

FARMER EVALUATION OF THE SYSTEM OF RICE INTENSIFICATION (SRI) AND CONVENTIONAL RICE CULTIVATION METHODS IN BENIN

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Opening remarks

The System of Rice Intensification (SRI), which represents a paradigm change for agriculture, is an agro-ecological innovation promoted in more than 50 countries. Developed in Madagascar in 1984, this method is used in Asia (China, India, Vietnam, Cambodia, Indonesia, etc.), increasing yields by 20-50% and sometimes 100% and even more. A group of rice producers in the south of Benin were very interested to test SRI for themselves as they heard about the good agronomic results as well as the controversy questioning the good results fueled by the research community.

Methods

Over a period of 4 years (between August 2009 and June 2012), 90 farmers from different areas of the country implemented 6 different trials (with a total of 44 plots) which compared the SRI system with the conventional system. Different aspects were evaluated: yield, labor demand, weeding with the cono-weeder, fertilization with compost, and age of the transplanted seedlings. This was done in two agro-ecological zones: the low lands (with high natural soil fertility, which is renewed through yearly floods between July and October), and the uplands (with poor soil fertility that requires fertilization).

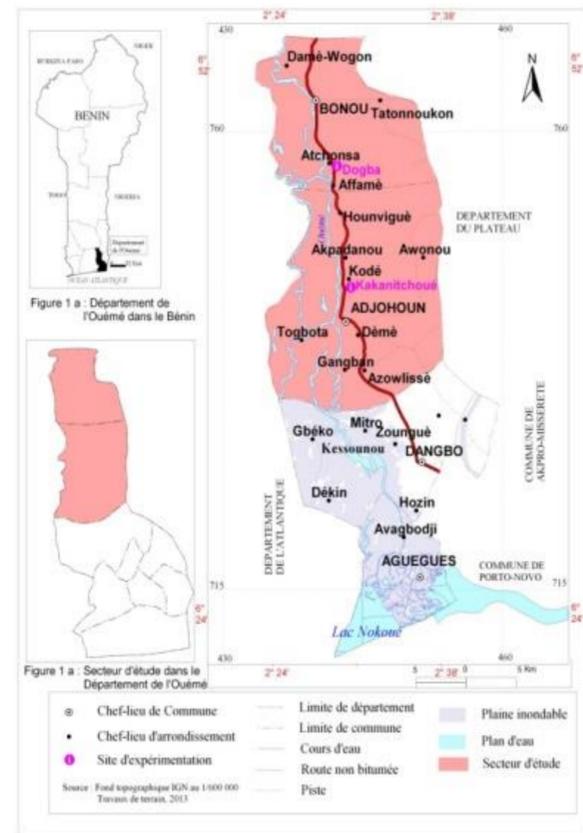


Figure 1: Map of the area of the study



Photo 1: Land leveling



Photo 2: Transplanting of young plants



Photo 3: Use of mechanical weeder



Photo 4: Control of maturity



Photo 5: Rice harvest

Results

Various trials revealed statistically significant disparities in the results from the different treatments :

- ❑ SRI needed 36 % more labor compared to the conventional system,
 - + 77% more labor for land leveling
 - + 70% more for transplanting of young plants.
 - - 47% labor saved by the use of the mechanical weeder.
- ❑ Increase in yields was between 50 - 70 % for SRI.
- ❑ Reduction in seeds requirements: 87%
- ❑ Reduction of the length of crop cycle: 14 days

