

System of Rice Intensification (SRI) a new method of rice cultivation: Experiences in Nepal

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Introduction

Rice is the main crop of Nepal. In 2004/05 the area under rice cultivation was about 1.54 million hectares, with production of 4.28 million tons, and productivity of 2.78 t/ha (lowest in South Asia). The SRI method developed in Madagascar was first tested in 1999, but dissemination of SRI began to accelerate in 2003 after involvement of District Agriculture Development Office, Morang. Now SRI is being tested and disseminated in more than 20 districts by GOs/NGOs.

Table 1. Numbers of SRI farmers within Morang district, 2003-2006

Years	Number of VDCs* with SRI plots	Number of farmers used SRI method	Area (Ha)
2003 main season	1	1	0.01
2004 early season	3	3	0.15
2004 main season	15	27	5
2005 early season	26	75	15
2005 main season	53 (out of 65)	1,475	100
2006 early season	28	375	80
2006 main season	57	>2,000	200

* Village Development Committee areas

Practices adopted by farmers

Young seedling, single transplanting, wider spacing, water management, more weeding and more organic matter at same level chemical fertilizers.

Young seedling	Single transplanting	Wider spacing in square pattern
Water management	More weeding	More organic matter

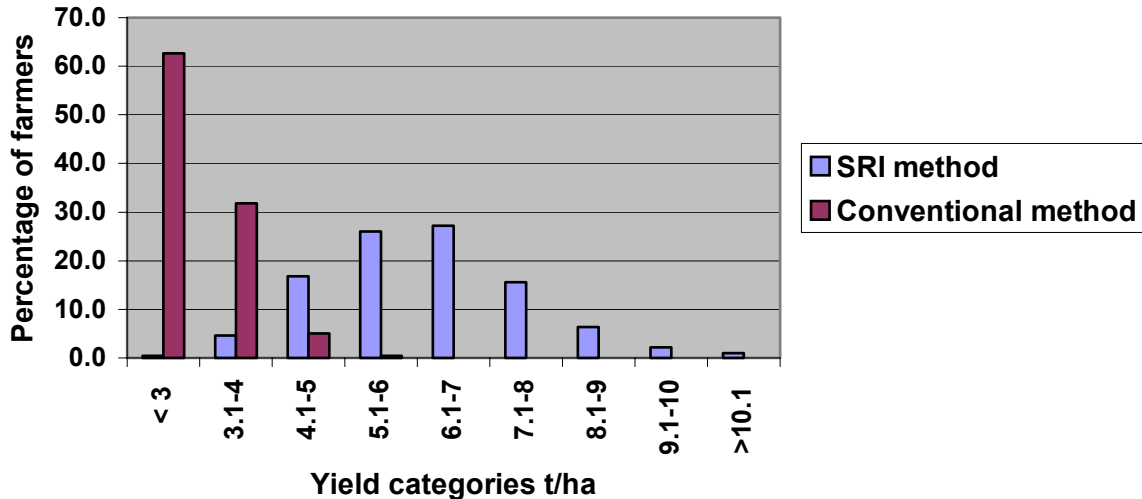
Methodology

To know the performance and economic aspects of SRI, DADO Morang conducted a detailed survey last year among 50 randomly selected SRI farmers and collected other information regarding SRI performance through a survey of 412 other farmers, supplemented by secondary data from the Department of Agriculture.

Results

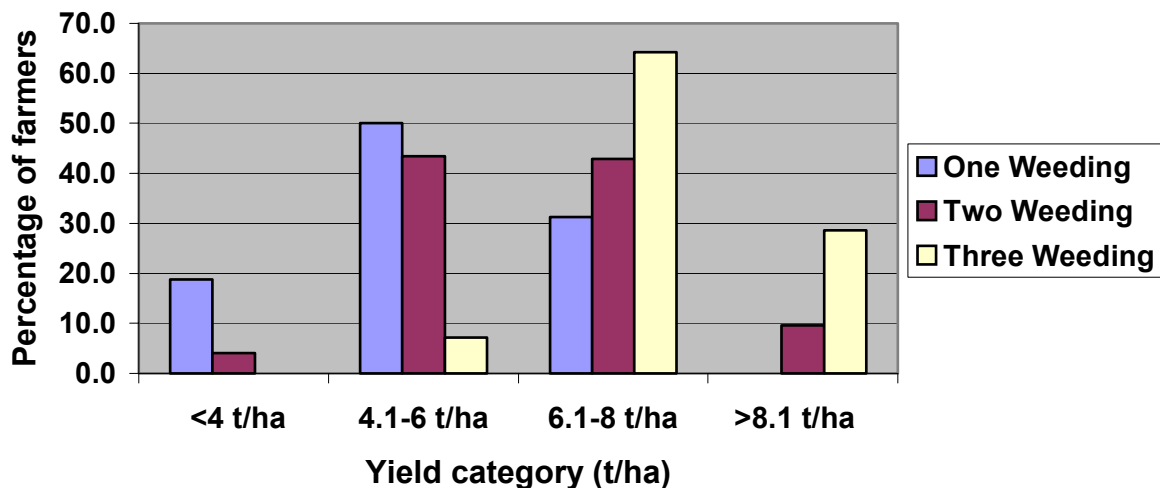
1. Production: comparison of SRI and conventional methods)

