

Contributory factors of cultivating traditional food crop varieties by farmers: A case study in Moragollagama agrarian service division

Extended Abstract

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Background

The multiple benefits associated with the traditional crop varieties have escalated the demand both national and international levels. For instance, it is evident the significant role played by traditional crop varieties in assuring both food and income security in rural communities, accompanying numerous nutritional and medicinal benefits (Dansi et al., 2012). Accordingly, the promotion of traditional crop varieties across the country is declared as a major trust area under the existing agricultural policy in Sri Lanka to make use the benefits for the development process. However, the shortage of production is expanding irrespective of the higher market price, promotional activities and growing preference of the farming communities, highlighting the low level of progress in the system.

Objectives

The agro-biodiversity associated with the combination of traditional and commercial crop varieties leads to sustainable agriculture. In order to fulfill the growing demand, it is timely and nationally important to popularize the cultivation of traditional crop varieties throughout the country. Thus, the determination of contributory factors to cultivate traditional crop varieties by farmers is vital in this regard. Moreover, the present study examines the socio economic factors affecting on cultivation of traditional crop varieties and factors, which determine the selection of crop mix by the farmers.

Methodology

The Moragollagama Agrarian service division, which is having the highest number of traditional crop growers in the Kurunegala district, was purposively selected as the study area. A structured pre-tested questionnaire was used to collect data from randomly selected 100 farmers inclusive of 41

traditional crop cultivators. The socio economic factors affecting on cultivation of traditional crop varieties were determined by using binary logistic regression analysis, while the frequency analysis technique was used to detect the factors determine the type of crop.

Results

The binary logistic regression disclosed that the education level of the farmers has a negative significant effect ($p = 0.016$) in determining the cultivation of traditional crops. Moreover, this finding was confirmed by Zivanomoyo and Mukarati (2013). Accordingly, farmers who are more educated tend to practice more inorganic based farming systems with improved crop varieties rather using traditional crop varieties. Moreover, these findings emphasized the need of attitudinal change in order to promote traditional cropping systems. On the contrary, farming experience, age of the farmer, household size and annual income was not affected significantly (Table 1). As the majority of the farmers used to practice highland cultivation under rain-fed condition, the priority may be given to the adoptability of crops to the water - scare condition (Chivenge et al., 2015) and this would be the major determinant in cultivation of traditional crops.

Table 1. Results of the Binary Logistic Regression

Predictor variable	Estimates	P Value	SE estimates
Experience	0.03071	0.575	0.054
Age	-0.03247	0.516	0.049
Household size	-0.41041	0.135	0.274
Education level	-1.69851	0.016	0.707
Annual income	0.0000009	0.642	0.000002

According to the results of the frequency analysis, higher market demand (85%) (Bandula et al., 2016), lack of inorganic fertilizer and chemical usage (82%) (Chivenge et al., 2015), availability and cost of seeds (78%), shelf life of harvested products (75%) and cultivable land extent (75%) (Zivanomoyo and Mukarati, 2013) were the major factors which determined the type of traditional crop varieties. However, the nutritional level of crops (22%) was not satisfactorily considered by farmers in selecting the type of crop. Furthermore, this may be due to lack of consideration on

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nutritional value of the product in setting the market price in the domestic level.

Conclusion and Recommendations

In the process of promoting traditional food crop varieties, a major role can be played by rain-fed farmers who do not adopt intensive inorganic agronomic practices such as excessive usage of fertilizer and agro-chemicals. Also, the government has to play a major role in the fields of extension, marketing and research in order to uplift the neglected rain-fed farming system. Additionally, seed production programs should be introduced to minimize the existing seed shortage of traditional crop varieties.

Keywords; Móragollagama, Contributory factors, traditional food crop, traditional crop

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