

STUDIES ON THE ECONOMICS OF PADDY CULTIVATION IN TRICHUR DISTRICT IN KERALA*

LATHA BASTINE

The study conducted in Trichur district in Kerala in 1981-82, showed that the cost of cultivation per hectare worked out to Rs. 3668.42 in the case of high yielding varieties and Rs. 3403.12 in the case of local varieties. The most important contributing factor to the cost of cultivation was found to be human labour to an extent of 29.05 percent in the case of high yielding varieties and 40.49 percent in the case of local varieties. A comparison with the cost of cultivation studies during the years 1978-79 and 1979-80 showed an increasing trend. This can be attributed to the increased use of fertilizers and higher wage rates. The benefit cost ratios for high yielding and local varieties were 1.76 and 1.61 respectively. The cost of production per quintal of paddy worked out to Rs. 67.78 and 77.44 for high yielding and local varieties respectively.

Information on cost of cultivation of various agricultural commodities and economics of production are of interest to policy makers, farmers and even the public. Rice is the staple food of Kerala and is one of the major crops. Economics of paddy cultivation affect the fortunes of farmers, employment of labour force in agriculture and the welfare of people in general.

Only limited studies have been conducted in Kerala with regard to the cost of cultivation of different crops. In the case of paddy, there is controversy about the profitability of paddy cultivation. Radhakrishnan *et al.*, (1981) conducted a study to work out the cost of cultivation of paddy during 1978-79 in Trichur District and reported that the cost of cultivation worked out to Rs. 2240.34 per hectare for high yielding varieties of paddy while it was Rs. 1905.00 per hectare of local varieties. The cost per quintal was estimated at Rs. 80 for HYVs and Rs. 107/- for

local varieties. The benefit cost ratio was 1.32 for HYVs and 1.12 for local varieties. Radhakrishnan *et al.*, (1981) studied the cost of cultivation of paddy in Kerala during 1979-80. The results showed that cost per quintal of HYVs was Rs. 52.88 and for local varieties Rs. 93.60 in Trichur District. The benefit cost ratio worked out to 1.64 for HYVs and 1.14 for local varieties. The present study was undertaken for the period from 1st June, 1981 to 31st May 1982.

MATERIALS AND METHODS

The present investigation was carried out in the Irinjalakkuda Block of Trichur District. Two stage simple random sampling was adopted for the study. Eighty three farmers in the block were interviewed. Of these forty eight farmers were cultivating high yielding varieties and thirty five local varieties. Weighted average was used as the estimate

* Part of the thesis submitted by the first author to the Kerala Agricultural University for the award of the M. Sc. (Ag.) Degree).

Junior Assistant Professor, Regional Agri. Research Station, P.O. Code-670 353 Kasaragod.

Table 1: Cost of cultivation of paddy in Trichur district (during the years 1978-79, 1979-80 and 1981-82)

| Items | Local varieties | | | High yielding varieties | | |
|---------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| | 1978-79 | 1979-80 | 1981-82 | 1978-79 | 1979-80 | 1981-82 |
| 1. Animal labour/Tractor labour | 381.31 (20.32) | 394.91 (20.36) | 487.22 (14.32) | 325.34 (14.52) | 307.78 (13.68) | 421.31 (8.49) |
| 2. Human labour | 567.93 (29.82) | 653.04 (33.69) | 1377.53 (40.49) | 573.27 (25.58) | 737.85 (32.81) | 1420.95 (29.05) |
| 3. Seeds/seedlings | 238.65 (12.53) | 266.40 (13.74) | 422.42 (12.42) | 258.64 (11.55) | 210.56 (9.36) | 429.78 (8.67) |
| 4. Manures | 346.56 (18.19) | 271.89 (14.03) | 134.78 (3.96) | 231.89 (10.35) | 106.83 (4.75) | 79.27 (1.60) |
| 5. Fertilizers | 147.56 (7.75) | 93.90 (4.84) | 335.00 (9.85) | 488.47 (21.80) | 456.36 (20.29) | 566.71 (11.41) |
| 6. Pesticides | 3.36 (0.17) | 10.61 (0.55) | 150.63 (4.43) | 132.42 (5.91) | 124.24 (5.53) | 222.47 (4.49) |
| 7. Irrigation/dewatering | 6.58 (0.34) | 18.19 (0.94) | 307.87 (9.05) | 119.09 (5.31) | 177.49 (7.89) | 331.80 (6.69) |
| 8. Interest on working capital | 104.31 (5.48) | 105.06 (5.32) | 128.60 (3.78) | 86.97 (3.88) | 86.16 (3.83) | 138.06 (2.78) |
| 9. Depreciation | 62.56 (3.28) | 86.85 (0.48) | 35.11 (1.00) | 8.67 (0.39) | 6.27 (0.28) | 35.11 (0.70) |
| 10. Interest on fixed capital | 23.12 (1.21) | 30.95 (1.60) | 23.96 (0.70) | 3.15 (0.16) | 2.46 (0.11) | 23.96 (0.65) |
| 11. Miscellaneous | 23.13 (1.21) | 3.12 (0.16) | — | 12.43 (0.55) | 3.81 (0.17) | — |
| 12. Soil rectifier | — | 3.22 (0.17) | — | — | 12.11 (0.54) | — |
| 13. P. P. equipment rent | — | 2.33 (0.12) | — | — | 16.97 (0.76) | — |
| TOTAL | 1905.07 (100.00) | 1938.47 (100.00) | 3403.12 (100.00) | 2240.34 (100.00) | 2248.89 (100.00) | 3668.42 (100.00) |

the respective weights being the area under paddy cultivation of each farmer. The high yielding varieties cultivated were Jyothi, Triveni and Annapoorna. The local varieties were Cheera and Chitteni.

