

References

- Mariko et al., 2019, JAS,
- Styger & Traore, 2018, Retrieved from https://sriwestafrica.org
- Agarwal & Kumar, 2017, IJAR
- CPS/SDR, 2016

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