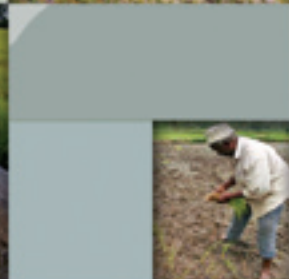


TOOLKIT

MULTIMEDIA



# SRI

## Achieving More with Less

A NEW WAY  
OF RICE CULTIVATION

WORLD BANK INSTITUTE

*Promoting knowledge and learning for a better world*

## Foreword

*"The World Bank Institute, through knowledge sharing and learning, seeks to inspire, inform and catalyze development practitioners into action, and help them undertake innovative reforms that will reduce poverty around the globe. This multimedia toolkit on the System of Rice Intensification is a great example of the power of information and its potential to shape future actions geared towards achieving more with less."*

— Sanjay Pradhan, Vice President, World Bank Institute

The growing demand for food and fiber and the competition for land and water between rural and urban is straining the productive and service capacity of agro-ecosystems globally. The System of Rice Intensification (SRI) is derived largely from farmer experimentation and local institutional innovation. Verified reports from farmer fields indicate that the SRI practices are resulting in significant increases in rice yields relative to traditionally used and improved rice cultivation.

The SRI multimedia toolkit produced by the World Bank Institute is a readily accessible resource for practitioners as well as researchers and policy makers. The information is illustrated with examples from farm fields, enhanced with easy-to-understand graphics, and presents testimony from farmers and researchers. It identifies constraints to adoption, highlighting that SRI is a work in progress with practices being adapted to overcome these constraints. Given the increasing impacts from climate variability on agro-ecosystems globally, this toolkit provides timely information for rice farmers, researchers and policy makers concerned with agricultural productivity and nature resource management.

— Erick Fernandes, Adviser, Land Management, Agriculture and Rural Development, The World Bank



The World Bank Institute seeks to disseminate knowledge and information to global audiences that supports improved livelihoods and sustainable development. One such area that we are to share with you is a set of good practices of producing higher rice yields with less resources, especially water. SRI, although still controversial, is being increasingly reported by enthusiastic farmers and researchers around the world.

In this multimedia toolkit, you will view two illustrative presentations to learn about the key elements of SRI, methods of application, benefits and constraints. In the Viewpoints section, you will hear from researchers, practitioners, leaders and farmers, who share with you their perspectives and debates on SRI. The toolkit is not meant to promote a particular method of cultivation, but an attempt to share knowledge that offers new opportunities to increase the productivity of our limited natural resources and to improve farmers' livelihoods.

— Mei Xie, Senior Water Resources Specialist, World Bank Institute

## Growing More With Less

The System of Rice Intensification, known as SRI, is a set of farming practices developed to increase the productivity of land and water, as well as other resources.

SRI is based on the principle of developing healthy, large and deep root systems that can better resist drought, water logging and wind damage. It consists of six key elements to better manage inputs, utilize new ways to transplant seedlings, and to manage water and fertilizer application. Reports from thousands of SRI farmers and practitioners around the world indicate that SRI plants develop stronger roots and stalks, and more tillers, with higher yields and even better flavor qualities.

Rice is a central food crop to many countries and to the majority of the world's population. The growing number and



the need for food security, increasing scarcity of water resources, predicted changes to climate and inefficiencies in current cultivation practices require more sustainable farming and at the same, time higher productivity of land and water.

**Growing more with less**—for many, this sounds unreal but SRI applications from more and more places are showing that it is indeed possible.



# System of Rice Intensification (SRI)

Achieving more with less – A new way of rice cultivation

**1** Seedlings get transplanted at a much younger age.



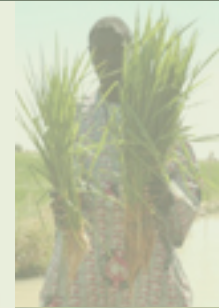
**2** Only single seedlings, instead of a handful of seedlings get planted in each hill.



**3** Plants are spaced wider apart, and in a square pattern.



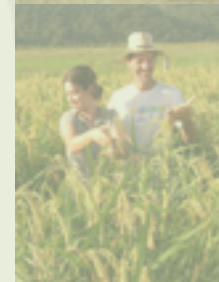
**4** Intermittent water application to create wet and dry soil conditions, instead of continuous flood irrigation.



**5** Rotary weeding to control weeds and promote soil aeration.



**6** Increased use of organic fertilizer to enhance soil fertility.



## What's Inside This Toolkit?

Based on practices and results on the ground seen from many countries, research of existing documentation, field visits, first hand accounts and photographs, and interviews, the multimedia toolkit provided inside this booklet (CD is located inside the back cover) has been produced to help share knowledge available and bring awareness to people who may be interested in learning more about SRI. This toolkit is a multimedia product that uses audio-visual materials for enhanced illustration of contents. It contains four sections—each can be viewed independently, or together, and self-paced.

