

Original Research Article

<https://doi.org/10.20546/ijcmas.2018.701.233>

A Comparative Study on Production Realized in Traditional and SRI Methods of Paddy Cultivation in District Katni (M.P.), India

Shiv Singh Kirar¹, Ram Pratap Bain^{2*} and Jeetendra Kumar Soni²

¹Department of Agriculture, Government of MP, Guna (MP), India

²Krishi Vigyan Kendra, JNKVV, Piprourdh, Katni (MP), India

*Corresponding author

ABSTRACT

Keywords

Paddy production,
Traditional and SRI
methods, Independent
variables

Article Info

Accepted:
14 December 2017
Available Online:
10 January 2018

The SRI farmers have been realized more of 8.42 quintals of paddy grain per hectare over the traditional method of paddy cultivation. On the other hand, the SRI farmers have been realized lower of 1.29 quintals of paddy by-product per hectare over traditional method of paddy cultivation. Information collected from, Deputy Director of Agriculture, Office of Katni district.

Introduction

Rice is grown on an estimated 155 million hectares in 114 countries, in an area lying between the latitudes 53°North and 35°South. Asia accounts for nine of the top ten rice-producing countries. Globally, 55 per cent of the area under rice cultivation, that is irrigated, contributes 75 per cent of the total rice production. Rice area in India has fluctuated fairly stably around 43 million hectares during the last two decades, with a maximum rice area of 46.67 million hectares in 2012-2012. Total rice production was also the maximum during this year (104.4 million tonnes). It is noted that rough (unhusked) rice productivity, which was at 10.02 q/ha in 1950-1951,

reached a maximum of 33.03 q/ha in 2012-2013. The average rice yield in the year of 2012-13 found to be 22.28 q/ha. System of Rice Intensification (SRI) emerged in the 1980's as a synthesis of locally advantageous rice production practices encountered in Madagascar by Fr Henri de Laulanie, a Jesuit Priest who had been working there since 1961 (Chourasia and Singh, 1972; Fale *et al.*, 1985; Gupta *et al.*, 1985). But, it is Dr. Norman Uphoff from Cornell International Institute for Food and Agriculture, Ithaca, USA, who had brought this method to the notice of outside world in the late 1990s (Anthofer, 2004). Today SRI is being adopted in many states in India and the response from farmers has been overwhelming seeing the benefits of the

method, notwithstanding the constraints (Haldar *et al.*, 2012; Sarath and Thilak, 2004) In this study comparison has been made Returns realized in traditional and SRI methods of Paddy Cultivation.

Materials and Methods

The study was conducted in Katni district of Madhya Pradesh. This district has been selected purposively because large number of paddy cultivators adopted SRI method of paddy cultivation. From the selected district 24 villages were selected for the present study and then selected 6 SRI and 6 non SRI farmers from each village with the help of random sampling method. Thus 288 farmers (144 SRI and 144 non SRI) were selected for the present study. Data collected through observation and interview with the farmers. Collected data have been classified, tabulated and interpreted.

Results and Discussion

Production realized in traditional and SRI method

Besides the cost incurred in paddy cultivation with traditional and SRI methods per hectare basis, the yield realized analysis for both the methods is the relevant tool where the prime motive of the activity is profit-measure in the production process. Economist for obvious reason has not developed suitable measures to evaluate cost, returns and profit in terms other than money, because mostly yield goes on fluctuating with the several biotic and abiotic factors (Jaiswal *et al.*, 1996; Mohandas and Thomas, 1997; Jayapal Reddy *et al.*, 2013). In the present study, the yield parameter for comparison of profitability is also considered because general farmers looking towards higher yield from their farms.

It has been found in various studies that the yield of paddy is directly influencing with the

level of technologies used in the production, method of practices adopted and certain other reasons. It can be said that the technological status and methods (practices) in agriculture, the paddy production and productivity is being recognized to change. The problem is that due to ignorance about improved practices in paddy cultivation and suitable methods of cultivation, general farmers were found to have not used judicious application of improved technology and suitable methods of cultivation (Yuan, 2002; Sivanagaraju, 2006).

It is considerable point that, the actual farm yields realized by the paddy growers with traditional and SRI methods of cultivation, needs to be compared under different situations to be of more use for decision making. The most widely used term 'potential' yield is defined as the yield of the crop which is obtainable on farmers fields under farmers environments with the modern production inputs and techniques giving maximum yield. The table 1 revealed the quantification of yield gap between traditional and SRI method of paddy cultivation.

The quantification of yield gap between traditional method and SRI method of paddy cultivation revealed that the SRI method of paddy growers realized, on an average, higher yield in terms of grain product i.e. 32.94 quintals per hectare, while, the traditional method of paddy growers realized, on an average, 24.52 quintals per hectare. On the other hand, the traditional method of paddy growers realized, on an average, higher by-product i.e. 18.22 quintals per hectare, while the SRI method of paddy growers realized, on an average, 16.93 quintals per hectare of by-product.

It is concluded that the SRI farmers have been realized more up to 8.42 quintals of paddy grain per hectare over the traditional method of paddy cultivation. On the other hand, the

SRI farmers have been realized the lower i.e.1.29 quintals of paddy by-product per hectare over the traditional method of paddy cultivation

Table.1 Yield of paddy under traditional and SRI method of cultivation (q/ha)

S.No.	Yield	Traditional method	SRI method	Change over Traditional per hectare
1.	Grain yield	24.52	32.94	+ 8.42
2.	By product yield	18.22	16.93	- 1.29

Source: Information collects by respondents.

