Economic analysis of small holder paddy farmer's irrigation problems in Kalutara district

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Abstract

Being the staple food of the country, Sri Lanka maintains high level of self-sufficiency in paddy production. To achieve higher productivity and production levels, paddy cultivation requires adequate irrigation supply particularly at critical stages of the crop. This study explores the major irrigation issues on small holder paddy cultivation in Kalutara district. Primary data were collected through personal interviews with randomly selected hundred paddy farmers from Mathugama and Agalawatta divisional secretariat divisions in Kalutara district. Descriptive statistics, Correlation analysis and chi- square analysis were used in data analysis. The results revealed that 40% of farmers were educated up to secondary level, while 10% up to tertiary level. Only 45% of respondents cultivate paddy on their own lands. Seventy one percent of farmers have the access to assured source of water for paddy cultivation both in Maha and Yala seasons. In Maha season, 72% of respondents used rainwater as their main water source for cultivation and 18% used water from external sources like canal irrigation, while 10% used both. Only 16% of farmers solely depend on rainwater in dry Yala season while a large majority of respondents (61%) used external water sources. Results of correlation analysis between contaminated irrigation water and income of farmers in Maha season showed statistically significant negative linear relationship ($p<0.05$). The study revealed that, increased water contamination causes a significant loss in farmer's income in Maha season may be due to flow of polluted water by the industrial wastes into the paddy lands during monsoon period. Study further revealed that, floods in Maha season, contamination of irrigation water with industrial wastes, drought and yield losses in Yala season and issues with irrigation canals were the major factors affecting the seasonal income from paddy cultivation. The lower yields particularly in Yala seasons can be attributed to the poor condition and other water conveyance issues associated with the irrigation canals used by most paddy farmers. The paddy yield levels, and production can be further increased by improving the operation and maintenance of existing irrigation canal systems and further expansion of these canals in the study area.

Keywords: Contamination, Irrigation problems, Small holder paddy farmers

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