

A Study of the Resource Use Efficiency of Paddy Farmers in Melbhuvanagiri Block, Cuddalore District, Tamilnadu

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Language in India www.languageinindia.com **ISSN 1930-2940 Vol. 13:10 October 2013**

Introduction

Economic development of India is critically dependent on progress in the farm front. Import and export earnings in agriculture determine the phase of economic progress to sustain the accelerated industrial progress. Agricultural development assumes priority in our developmental efforts. Taking into consideration the problem of logistics, time and resources, it was decided to have a field study relating to paddy cultivation. Government of Tamil Nadu is according highest priority to agriculture sector and the department is taking all efforts to usher in Second Green Revolution so as to improve the farm productivity and substantially increase the income of the farmers.

Problems of Paddy Cultivation

Agriculture today faces many problems such as pressure on cultivated land due to fragmentation and diversion of productive agricultural lands to non-agricultural purposes, high level of spatial and temporal variability in rain, dwindling ground water resources, shortage of farm workers to carry out agriculture operations, poor adoption of improved crop management practices and location specific cropping system and weak-post harvesting and marketing linkages. In addition, agricultural development has increasingly become technology-propelled. The schemes and programmes implemented through annual and Five Year Plans have yielded less than the desired results for sustainable agriculture, necessitating development of new strategies and approaches with focused attention on key issues such as effective agricultural extension, integrated farming, adoption of frontier cost effective agricultural technologies, and

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strengthening of market linkages. Goals and strategies have been formulated to tackle these challenges by drawing appropriate plans for implementation during 12th Plan period.

Methodology

Bhende, et. al. (2007) has analyzed the technical efficiency of major food and cash crops in Karnataka. They also analyzed the technical efficiency of various farm inputs using the secondary from University of Agricultural Sciences during the period of 1993-94. Educational achievements of the farm household determine technical efficiency in both food and cash crops in Karnataka. In addition to that, the farm size and technical efficiency are in inverse relationship. Raj, et.al. (2011) has measured water use efficiency in Godavari river basin in Andhra Pradesh. The China Ghanapur and Machavaram are important river basin villages. These were selected for the study. Census method was adopted. Due to the frequent availability and free of cost water, farmers inefficiently use the irrigation water for paddy cultivation. Taiwor, et. al. (2011) has studied the resource use efficiency in hybrid and traditional maize. Various input factors for maize cultivation were studied. 100 farmers in Giwa Local Government Area of Kaduna state was surveyed by random sampling method. The study found out that there is large scope for increase in the resources used in both hybrid and traditional maize cultivation.

To examine the productivity and resource use efficiency of paddy forms, production and efficiency of paddy farms, this study covered two villages in the Melbhuvanagiri Block at Cuddalore District. These two sample villages are B. Kolagudi and Jayankondan. The primary data was collected from 50 sample respondents. This study focuses much on resources use pattern of paddy cultivation.

Tamilnadu is a state at the extreme southern end of the India subcontinent. The Western Ghats in the west, the Bay of Bengal in the east and the Gulf of Mannar in south constitute the natural boundaries of the state on three sides. Tamilnadu covers an area of 1, 30,000 Sq.km. Cuddalore district lies between 15 5/11 11'' and 12 35'' of the northern latitude and 78 38'' and 80 0'' eastern longitude with an area of 3678 Sq.km. The district was formerly known as South

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Arcot. The Cuddalore district is bounded on the east by the Bay of Bengal and on the south by Nagapattinam District.

The study revealed the following. Table 1 gives the salient features of current status of paddy cultivation:

Table -1
Resource use efficiency of farmers

| Sl. No | Independent Variable | Regression Coefficient | Standard Error | 't'values |
|--------|-----------------------|------------------------|----------------|-----------|
| 1. | Acreage | 0.4254 | 0.1376 | 3.092* |
| 2. | Seeds | 0.0128 | 0.1997 | 0.064 |
| 3. | Manures & Fertilizers | 0.3736 | 0.1617 | 2.311* |
| 4. | Labour | 0.5962 | 0.5607 | 1.046 |

Coefficient of Determination $R^2 = 0.95923$

Adjusted $R' = 0.95320$

Number of Observations = 50

*significant at 1% level

From Table -1, it is seen that the coefficient of acreages, manures and fertilizers are 0.4254 and 0.3736 and significant at five percent level. It is clear that if the area under cultivation is increased by one acre, the yield will increase by 0.4254 on. The co-efficient of seeds and labor are 0.0128 and 0.5862 respectively. It is seen that planting of more seeds or introduction of additional input may not help to increase the yield significantly.

Conclusion

Considering the overall efficiency of paddy farms, it is seen that acreage, manures, and fertilizer and labour are found to be significant at one percent level (0.01). If the area under cultivation increases by one acre, the yield, *ceteris is paribus* (all other things being equal or held

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constant), will increase. There is indication that the quantum of application of fertilizers has already crossed the optimum level and any further application will reduce the output.

Cuddalore district is known for paddy cultivation for many years. Therefore, the government should encourage new methods of cultivation and offer subsidies. Then only the productivity of paddy will increase.

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