

Factors affecting adaptation of crop diversification by paddy farmers in ‘Pavatkulam’ irrigation scheme, Northern Province, Sri Lanka

Sakeela Banu A.^{1*}, Somaratne S.², Weerakoon S.R.²

¹*Department of Agriculture, Sri Lanka*

²*Department of Botany, The Open University of Sri Lanka, Nawala*

Crop diversification is the process of cultivating more than one crop in a farm filed for a given period of time. Generally, insufficient water availability limits rice cultivation. Majority of farmers are reluctant to practice crop diversification due to high production cost and inadequate marketing facilities over non-rice crops. The present study was conducted to explore feasibilities and socio-economic constraints faced by farmers during crop diversification. Data were collected through piloted and validated questionnaire and supplemented with secondary data during *Yala* seasons in 2018 and 2019. The yield of paddy/acre increased 64% with introduction of non-rice crops cultivations in paddy land ($r = 0.64$, $p \leq 0.05$) under ‘Pavatkulam’ tank. There was a positive correlation between the income from paddy land along with crop diversification, where the mean net profit is Rs. 12,058/ac, with extent of cultivated non-rice crops ($r=0.58$, $p \leq 0.05$). The risk involved in water availability is high in study area and “Resource rich” farmers are benefitted from crop diversification by minimizing risk by having own-wells for irrigation. Findings of this study indicated that inclusion of crop diversification in cropping agenda during *Yala* season increased yield of paddy and farmers’ income significantly ($p \leq 0.05$). However, majority were reluctant to adopt crop diversification practices. A conferrable portion of ‘poor resource’ farmers (31%), who did adopt crop diversification, gained an increase in their income by 30% from on farm agricultural activities. The constraints faced by ‘poor farmers’ need to be alleviated by implementing government policies on extension of agro-based industries to absorb excess yield during harvesting period by maintaining reasonable price levels for diversified crops.

Keywords: *Crop diversification, ‘Pavatkulam’ irrigation scheme, Northern Province, Sri Lanka*

Acknowledgements: Dr. S.M. Punchibanda, Consultant, JICA Sri Lanka Office, Colombo is greatly acknowledged for the continuous support and guidance extended during this study.

*Corresponding author: banu_asarak@yahoo.com