



6th Asia Pacific Conference on Advanced Research (APCAR-2018), Melbourne, Australia

ISBN :978-0-6481172-1-6

Asia Pacific Institute of Advanced Research (APIAR)

www.apiar.org.au

COST EFFECTIVENESS OF PRE-HARVEST TECHNOLOGIES AND THEIR ADAPTABILITY AMONG SMALLHOLDER VEGETABLE FARMERS IN SRI LANKA

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Abstract

Agriculture has changed intensely over the past years. It has succeeded in reducing food costs (through technology and labour reduction), meeting the demand for increasing population and year round production. Technology has played a major part in these developments despite some environmental and social issues. However adoption of technologies in the developing world occurs at very slow pace and Sri Lanka is not an exception. As a result of series of experiments conducted, an application of extra doses of potassium fertilizer and half burnt rice hull were found to be effective in controlling postharvest losses of vegetables. This study attempted to investigate the cost effectiveness of these pre-harvest technologies and to study the factors affecting the adaptation of new technologies by the vegetable farmers. Net marginal revenues were calculated using the data obtained from the field experiments conducted at different locations using the custom rates and the subsidized prices of fertilizer. A structured questionnaire survey was conducted during the month of April 2017 in administrative divisions of Nuwara Eliya district in Sri Lanka. A binomial logit regression model was employed to analyse the data. The cost analysis shows that both technologies are cost effective. The survey results show that despite irrigation and integrated pest management (IPM) technologies other technologies are well received by the farmers. It is revealed that most farmers are well aware of new varieties introduced and adhering to the recommendation of fertilizers by the Department of Agriculture. The results of the logit regressions show that application of extra doses of potassium and application of silicon as half burnt rice hull, as new technologies, are significantly affected by the income, experience in farming and the availability of credits. This study implies that extension services are needed in IPM and irrigation techniques.

Keywords: Cost Effectiveness, Technology Adoption, Vegetable Farmers, Logit Regression.

Acknowledgement

The authors greatly acknowledge the National Science Foundation (NSF) for funding this research.