

Management of Rice Farms in Palghat Taluk (Kerala State)*

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In the present study an investigation was made to assess the resources owned by the rice farmers and the extent of their utilization in Palghat Taluk of Kerala State. It is concluded that the investment per hectare is greater in the irrigated village than in the non-irrigated village. The per hectare cost and output were widely different between irrigated and non-irrigated village during *Mundakan* season (*Rabi*) but not in *Virippu* season (*Kharif*). The cost of inputs followed is as bullock labour > human labour > manures and fertilizers in both irrigated and non-irrigated villages.

An assessment of the resources owned by the rice farmers and the extent of their utilization was made in Palghat Taluk of Kerala State during the year 1965 - '66. During this time no high yielding variety of paddy was introduced in the area and this study was confined to the local rice varieties. Eventhough rice can be grown without any irrigation in this region, the impact of irrigation on the yield of rice is great. Thus the effects of irrigation on the yield and cost of production of paddy have been studied. The cost and returns for both *Virippu* and *Mundakan* rice (*Kharif* and *Rabi*) were worked out separately to find out the difference, if any, in various inputs and outputs. The various measures of profits, as net profit, farm business income, family labour income, etc., were also studied.

MATERIALS AND METHODS

The sampling technique adopted was two stage random sampling. In the first stage two villages were selected at random from the irrigated and non-irrigated villages with probability proportional to area under paddy and the farmers were classified into four groups, like below two acres, two to four acres, four to six acres and above six acres. Three farmers were selected at random from each group.

Basic Concepts: The following are the different concepts used in the study.

Cost A: Hired and permanent human labour, owned and hired bullock labour, seed, manures, depreciation of dead stock, land revenue and water tax.

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Cost B: Cost A + Interest on owned capital.

Cost C: Cost B + Imputed value of family labour.

Farm Business Income = Gross Income - Cost A.

Family Labour Income = Gross Income - Cost B.

RESULTS AND DISCUSSION

Cost per hectare of rice: It is noticed that there is no wide variation in cost of per hectare rice in *Virippu* season between irrigated and non-irrigated villages, but the cost vary widely for the *Mundakan* season between the two villages. The assured irrigation provide every incentive for greater investment and returns, while the uncertainty of rainfall during *Mundakan* season discouraged any higher investment in non-irrigated villages.

Input Output Relationship: For the *Virippu* rice there was a very small rise in the output with corresponding larger input per hectare in the irrigated village. This was due to the fact that there was no scarcity of water during this season in both irrigated and non-irrigated farms. The coefficient of correlation between input per hectare and output per hectare for the *Virippu* rice was estimated at 0.76 and 0.74 in the irrigated and non-irrigated farms respectively and are significant at one per cent level. This established a strong positive correlation between in-

put and output in the irrigated and non-irrigated farms.

The coefficient of correlation between input per hectare and output per hectare for *Mundakan* was estimated at 0.73 in the irrigated farms and 0.75 in the non-irrigated farms which were significant at one per cent level.

Structure of Cost: The break up of the cost according to different components for *Virippu* rice in the various size groups of farms in the irrigated and non-irrigated villages indicated that the value of bullock labour was the largest single item of cost of operation. It accounted for 41.90 per cent and 38.01 per cent of the total cost. It is followed by the human labour accounting for 28.75 per cent and 30.39 per cent; manures and fertilizers 12.41 per cent and 10.88 per cent and seeds 6.67 per cent and 8.80 per cent in the irrigated and non-irrigated farms respectively.

Yield per hectare: It is observed that there is not much difference in yield of rice during *Virippu* season but there was a considerable difference in yield per hectare under *Mundakan* condition. It may be because of the uncertainty of rains in this season, the unirrigated villages produced less yield.

For finding out the gross returns from individual farms under a set of conditions, Cobb-Douglas type of function was fitted, and the said function for irrigated farms read

$$Y = 241.51X_1^{.58} X_2^{-.41}$$

and for non-irrigated farms read

$$Y = 177.69X_1^{-.46} X_2^{.52}$$

where

Y = gross returns in rupees

X_1 = bullock labour in pair day units

X_2 = seeds and manures in rupees.

The inference that can be drawn from the above readings is that in the irrigated holdings the gross return can be increased by 0.58 per cent with an increase of one per cent in bullock labour. The elasticities of capital (seeds and manures) showed values less than zero. From the readings of the non-irrigated farms, it is observed that gross returns can be increased by 0.52 per cent with an increase of one per cent in capital. The elasticity of bullock labour showed values less than zero.