On the basis of above facts, findings and discussion the hypotheses ‘III’ i.e. “There is no difference between yield realized with “SRI method” and “traditional method” of paddy cultivation” is rejected. It is found that “there are differences in the yield realization among traditional and SRI methods of paddy cultivation”.

It is indicated by the above facts and findings that there exists a reservoir of untapped yield potential of paddy cultivation with new the concept of SRI method in the areas of traditional method of paddy cultivation (Sahu *et al.*, 1993; Nagabhushanam and Herle, 1997; Ying *et al.*, 1998). The contributing factors as derived in the study show that nearly 34.33 per cent yield of the paddy growers can be increased merely by adopting SRI method rather than traditional method of cultivation.

The quantification of yield gap between traditional method and SRI method of paddy cultivation revealed that the SRI method of paddy growers realized on an average higher yield in terms of grain product i.e. 32.94 quintal per hectare, while, the traditional method of paddy growers realized on an average 24.52 quintal per hectare. On the other hand, the traditional method of paddy growers realized on an average higher by-product i.e. 18.22 quintals per hectare, while the SRI method of paddy growers realized on an average 16.93 quintals per hectare of by-

product. It is concluded that the SRI farmers have been realized more of 8.42 quintals of paddy grain per hectare over the traditional method of paddy cultivation. On the other hand, the SRI farmers have been realized lower of 1.29 quintals of paddy by-product per hectare over traditional method of paddy cultivation.

References

Anthofer, J. 2004. The potential of the System of Rice Intensification (SRI) for poverty reduction in Cambodia. *http://www.tropentag.di/2004/abstracts/full/399.pdf*

Chourasia, R.R. and Singh, V.N. 1972. Economics of local and high yielding varieties of paddy and wheat in Panagar village of Madhya Pradesh. *Indian Journal of Agricultural Economics*. 27(1):93-98.

Fale, J.B., G.G. Thakare, and Borude, S.G. 1985. An economic analysis of yield gap in rice in Ratnagiri district. *Agricultural Situation in India*. 40(1): 925-929.

Gupta, D.D., A. Rathi, and Shama, K.K. 1985. Economics of paddy cultivation in Haryana. *Agriculture Situation in India*. 42: 1051-1058.

Haldar, S., Honnaiah and Govindaraj, G. 2012. System of Rice Intensification (SRI) method of rice cultivation in West Bengal (India): An Economic analysis. *International Association of*

- Agricultural Economists (IAAE) Triennial Conference, Foz do Iguacu, Brazil*. Pp. 2-25.
- Jaiswal, P.K., D.N. Dwivedi, and Dwivedi, R.K. 1996. Traditional versus improved practices of upland crop among tribals of Surguja district, (Karnataka). *Maharashtra Journal of Extension Education*. 15:231-232.
- Jayapal Reddy, Rampuram and Shenoy Sandhya N. 2013. A comparative economic analysis of Traditional and System of Rice Intensification (SRI) rice cultivation practices in Mahabubnagar district of Andhra Pradesh. *International Journal of Scientific and Research Publications*. 3(10):1-3.
- Mohandas, K. and Thomas, E.K. 1997. Economic analysis of rice production in Kuttanad areas of Kerala. *Agricultural Situation in India*. 54(9):555-560.
- Nagabhushanam, K. and Herle, P.S. 1997. Yield gap in paddy – a study. *Kar. Journal of Agri. Sci*. 10(1):174-176.
- Narasimhan, S. Raju, V.T. and Shareef. 2003. Cost and returns paddy in Yanam Region of Union Territory of Pondicherry. *Rural India*. 67(6&7):130-135.
- Sahu, R.M., A.K. Sarawgi, and Bisen, P.K. 1993. Yield gap analysis of paddy production in Jabalpur district of Madhya Pradesh. *J.N.K.V.V. Res*. 27(1):71-76.
- Sarath, P.N. and Thilak, B. 2004. Comparison of productivity of System of Rice Intensification and conventional rice farming systems in the dry-zone region of SRI Lanka. *4th International Crop Science Congress, Brisbane, Australia*.
- Sivanagaraju, P. 2006. Traditional and SRI methods of paddy cultivation– a comparative economic analysis. *M.Sc. (Agri.) Thesis Submitted to University of Agricultural Sciences, Dharwad, Karnataka (India)*.
- Ying, J.S., Q. Peng., H. He, C. Yang, R.M. Yang, Visperas and Cassman, K.G. 1998. Comparison of high-yield rice in tropical and subtropical environments, I: Determinants of grain and dry matter yields. *Field Crops Research*. 57:71-84.
- Yuan, L.P. 2002. A scientist's perspective on experience with SRI in China for raising the yields of super hybrid rice. In: Assessments of the System of Rice Intensification (SRI). *Proceedings of an International Conference, Sanya, China*. pp: 23-25.

How to cite this article:

Shiv Singh Kirar, Ram Pratap Bain and Jeetendra Kumar Soni. 2018. A Comparative Study on Production Realized in Traditional and SRI Methods of Paddy Cultivation in District Katni (M.P.). *Int.J.Curr.Microbiol.App.Sci*. 7(01): 1936-1939.
doi: <https://doi.org/10.20546/ijcmas.2018.701.233>