### Overview of SRI

#### *Improving Rice Productivity and Achieving Water Savings: System of Rice Intensification (SRI)*

This section focuses on the benefits and limitations of SRI application.

Compared to the commonly known flooded rice production, successful applications of SRI have shown that farmers can raise their paddy yields by 50 to 100% or more, while using fewer farm inputs, especially water. After a brief review of the 6 key elements of SRI, the benefits of SRI are discussed—increase in paddy yields, better rice quality, reduction in irrigation water use, and reduction in production cost. Constraints to implementing and scaling up SRI are also reviewed—psychological and technical barriers as well as farm labor. With climate change, increasing variability of rainfall, and the growing competition for water and land, SRI offers a new opportunity for increasing the production value per drop of water and for reducing agricultural water demand, which, in many parts of the world, accounts for the largest share.



### Applying SRI

#### *How-To Guide for Farmers and Practitioners Based on SSIA: An SRI application from the Philippines*

This section focuses on one of the field applications of SRI, using the practices from the Philippines, where SRI is locally referred as Sustainable System of Irrigated Agriculture, or SSIA. Organized as a step-by-step “how to guide”, SRI application is summarized into six elements with highly illustrative images: 1) seedlings get transplanted at a much younger age; 2) only single seedlings, instead of a handful of seedlings get planted in each hill; 3) plants are spaced wider apart in a square pattern; 4) intermittent water application to create wet and dry soil conditions, instead of continuous flood irrigation; 5) rotary weeding to control weeds and promote soil aeration; and 6) increased use of organic fertilizer to enhance soil fertility.



### Viewpoints

This section provides video and audio interviews with researchers, practitioners, farmers and other stakeholders involved in SRI. Presenting views of SRI from across the spectrum, this series highlights individuals involved in extensive research and field visits, practitioners involved in adopting and disseminating SRI, project leaders from development agencies, and farmers currently using SRI in their fields. The interviews also address questions, controversies, and hesitations related to SRI.

### Resources

This section provides some suggested resources for those who are seeking to find more information on SRI. While not exhaustive of the literature and information on the topic, it provides some starting points.

## Contact Us: [www.worldbank.org/wbi/water/sri](http://www.worldbank.org/wbi/water/sri)

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*See toolkit for list of names and organizations.*

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CD

System requirements and operating instructions can be found on the back cover.

# How to Use This Toolkit

## System requirements

- Intel® Pentium® 4, Intel Centrino®, Intel Xeon®, Intel Core™ Duo (or compatible) processor
- Microsoft® Windows® XP with Service Pack 2, Windows Vista™ Home Premium, Business, Enterprise, or Ultimate (certified for 32-bit editions)
- 512MB of RAM or more recommended
- 1024x768 minimum monitor resolution with 16-bit or greater video card
- CD-ROM drive
- Macromedia Flash Player (Ver. 8.0 or higher) software required for multimedia features. Download at: <http://www.macromedia.com/software/flashplayer/>
- You must have a Web browser such as Internet Explorer or Firefox installed on your computer to view the contents of this CD-ROM.  
*Note—Flash presentations play best on Internet Explorer.*

## Warning:

Allowing active content from untrusted sources to access your computer could result in damage from various types of malware infiltration. In some cases, these programs can be used to collect information from your computer in ways you might not approve of, possibly damage data on your computer, install software on your computer without your consent, or allow someone else to control your computer remotely. Therefore it is suggested that after each session of viewing the CD, you should go back and uncheck "Allow active content to run in files on My Computer" and click "OK."

## Operating instructions

Insert the CD-ROM into your computer's CD-ROM Drive. If you have a Web browser installed, the CD-ROM should launch automatically.

To launch manually, double-click on the CD-ROM drive and then double-click on the file winopen.exe

If a warning message appears about running active content, follow these instructions each time the message appears:

- Click "OK" if you receive an Information Bar pop-up.
- Click on the yellow information bar and select "Allow Blocked Content"
- Select "Yes" to run active content

If you prefer to disable this security warning message while viewing this CD, follow these instructions:

- Open Internet Explorer
- Click on the "Tools" menu and select "Internet Options"
- Click on the "Advanced" tab
- Scroll down to the "Security" section and check "Allow active content to run in files on My Computer"
- Click "OK"
- After each session of viewing the CD, you should go back and uncheck "Allow active content to run in files on My Computer" and click "OK"