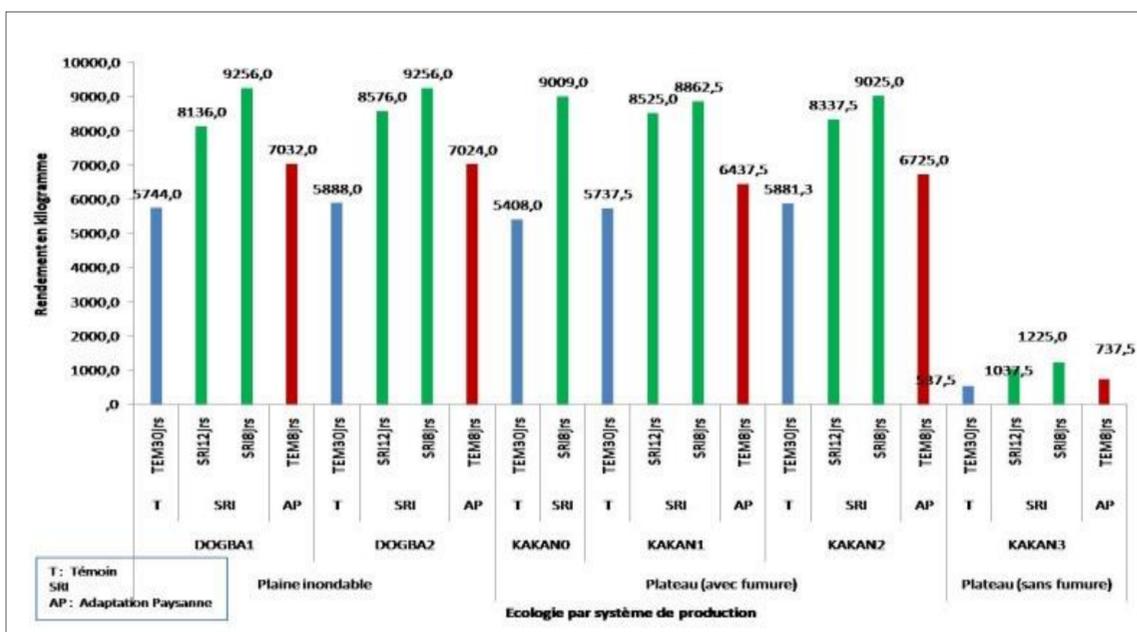


Figure : Average yield according to system and ecology

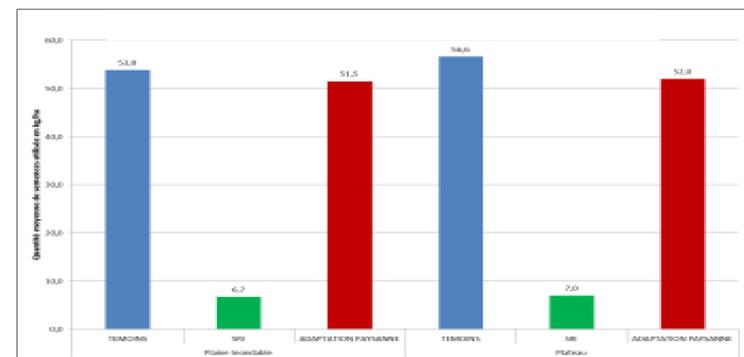


Figure : Amount of seed per system per hectare

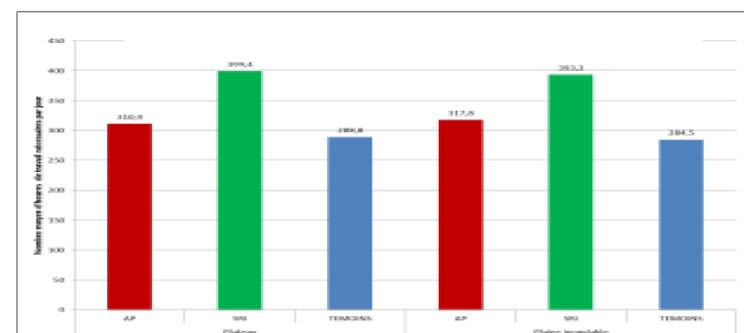


Figure : Labor inputs per system

Conclusion

The farmers who participated in the trials were persuaded of the outstanding performance of SRI in comparison with what they achieved from conventional rice production and were surprised at the opposition of some researchers towards this innovation.