Fig 1. Comparative yield of rice by SRI and Conventional methods 2005 (t/ha)



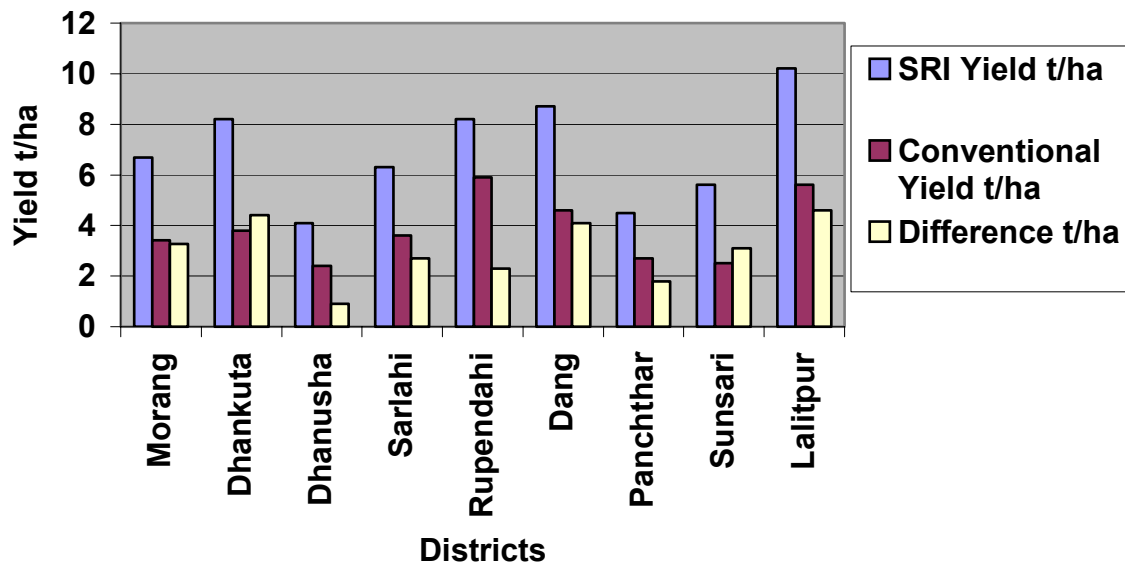
Average production with SRI in 2005 was 6.3 t/ha, compared to 3.1 t/ha by conventional methods. Majority of SRI farmers produced more than 6 t/ha, whereas with conventional methods the majority got less than 3 t/ha. Detailed yield distribution of the farmers is given in Fig.1.

Fig 2. Yield distribution of rice by SRI method according to numbers of weeding



With SRI method, weeding plays a very important role in production. More than 90% of farmers doing three weedings produced more than 6 t/ha as seen in Fig 2.

