PRODUCTIVTY AND PROFITABILITY ANALYSIS OF PADDY PRODUCTION IN ANURADHAPURA AND POLONNARUWA DISTRICTS

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This study is focussed on the factors affecting cost of production and the potential to reduce cost of production while increasing paddy production in the Anuradhapura and Polonnaruwa districts. Specifically, this study investigated technical efficiency to explore possibility of yield increases and examined the cost of production components to find ways to reduce cost of production. Both secondary (1990 – 2000) and primary data (2001) were used in this study. The primary data were obtained using a multiphase sampling design and a survey of a stratified randomly selected 150 farmers in each district during the period from September to November 2001. In Anuradhapura district the areas selected for field data collection were Mahaweli System H, Rajangana Major scheme and Elayapattuwa Minor tanks. In Polonnaruwa district System B, System C and Parakramasamudra major scheme were selected for the study.

The analysis of secondary data revealed that there was a stagnation in the production and productivity of rice from the mid eighties. The deflated cost of production including and excluding family labour showed that costs were constant; however the nominal price was increasing over time. The study evidenced that more than half of the farmers had less than the average yield level. Productive efficiency analysis using Maximum Likelihood estimates indicate the average technical efficiencies of paddy production were 80% and 73% in the major schemes in Anuradhapura and Polonnaruwa districts respectively. About 16% and 21% of the farmers are performing well in Anuradhapura and Polonnaruwa districts respectively, with a technical efficiency of over 90%.

Investigation of the cost of production with gross marginal analysis and regression revealed that overall, the majority of the farmers did not utilize the resources efficiently. There was significant variation in cost of production between the districts. The variation in cost of production in Maha 2000/01 ranged from Rs 29,193 to 33,612 and from Rs 33,638 to 35,727 per hectare in Anuradhapura and Polonnaruwa districts respectively. However, there was no significant difference between efficient and inefficient farmers. This indicates the potential for significant (20- 30%) increase in production by a majority (40 – 60%) of the low performing farmers with reduction in cost of production. On average, farmers in Polonnaruwa spent more (5%) on agrochemicals and depended more on mechanisation (7%) than those in Anuradhapura. Size of farm in relation to efficiency indicates the need for larger holdings (one hectare) for efficient use of resources, as reflected in Polonnaruwa.

The low asset level, lack of working capital of the farmers and poor participation in farmer organization activities had a significant influence on the technical efficiency among the low performing farmers in both districts. Further, part-time farming was no influence with efficiency in both study districts. These results suggest that increasing productivity is the most appropriate means of enhancing paddy production in the irrigation schemes. It can be concluded that while all the factors had an impact on the yield achieved, management accounted for the main difference.