

Improving and Scaling Up the System of Rice Intensification (SRI) in West Africa

Key results of SRI-WAAPP Project's 1st phase (2014-2016)

Background

In 2010, West Africa produced 7.9 million tons of milled rice and imported an additional 5.7 million tons to satisfy demand. The ECOWAS Rice Commission¹ estimates that by 2025 yearly rice consumption in West Africa will increase to 24 million tons (value of 12 billion USD²), triple the 2010 production. The ECOWAS States – through their “Rice Offensive”, supported by the National Rice Development Strategies – target self-sufficiency in rice production by 2025.

The System of Rice Intensification, or SRI, an agro-ecological, climate-smart and low-input methodology for increasing rice productivity, can play a crucial role in closing the rice production gap in West Africa. Developed in Madagascar and practiced today in more than 50 countries³, the SRI methodology allows increased yields often by 50% and more, while using 90% less seed, 30-50% less water and less agro-chemicals. Based on the principles of early healthy plant establishment, reduced competition among plants, healthy soils rich in organic matter, and reduced water use, rice plants can better express their genetic potential compared to conventional approaches.

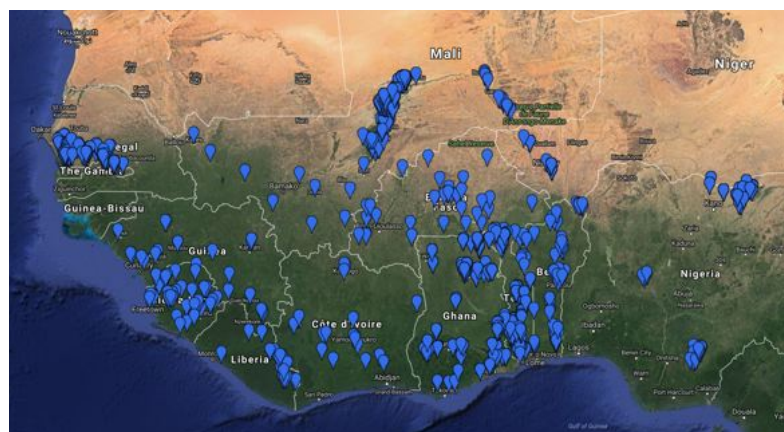
SRI trials in West Africa, beginning in 2000, confirmed these advantages. By 2007 larger-scale expansion of SRI began in Mali, and by 2010, Malian SRI practitioners began to train farmers and agricultural technicians in other West Africa countries. Given the growing interest in SRI across the region, the first phase of the regional project “**Improving and Scaling up the System of Rice Intensification in West Africa**” (**SRI-WAAPP**) was commissioned and supervised by CORAF/WECARD⁴, as part of the West Africa Agriculture Productivity Program (WAAPP), supported by the World Bank and under the institutional umbrella of ECOWAS.

Where and how was the SRI-WAAPP project implemented?

The SRI-WAAPP project ran from January 2014 to June 2016, covering two main rice-growing seasons in 13 ECOWAS countries: Benin, Burkina Faso, Côte d’Ivoire, The Gambia, Ghana, Guinea, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone and Togo. Country-specific activities were funded through the national WAAPP programs and implemented with assistance from a national SRI facilitator and SRI champions. The project was coordinated by the National Center of Specialization on Rice, Institute of Rural Economy (CNS-RIZ/IER), Mali, and the SRI-Rice Center, Cornell University, USA. The regional coordination team provided training, technical assistance, monitoring and evaluation support, a communication platform, supported institutional set up and organized regional workshops to plan activities and share results. Project field activities were largely defined at the country level, but using similar research and development approaches that integrated technical training, on-farm exchange visits, monitoring of field performance and economic outcomes, and applied field research. Visit <https://sriwestafrica.org>

Successes and benefits of the project

By June 2016, 50,048 farmers – of whom 33% were women – grew SRI rice at 1,088 sites (see map) on 13,944 hectares across the 13 countries. The project trained 33,514 people, mostly farmers, but also 1032 technicians. Enabled by the project, the number of institutions active with SRI (including government services, NGOs, farmer organizations, and bi-lateral projects) increased from 49 to 215 during the time of the project. The



1 ECOWAS Commission (2012) Accelerating the ECOWAP/CAADP Implementation, Strategic policy paper on regional offensive for sustainable rice production in West Africa

2 at 500 USD/ton of milled rice

3 <http://sririce.org/countries>

4 West and Central African Council of Agricultural Research and Development (<http://www.coraf.org/en/>)

project reached an estimated 750,000 people in West Africa, through field visits, word-of-mouth, news press, radio and television.

