

Learning from System of Rice Intensification (SRI) in Haiti

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Oxfam is a global movement of people working together to end poverty and inequality. The Artibonite Valley Livelihoods Program, launched by Oxfam in 2011, had the goal of helping men and women farmers in this important rice-growing area improve their livelihoods and lessen their vulnerability to shocks, by positively influencing policies and practices in the rice value chain.

CONTEXT

Oxfam believes in the potential of sustainable agriculture to increase yield, resilience, and adaptation to climate change. Around the world, Oxfam supports communities, civil society organizations, and networks encouraging farmer innovation and extension systems, bolstering the ability of farmers to expand their economic opportunities and realize their potential.

SYSTEM OF RICE INTENSIFICATION

The System of Rice Intensification (SRI) is an agro-ecological approach for increasing the productivity of rice by changing the management of plants, water, and nutrients. Principles of SRI include fewer, younger, and widely-spaced seedlings to promote healthy plant establishment and minimize competition among plants. However, the actual practice of SRI varies considerably according to local environmental, cultural, and socio-economic conditions. Oxfam had been supporting SRI for a decade in parts of Asia and West Africa before bringing it to the Artibonite Valley in Haiti.

PROJECT AND ASSOCIATED RESEARCH

In the Liancourt area, Oxfam took an irrigation block approach to promoting SRI and creating an enabling environment. The project relied on partners: Ministry of Agriculture entities: the Verrettes BAC (*Bureau Agricole Communale*) and ODVA (*Organisation pour le Développement de la Vallée de l'Artibonite*); community organizations: AILA (*Association Irrigants Liancourt-Artibonite*) and MAFLPV (*Mouvement d'Aide aux Femmes Liancourt-Payen de la Commune de Verrettes*); CAPOSOV (*Caisse Populaire Solidarité Verrettes*, a credit union); and researchers from University of California, Davis and FAMV (*Faculté d'Agronomie et de Médecine Vétérinaire*, University of Haiti). The project allowed researchers to analyze the impact of SRI separately from other interventions that support rice farmers.

Activities / Interventions	Treatment Blocks	Control Blocks	Non-project Blocks
Support for canal cleaning	✓	✓	(none)
Coordination and monitoring	✓	✓	(none)
Credit for soil preparation	✓	✓	(none)
Additional credit for SRI	✓	(none)	(none)
SRI training and accompaniment	✓	(none)	(none)

AGRONOMIC FINDINGS

The average yields for farmers participating in the project are presented for rice plots grown with traditional practices (SRT), improved practices (SRA), and SRI practices.

Yield (MT/ha)	Treatment Blocks			Control Blocks			Haiti Average	Harvest Total (MT)
Year	SRT	SRA	SRI	SRT	SRA	SRI	FAO Calculation	CNSA
2014	4.76	n/a	6.36	4.55	n/a	n/a	3.12	124,830
2015	6.58	7.03	6.56	5.58	5.30	n/a	n/a	61,570 (preliminary)

Yield in metric tonnes per hectare, calculated for the treatment and control blocks by BAC/Verrettes.

In the first year, 28% of farmers in the treatment group adopted SRI on part of their land; fewer farmers adopted SRI in the second year. However, within the treatment blocks, many farmers who did not fully adopt SRI shifted to improved rice practices, what we term SRA. There was also a large increase in the ability of these farmers to describe the details of their practices.

SOCIO-ECONOMIC FINDINGS

- In Haiti, SRI requires 25% more labor throughout the planting season than SRT, resulting in a meaningful increase in the cost of growing rice. The high cost of implementing SRI is a possible explanation for a modest but significant negative impact of SRI adoption on self-reported food security, particularly during the planting season.
- Although SRI farmers experienced an increase in rice yields, on average there was no measurable impact on farm profit when accounting for the value of household labor. However, a subset of SRI farmers – those with access to relatively cheap household labor – reaped a larger yield gain and experienced a positive impact on farm profit.

OUTLOOK AND RECOMMENDATIONS

- Farmer knowledge and confidence, including ability to describe practices, is critical to adaptive capacity and resilience.
- Farmers and researchers are continuing to experiment and adapt growing practices, and identify other ways of reducing the labor requirements of SRI and SRI-like practices.
- Farmers report that when rice is sold by weight instead of volume, profit margin increases for SRI-grown rice. Farmers need markets that reward them for the heavier, higher-quality rice produced with SRI practices.
- Addressing issues such as soil health, land fragmentation, appropriate tools and machinery, plant breeding, and crop planning would also improve outcomes for farmers.
- Even farmers who were not practicing SRI got better-than-expected yields, indicating that social organization, canal cleaning, and access to affordable credit, which were included in the project interventions, are important factors for increasing rice production.
- Government and donors should support farmer learning and innovation, coordination, effective water management and extension systems, as well as access to appropriate credit, to enable farmers to increase crop yields and improve their livelihoods.