



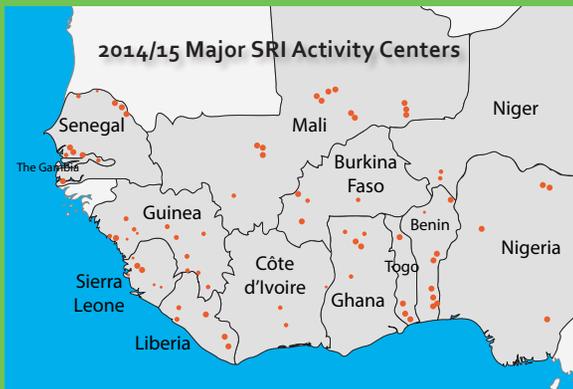
Participants in a regional workshop visit a farmer's SRI field outside of Tiassale, Côte d'Ivoire in February, 2015.

## SRI-WAAPP Impacts

Prior to the SRI-WAAPP project, small-scale SRI trials had occurred across the region, but larger adoption had only begun in limited areas, notably in parts of Mali, Benin, Burkina Faso and Senegal.

With the SRI-WAAPP project, SRI has been tested and validated in all 13 countries, and is beginning to be mainstreamed into the institutional capacity of national agricultural research institutes, farmer advisory services and non-governmental organizations. On the ground, large-scale trainings of trainers in the first and second years have led to increased farmer adoption in all 13 countries, and introduced SRI into new areas.

Through regional workshops, technical exchanges and the project's communications platforms regional linkages between project actors have created new channels for dialog and exchange, facilitating enhanced innovation and adaptation, and enhancing the spread and impact of SRI across West Africa.



## An Innovative Approach

As part of the World Bank-funded West Africa Agriculture Productivity Program (WAAPP), the SRI-WAAPP project works in 13 countries to:

- Test and evaluate SRI methods in a wide variety of rice production systems agroecozones across West Africa, from the arid Sahel to the humid coastal areas in the south;
- Connect actors within / between countries, fostering international dialog, information sharing, and network development;
- Disseminate innovations across similar rice production systems and agroecozones
- Optimize technical field implementation of SRI for each set of local conditions;
- Connect actors in West Africa to other SRI networks, organizations, researchers and equipment suppliers across Africa and in Asia.

## A Novel Structure

As a project commissioned by the 13 participating countries, SRI-WAAPP uses an open and participatory structure. A National Facilitator in each country coordinates activities with the local WAAPP structure, NGOs, researchers and SRI 'champions.'

The project's Regional Coordination Unit consists of:

- National Center of Specialization in Rice (CNS-Riz), Institute d'Économie Rurale – Mali;
- System of Rice Intensification International Network and Resource Center (SRI-Rice), Cornell University – USA

For more information, please contact the SRI-WAAPP Regional Coordinator, Dr. Gaoussou Traoré, CNS-Riz, at [gtraore9@yahoo.fr](mailto:gtraore9@yahoo.fr)

[sriwestafrica.org](http://sriwestafrica.org)

[facebook.com/groups/sriwestafrica](https://facebook.com/groups/sriwestafrica)



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

# SRI-WAAPP

First phase • Jan 2014 - Jun 2016



M. Traoré

A multi-year project to sustainably increase rice production in West Africa using the System of Rice Intensification (SRI)



Water saving,  
reduced inputs



Higher yields  
and incomes



Climate  
smart



Two rice plants of the same variety (VN2084) and age (52 days) demonstrate the effects of SRI management. The SRI-grown plant on the right, with 42 tillers, was transplanted at 9 days, while the conventionally grown plant is ready to leave the nursery at 52 days, following traditional Cuban practice.

## SRI Advantages

### Higher Factor Productivity

- Increased grain yields by 20-50%, often >100%
- More panicles per unit area, larger panicles, and more grains per panicle
- Better grain filling and grain quality
- Better resistance to drought, storm damage and flooding due to larger/healthier root structure
- Improved pest/disease resistance, reduced pesticide use
- Reduced seed requirements by 80-90% (6-8 kg/ha vs. 40-60 kg/ha)

### Water Conservation

- Reduced water requirements by 30-50%

### Improved Livelihoods

- Reduced production costs (10-20% less) and higher yields result in higher benefit/cost ratio
- Accessible to the poorest farmers due to reduced inputs and costs

### Biodiversity Conservation

- Farmers can increase yields using any variety of rice, including traditional varieties

### Climate, Environmental and Human Health Benefits

- Soils enriched with organic matter (compost, manure, etc.) have greater nutrient- and water-holding capacity
- Reduced need for pesticides and agrochemicals
- Reductions in methane generation and arsenic uptake through reduced flooding of rice fields

## What is SRI?

The **System of Rice Intensification (SRI)** is a climate-smart, agroecological methodology originally developed in Madagascar for increasing the productivity of irrigated rice cultivation by changing the management of plants, soil, water and nutrients, while reducing seed, water and agrochemicals use.

In the past 15 years SRI practices have been successfully adapted to rainfed rice systems and other crops (such as wheat, sugarcane, teff, legumes and vegetable crops), using the name **System of Crop Intensification (SCI)**.

## Why SRI in West Africa?

Despite the enormous and growing economic and cultural importance of rice in West Africa, imports to the region continue to grow as yields have largely stagnated.

Strategies to address this will need to take into account changing climates, inefficient and unreliable input delivery systems, and declining soil fertility in many areas. SRI addresses these challenges by giving farmers a tool to sustainably increase yields without many of the same constraints encountered with conventional development models. The benefits include improved household incomes and food security, conservation of water and soils, and greater resilience to drought and severe weather.



Technicians in Douentza, Mali prepare to collect yield data from an SRI field using a 1m<sup>2</sup> harvest square prior to harvest. Rice is grown in all agroecozones in West Africa, from the arid Sahel in the north to the humid coastal south, and SRI has been proven effective in all of these.

## How to do SRI

SRI is an adaptable methodology that is based on the interaction of four core principles:

1. **Establish plants early and carefully** in the field to promote robust tillering
2. **Minimize plant competition** to foster stronger individual plant health
3. **Build fertile soils rich in organic matter** to encourage plant health, good soil structure, and beneficial soil biota
4. **Manage water to avoid both flooding and water stress** for deeper plant root growth

These principles stay the same no matter where and how farmers grow rice (or other crops using SCI), but the practices vary according to local environmental and socioeconomic conditions.

## Common SRI Practices

**Early establishment:** Young and single seedlings are carefully transplanted at the two-leaf stage (8-15 days); in rainfed settings farmers may seed directly, using 2 seeds / hill.

**Wide spacing:** Seedlings are planted with wide spacing (often at 25cm x 25cm), in a grid pattern.

**Reduced water use:** Minimal water is applied during the vegetative growth period, keeping soils moist but aerated.

**Weeding and soil aeration:** Using a rotary weeder mixes in weeds and aerates surface soil; farmers may also use mulch.

**Fertilization:** Applications of organic matter (compost, manure, green manure, etc.) are recommended to build healthy, productive soils. Chemical fertilizers can complement organic fertilization if needed.