**Fig 3. Rice Yield by SRI and Conventional method
2005**

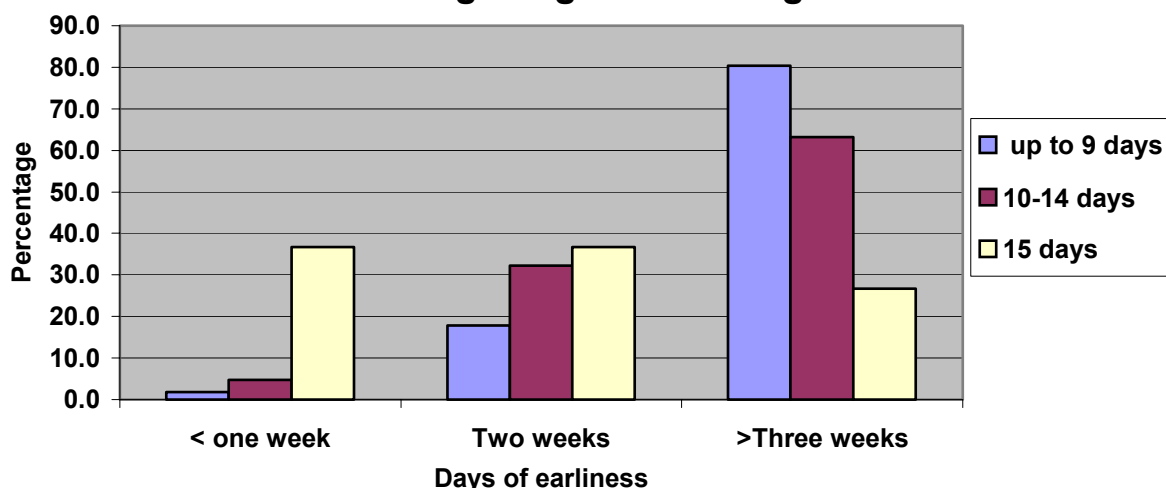


Many districts have reported that farmers can produce more yields by SRI than with conventional rice-growing methods.

2. Earlier maturation: comparison of SRI and conventional methods

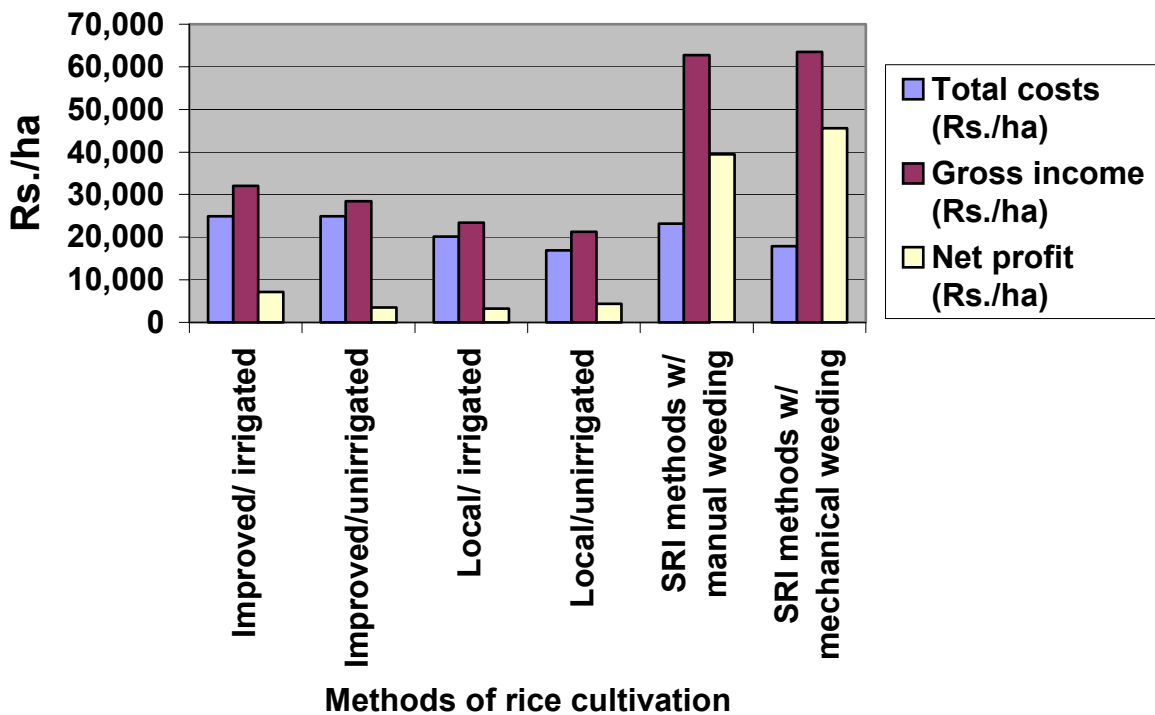
Rice crop becomes ready to harvest earlier with SRI method. Generally crop duration with SRI was reduced by 2-3 weeks compared to conventional method. This earliness was found to be useful for getting an early start for the next crop as well as for reducing the risk of crop damage by natural calamities.

**Fig 4. Earlier maturation of rice with SRI method
according to age of seedling**



3. Cost of production and profitability: comparison of SRI and conventional methods

Fig 5. Production cost and profitability of rice by different methods



Compared with conventional methods, SRI method was found to be very profitable Fig 5 presents calculations of cost of production, gross profit and net profit.

Conclusion

SRI has been spreading in Nepal as a good alternative for farmers to increase their rice production, by using locally available seed and organic matter, using less water, less fertilizers and pesticides. Generally by using this method, farmers could increase their rice yield by double, with similar or lower production costs. SRI increases profitability of rice farming many fold as well as enhances food security of the small and marginal farmers. Besides this, SRI saves valuable fresh water, conserves rice biodiversity, decreases air and water pollution, and re-activates soil life for sustainable agriculture development.