



An Economic Analysis of Rice Based Cropping Pattern of N.S.P Left Command Area of Nalgonda District of Andhra Pradesh

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ABSTRACT

The present study was carried out on different cropping sequences in N.S.P. Left command area of Nalgonda district of Andhra Pradesh during 2006-07. The study indicated that the Rice crop equivalent yield was highest in rice – cluster bean (4892 kg ha⁻¹) followed by rice – maize sequence (5839 kg ha⁻¹). With respect of net returns and Benefit -Cost ratio rice – maize cropping sequence realized highest (Rs. 49442 ha⁻¹ and 1.41 respectively). The study indicated that the rice – maize and rice – cluster bean cropping sequence are more productive, remunerative and economically viable than the traditional rice – rice monoculture.

Key words : Benefit cost ratio, Cropping pattern, Economic analysis, Maize, Rice.

Agriculture is the backbone of Indian economy as it continues to be the engine of economic growth. More than 65 per cent of the population is directly or indirectly depends on agricultural activities and contributes nearly 29 per cent of the National Income. Nalgonda district of Andhra Pradesh in N.S.P Left command area is a predominant rice producing area in both the seasons with an area of 70,972 ha; of three different situations i.e. head canal, middle canal and tail end canal region. Irrespective of the canal region majority of the farmers used to follow the rice – rice cropping system. Most of the farmers could not make profitable paddy production in Rabi season due to inadequate or scarcities of irrigation water both middle canal and tail end canal region. The present study was carried out on cropping system, where in farmers can effectively utilize the available water in both the seasons and to identify economically viable and productive cropping sequence to sustain productivity of study area.

MATERIAL AND METHODS

The present study was undertaken in the NSP Left command area of three different situations of Nalgonda district during 2006-07. In N.S.P Left canal command area of three different situations i.e. Head, Middle, Tail end region three mandals were selected base on random sampling technique. In the same way six villages in each mandal were selected. From each village 10 farmers were selected randomly. Thus, multistage random sampling procedure was used to make a total sample of 180 farmers in 18 villages of three mandals in N.S.P

Left command area of Nalgonda district. To estimate the rice based cropping pattern of different crops were considered in Rabi season, statistically comparison has been made by converting the data to Rice crop equivalent yield. Rice crop Equivalent Yield was calculated by multiplying the crop yield by rice equivalent factor. The rice equivalent factor was calculated from the ratio of the price of unit weight (kg) of economic produce of the concerned crop by the price of unit weight of rice crop (Verma (1983). In working out gross returns, the value of main products only were considered. Prevailing market price was considered to estimate gross returns and Simple tabular method was used to estimate benefit cost ratio.

RESULTS AND DISCUSSION

It can be seen from the Table 1 indicated that Rice crop equivalent yield was significantly highest in rice- cluster bean sequence (12320 kg ha⁻¹) and rice – maize cropping sequence (12196 kg ha⁻¹) compared to rest of the crop sequences than the traditional rice – rice mono cropping sequence. However the cropping sequences like rice – black gram and rice- sesamum were lower the rice crop equivalent yield than the traditional rice – rice cropping sequence. The rice –black gram cropping sequence was significantly lower (6389 kg ha⁻¹) than the traditional rice – rice cropping sequence. This was due to the incidence of Yellow Vein Mosaic Virus in black gram is epidemic in the study area. rice – sesamum cropping sequence (8046 kg ha⁻¹) was almost on par with the traditional rice – rice sequence (8576 kg ha⁻¹). Total productivity

Table 1. Economics of different cropping sequences in N.S.P Left command area.

Cropping sequence	Yield (kg ha ⁻¹)		Total productivity	RCEY (kg ha ⁻¹)	Cost of cultivation	Net Returns	B: C Ratio
	Kharif	Rabi					
Rice – Rice	3745	4830	8575	8576	36200	23832	0.65
Rice - Maize	4284	7394	11678	12196*	35000	49442	1.41
Rice – Sesame	4326	8968	5194	8046	30000	26322	0.87
Rice – Black gram	4610	692	5302	6389	31250	13476	0.43
Rice – cluster bean	4463	5500	9963	12320*	45000	41241	0.91
S.Em+				1904			

RCEY : Rice crop equalent yield.

of the rice – maize (11678 kg ha⁻¹), rice – cluster bean (9963 kg ha⁻¹) cropping sequences were higher than the traditional rice – rice crop sequence. Whereas the crop sequences like rice – sesamum and Rice Black Gram were lower total productivity compared to traditional rice – rice cropping sequence.

Benefit -Cost Ratio (from Table 1) revealed that rice – maize cropping sequence (1.41) followed by rice – cluster bean cropping sequence (0.91) and rice – sesamum (0.87) were economically viable than the traditional rice – rice cropping sequence. The rice – black gram cropping sequence (0.43) was not economically viable in the study area due to the incidence of yellow vein mosaic virus. The study revealed that investments in cereals and vegetables viz. maize, cluster bean are more remunerative cropping sequence compared to pulses and oil seeds in rabi season among the rice based cropping sequences in the N.S.P left command area. All the cropping sequences in the study area except rice – black gram cropping sequences were higher B-C ratio than traditional rice – rice cropping sequence. The rice black gram cropping sequence was not economically viable due to incidence of yellow vein mosaic virus in the study area. Similar finding of economic viability of canal

based cropping sequence was also reported by Chandrappa *et al.*, (2002) and Dhima *et al.*, (1999).

Conclusion:

The study concluded that rice – maize, rice – cluster bean were more productive and profitable than the traditional rice- rice cropping sequence among the alternative cropping sequences in the N.S.P. Left command area.

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