

# Final Report, Grant to 3A - Sahel from SRI Global Inc.

February 2014

(Translated from the original French and edited for length.)

This is the final report from “3A-Sahel” SRI introductory trials in the villages of Amba, Batouma, Kiro, N'dempaba, Deri, and Douentza, and of the the “large-scale” dissemination of SRI from June through December 2013 in the villages of Boré, Falembougou, Manko, Kokoro, Saréféré Mirgna, Koundioume and Sobbo in the Dangol Boré, Djaptodj, and Douentza communes, in the zone of Douentza, Mali.

3A-Sahel is a relatively new non-profit association, formed to serve farmers in the Douentza area in response to the reduction or absence of services following the temporary takeover by rebel forces in the north of Mali. Although primarily agricultural, the area suffers from chronic food insecurity. Djaptodji commune, located on the edge of the interior delta of the Niger River, has a population of 27,688 in 64 villages, and is characterized by several lakes that flood the area during the rainy season. Dangol Boré commune, further south, has a population of 21,619 in 37 villages, and is watered by seasonal rains that feed a number of large, shallow ponds. Rice is an important staple crop in the two communes, but yields are very low.

## Project Objectives

- Global Objective:
  - Contribute to increased rice production in the area through the introduction of SRI.
- Specific objectives:
  - Promote SRI technology across all project sites.
  - Raise awareness about SRI among village leaders, government officials, and agricultural cooperative members to promote active farmer participation.
  - Strengthen farmers' and extension agents' capacity to implement SRI practices.

## Project activities

- Preliminary information sessions and training

Before field preparation and planting, 3A-Sahel held information sessions in the villages to inform farmers about SRI and interest them in trying it. The second step was to train the farmers in SRI techniques (for those trying it for the first time), and a more advanced “refresher” training for farmers who had done it before. 3A-Sahel prepared training materials, including photographs and posters of previous SRI rice-growing in the area. All training was held exclusively in the local language, and government agricultural extension agents also took part.
- Nurseries

Rice seedling nurseries were installed at all sites, set up and maintained by volunteer farmers. Soil for the nurseries was enriched with composted manure from sheep and goats. In Deri village the nursery was damaged by animals and had to be redone, otherwise there were no similar issues. In Kiro village farmers used a unique technique by planting in scooped-out holes, which they claim works better.
- Organic compost

Organic composted manure was applied to the SRI plots at the rate of ten metric tons per hectare by the farmers.

- Working the paddies, wetting and leveling

After the manure is spread, farmers pump water into the paddy and mix the soil with the manure, using hoes or animal-drawn plows in most villages, although a tractor was used in the one village (Douentza) where one was available. This operation breaks up the big clumps of dry soil turns the muddy soil to a uniform consistency. When this has been finished, farmers level the lot using long, straight boards.

- Transplanting

Plots were transplanted with seedlings from the nurseries, although in many cases this was somewhat delayed due to the late arrival of the annual flooding of the Niger River, and due to farmers being occupied with multiple reseedings of their millet fields, an unforeseen occurrence this year.

- Weeding

Plots were weeded regularly using the simple mechanical cono-weeders made by a local blacksmith/welder. Twenty-four (four for each “new” village) weeders were purchased by the project for use by multiple farmers, 43 additional weeders were sold to individual farmers at half-price, the cost subsidized by a separate grant from SRI Global.

- Irrigation

Plots were irrigated as advised, but heavy rains during the month of August made proper water control impossible in certain villages, and the paddies did not always have a chance to dry out between water application.

- Project staffing

Three field agents working for 3A Sahel were assigned to the targeted villages, and to the local authorities. Three Government agricultural extension agents were also involved and greatly contributed to the success of the project.

- Project supervision and data collection

The project director made regular visits to each of the sites to talk with farmers, with staff, and to verify that data was being collected properly. Among their other duties, field agents would fill out pre-designed data sheets on all operational aspects of the project, in order to have uniform data for all project sites. *(Translator's note: the data sheets were drawn up by 3A Sahel working with SRI-Rice at Cornell University. The completed data sheets have been submitted to Cornell, and data are currently being entered and analyzed by SRI-Rice.)*

- Exchange visits

Farmer exchange visits were organized in each of the three zones: Douentza, Dangol Bore, and N'Gourma. The visits brought together first-time SRI farmers, experienced SRI farmers, agriculture service extension agents, and 3A Sahel staff and project leader. Local authorities also attended certain visits. The visits enable farmers to see each other's fields and discuss their experiences, and the exchanges have been found to be quite useful for all concerned.

For some farmers, it was the first time they had been able to visit the town of Douentza since the jihadists were routed last year by the French and Malian armed forces.

- Harvest

Harvests took place from mid-October through mid-November 2013. In order to accurately measure yields and other crop data, five sample 1 x 1 meter squares were marked out in five parts of each SRI and control plot, Rice harvested within these squares was carefully weighed, measured for moisture content, and weights adjusted to a standard 14% humidity to obtain consistent and comparable results across all plots. Results are as follows:

Site	Yields: metric tons per hectare	
	SRI	Conventional
Douentza	7.30	4.02
Kiro	6.53	3.90
N'Dempaba	8.86	7.20
Deri	9.08	6.95
Amba	5.80	3.59
Batouma	6.50	4.00
<b>Overall average</b>	<b>7.47</b>	<b>4.94</b>

Thus, overall yields using SRI techniques were 51% higher than yields obtained from the usual farmer practices in the area.