



# System of rice intensification (SRI) – A resource-conservation technology

## TECHNOLOGY BRIEF

The System of Rice Intensification (SRI) with 20 x 20 cm row and plant spacing saved about 22-35% of water and gave 36-49% higher yield (about 6 t ha<sup>-1</sup>) compared to conventional transplanted crop. In SRI, only 1,571 litres of water were required to produce 1 kg grain, while with conventional methods, 2,801 litres of water were needed for 1 kg grain production. The SRI method also showed a reduction in labour inputs by 14% compared to the conventional transplanting method for various cultural practices.

## IMPACT / UTILITY

This technology is ready for commercialization [*Agricultural Technologies: Natural Resource Management*, ICAR 'Technology Ready for Commercialization' page 22]. It has tremendous potential to enhance rice yield using less water than the conventional transplanting method. Under Farmers FIRST project of the institute, this method has been demonstrated / adopted during 2017-21 by several farmers in 50 ha area, and they achieved 10-40% higher grain yield than conventional transplanting method.

SRI method has been also adopted on a large scale in about 36,935 ha by 1,42,345 farmers in rice-growing states in India (by NABARD). The IWMI-Tata Policy Program surveyed >2,200 rice farmers in 13 states of India, found SRI adopters have comparatively higher yield, higher economic returns, and lower production costs (Palanisami et al. 2013). In Tamil Nadu, SRI use was extended to 270,000 ha. Post-project surveys showed average yield increase was 22%, water savings of 42%, energy savings of 37%, lower labor requirements by 17%, and lower costs of production by 16%, with average net increase of income by 45% per ha (Nayar et al. 2020).

It has positive impacts on the livelihood of farmers through enhanced grain yield. Overall, this technology having potential to enhance rice production and to cope-up with the future scarcity of irrigation water. Also, SRI could help in achieving various sustainable development goals (SDGs) set by the United Nation.

## HIGHLIGHTS

- Grain yield enhancement: 36-49%
- Water saving: 22-35%
- Labor saving: 14%
- Seed saving: 90%



## Project Details

Enhancing water productivity through integrated system of rice intensification (Project Code: WTCER/08/132)

## Publications

Agricultural Technologies: Natural Resource Management (ICAR), Page 22.

Thakur et al. (2011). *Paddy & Water Environment*, 9:13-24. <https://doi.org/10.1007/s10333-010-0236-0>



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