

Current Status of the System of Rice Intensification in India and Constraints to Overcome for Large-scale Adoption

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Abstract

System of rice Intensification (SRI) has the great potential to be promoted in large scale. However, with the policies and suitable recommendation, it did not spread to large scale in India. Suitable measures are required further upscaling the SRI in all the states of the country. The paper gives brief account of the initiation of SRI work (demonstrations and research), basic principles of SRI, advantages and initial experiences of the SRI adoption especially in Andhra Pradesh. The lack of skill development specially to adopt SRI principles hindered the large scale adoption even though NGO's and other organisations involved in promotion of SRI. There is need to relook the SRI promotion across the country with proper skill development and suitable programme and integrating with ongoing programmes and mainstreaming the SRI in National Agriculture

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SRI's potential has opened up greater debates and discussions to understand it better and to adopt this method of cultivation in larger areas. SRI is too good to believe. SRI is a more versatile innovation than many have thought. Unfortunately, despite making several policies and recommendations, the area under SRI in the country is very less. Where did we go wrong, or the measures suggested are not in tune with the production constraints and need greater attention for promotion and scaling up of SRI?

Factors responsible for higher yields in SRI include transplanting young seedlings singly at a wider spacing in well-aerated soil rich in organic matter with a thin film of water, preferably alternate wetting and drying. SRI principles require skill teaching in the following areas:

1. Transplant young seedlings carefully with the seed still intact along with mud. Young refers to seedlings when they are in their 2nd-3rd Phyllochron to achieve dramatic productivity. The skill point involved is how young seedlings are grown and handled.
2. Tilling the Paddy paddies 2-3 times at 10-day intervals with the help of a rotary weeder not only helps to keep the field free from weeds but also creates active soil aeration, a critical operation for

enhanced productivity with SRI. The rice paddies get compact under alternate wetting and drying conditions, and farmers experience difficulty in operating the weeder. This priority area needs intensive research work to develop alternatives. I consider this is the operation that makes the farmers do away from SRI.

3. Careful water management keeping the field wet and not flooded, supports healthy root growth while minimizing water requirement. Irrigation water management under canal irrigated conditions needs regulations.

Advantages of SRI

- More productive tillers
- Better root development
- Water saving potential- More crop per drop
- Improves soil health
- Resistance to Biotic and Abiotic stresses and hence, cope with Climate change
- Rice quality improved through biofortification
- Reduced costs and increased profitability
- Requirements for external inputs are much lesser



- SRI principles and practices improved rice productivity and income
- Black gram crop grown succeeding the SRI paddy is giving higher yields.
- Under SRI, rice crop matures ten days earlier.
- SRI utilizes biological power

In January 2003, I was able to learn about SRI on a study tour to Sri Lanka, and I was amazed to see the changed phenotype with heavy tillering, healthy and rough leaf blades, which cut my finger, to realize the genotype x environment interaction, where the same variety performs differently under different environments. On return to Andhra Pradesh, I started educating the farmers on skills involved in SRI by developing literature, CVDs and organizing 150 demonstrations (0.4 ha.) in all the districts under SAU and state Department of Agriculture collaboration, exposure visits, utilized print and electronic media simultaneously to start with. The SRI was a great success giving an average yield advantage of over 2.0 t/ha. The highest yield recorded was 17.4 t/ha. During 2004-05 Mr. Nagaratnam Naidu, Rangareddy district, realized a 17.6 t/ha paddy yield. The crop cutting was personally witnessed by the then Chief Minister of A. P., Sri Y. S. Rajasekhara Reddy. It is unfortunate to say that such an excellent practice was not given the support it deserves for scaling up SRI in the state. SRI is more a knowledge-intensive technology compared to input-intensive modern agriculture; hence, imparting knowledge and skills is essential.

Greater attention needs to be paid to why the total SRI conceptual practices are not adopted and actions taken

by the researchers, developmental agencies, and policymakers to overcome the constraints in adoption. Though some State Governments and NGOs like WASSAN and PRADAN are actively promoting SRI, the policy framework has not been put in place to take it forward.

The reasons for non-adoption may be attributed due to lack of skills. Little attention has been paid to transferring critical skills to the farmers. Hence, skill development at all levels in the following areas might help in scaling up SRI.

- Nursery management
- Main field preparation and marking
- Careful transplanting of young seedlings with seed, mud still intact
- Use of cono weeder for tillage and weeding
- Water management

This paper discusses the performance of SRI, which raises more questions than we currently have answers to.

- SRI is knowledge Intensive
- SRI principles require skill teaching
- Little attention has been paid for transferring critical skills to farmers
- This can be achieved if only the skills are mastered from top to bottom
- Some state Governments and NGO's are actively promoting SRI, but policy frame work has not been put in place to take it forward