The analysis using the various cost concepts like cost A1, A2, B &

C were attempted to, since leasing in of land is not practised in the study area, cost A2 was not considered. So also leasing out land is not done by the sample farmers. In computing cost C rental value of land would be accounted for, which cannot be considered as a true representation of the actual cost incurred by

Table 2: Resource use per hectare.

| Items | | High yielding varieties | Local varieties |
|---------------|------|-------------------------|-----------------|
| Human labour | | | |
| Men | (h) | 81.53 | 78.59 |
| Women | (h) | 960.76 | 1029.27 |
| Bullock power | (h) | 34.40 | 42.21 |
| Tractor power | (h) | 4.93 | 3.99 |
| Seeds | (kg) | 127.87 | 127.85 |
| Fertilizers | | | |
| Nitrogen | (kg) | 51.37 | 28.91 |
| Phosphorus | (kg) | 27.25 | 17.10 |
| Potash | (kg) | 49.00 | 21.78 |

Table 3: Profitability of paddy cultivation.

| Items | High yielding varieties | | | Local varieties | | |
|--|-------------------------|---------|---------|-----------------|---------|---------|
| | 1978-79 | 1979-80 | 1981-82 | 1978-79 | 1979-80 | 1981-82 |
| 1. Grain yield (Qtls.) | 21.04 | 31.64 | 33.82 | 14.43 | 16.04 | 25.89 |
| Value (Rs.) | 2403.54 | 3102.62 | 5275.56 | 1781.43 | 1768.25 | 4144.96 |
| 2. Byproduct value (Rs.) | 563.27 | 575.75 | 1177.92 | 359.01 | 437.12 | 1334.22 |
| 3. Total output value (Rs.) | 2966.81 | 3678.37 | 6453.48 | 2140.44 | 2205.37 | 5479.18 |
| 4. Benefit-cost-ratio | 1.32 | 1.64 | 1.76 | 1.12 | 1.14 | 1.61 |
| 5. Cost of production per quintal of paddy | 79.71 | 52.88 | 67.78 | 107.14 | 93.60 | 77.44 |

these farmers. So a split up of cost of cultivation on the basis of total cost excluding rental value of land was worked out.

RESULTS AND DISCUSSION

a) Cost of cultivation

The cost of cultivation worked out to Rs. 3668.42 in the case of high yielding varieties and Rs.

3403.12 in the case of local varieties. The highest amount was incurred on human labour, almost the same in both the cases. The next important contributing factor in the case of high yielding was fertilizers (Rs. 565.71) and in the case of local varieties, animal labour (Rs. 487.22).

In the case of local varieties human labour accounted for 40.49 per

cent of the total cost. Animal power contributed about 14.32 per cent of the cost and cost of seedlings 12.42 per cent. In the case of high yielding varieties human labour cost contributed 29.05 per cent of the total cost. Fertilizer cost was 11.41 per cent of the total cost.

b) Comparative analysis of the cost of cultivation

Cost of cultivation of paddy was studied during the years 1979 '80 and 1979-'80 in Trichur district. The methodology used for these studies and the present study are same. Multistage random sampling was adopted for these studies. The sample farms were selected at random. In all these studies the cost of cultivation was found to be higher for high yielding varieties than the local varieties.

When distributed according to different holding size groups the area under paddy was found to increase with the size of the farm both for high yielding varieties and local varieties.

The cost of cultivation for the different size groups both for HYVs and local varieties were found to decrease with increase in area. It was also noted that the cost per hectare for the lowest size group which had only a tiny area of 0.13 hectare under paddy remained almost the same for both high yielding varieties and local varieties. The higher costs in the lower size groups appear to be due to certain indivisibilities, particularly in the employment of wage labour.

Resource use

The labour use was almost equal in both high yielding varieties and

local varieties. On an average, the use of hired female and male labour worked out to 995 hours and 80 hours respectively. The seed rate was much higher at about 125 kg than the recommended rate of 90 kg.

Profitability

The present study showed that the average grain yield per hectare was 33.82 quintals in the case of high yielding varieties and 25.89 quintals in the case of local varieties. The benefit cost ratios for high yielding varieties and local varieties were 1.76 and 1.61 respectively. The cost of production per quintal of paddy was worked out to Rs. 67.78 and 77.44 respectively.

Grain yield was increasing through the years. Total output in monetary terms was also found to be increasing which can be attributed to the increased yield as well as unit price. Though the cultivation costs also increased, the increased returns had a positive effect on benefit cost ratio. The study showed that paddy cultivation resulted in net benefit to the farmers in Trichur district.

REFERENCES

- RADHAKRISHNAN, V., D. V. RAJENDRAN and N. DAMODHARAN NAIR, 1981. *Cost of Cultivation and Economics of Paddy in Kerala during 1978-79*. Department of Agricultural Economics, Kerala Agricultural University, Vellanikkara, Trichur pp. 1-27.
- RADHAKRISHNAN, V., D. V. RAJENDRAN and N. DAMODHARAN NAIR, 1981. *Cost of Cultivation and Economics of Paddy in Kerala during 1979-80*. Department of Agricultural Economics, Kerala Agricultural University, Vellanikkara, Trichur pp. 1-27.