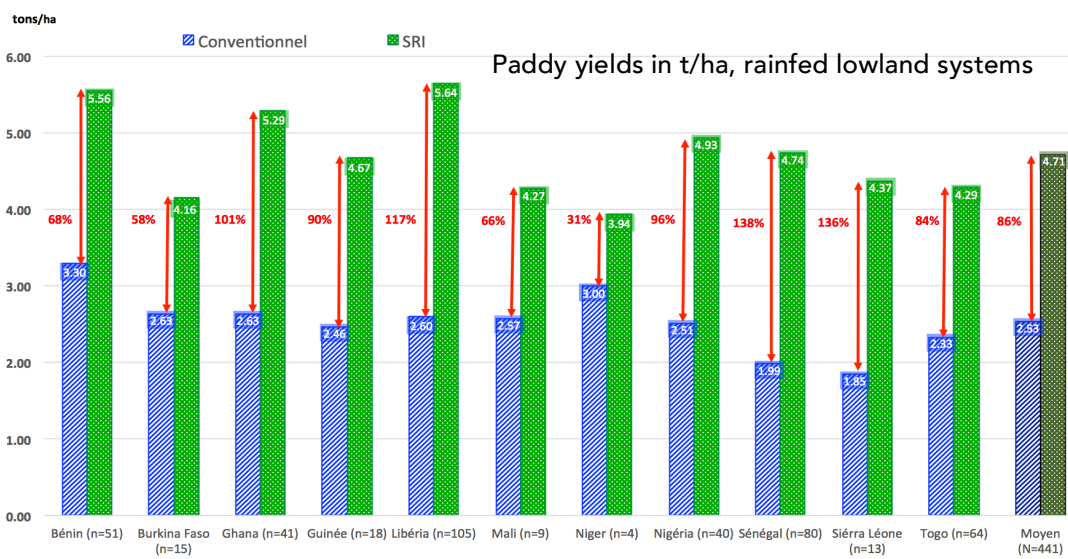
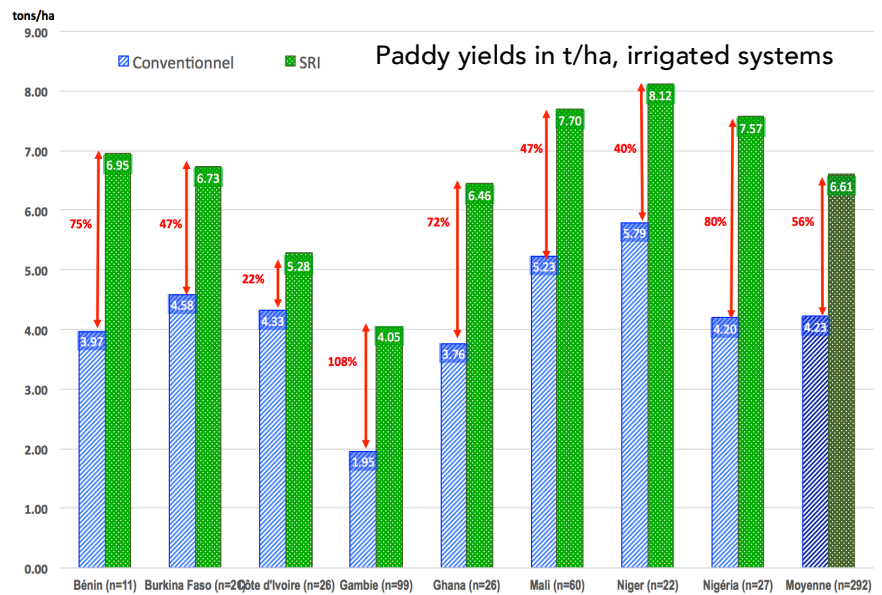
SRI was implemented in both, irrigated and rainfed lowland systems, at 40% and 60% of the sites respectively. Adaptations to upland and mangrove systems are underway. Across all countries, agro-ecological zones and for both years, 733 yields in SRI and adjacent conventional rice plots were evaluated. Average SRI yield for irrigated rice was 6.6 t/ha compared to 4.23 t/ha for conventionally grown rice (N=292 sites), a 56% increase (see Figures). For rainfed lowland systems, SRI yields averaged 4.71 t/ha, compared to 2.53 t/ha for conventional rice (N=441), a 86% increase. Estimated total **additional** quantity of rice produced with SRI compared to conventional rice during the 2015/2016 growing season alone was 31,458 tons of paddy, or 20,113 tons of milled rice, representing a **value of 10.07 million USD dollars**.

Recommendations for the second phase (2017-2020)

SRI-WAAPP project stakeholders from the 13 countries agreed that prerequisites are in place for scaling-up and scaling-out of SRI⁵. Recommendations for a second phase include: put more emphasis on working directly with farmer organizations, continue to focus on gender and youth, reinforce technical training, develop equipment solutions for smallholders, monitor progress more rigorously, learn from field experiences and farmer innovations, and become more active in communication, advocacy and policy dialogue.

A possible scenario for the second phase of the project can be modest: expand SRI to 10% of all rice farmers and rice-growing areas, or to 375,000 farmers and 595,000 hectares⁶. But for a long-lasting impact and significant contribution to West Africa's rice challenge, it is proposed to aim at an adoption rate of 25-33%, reaching 935,000-1.25 million rice farmers and 1.5-2.0 million hectares. The additional annual milled rice production would be 2 million tons with a value of 1 billion USD.

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SRI farmers in Sikasso (above) and Timbuktu (below) in Mali

5 SRI-WAAPP (2016). Report of Regional Workshop of SRI-WAAPP Results Reporting, Bamako, May 2016
 6 Diagne (2013): in: Realizing Africa's rice promise; p. 35-45; based on FAO data from 2009