Factors Affecting the Production of Cashew in Batticaloa District

Krishnal Thirumarpan
Department of Agricultural Economics, Faculty of Agriculture,
Eastern University, Sri Lanka

Corresponding author's e-mail: skrish_16@yahoo.com

Abstract: There is a tremendous demand for cashew cultivation with the surge in need from the hotel and tourism sector in the country. This study examined the factors affecting cashew production in Batticaloa district. The study was done in three Divisional Secretariat divisions in the district. It was found that mean income from cashew production was Rs. 12, 850 per month. Average yield of tree per annum was 759 fruits. Land area under cashew cultivation and farming experience significantly and positively ($p< 0.01$) influences the income from cashew cultivation where as education level of the head of the household significantly reduces the income ($p< 0.01$). Various constraints were militating against the production, marketing and processing of cashew fruits in the district. Most of the respondents (72%) were constrained by the inadequate capital followed by inefficient extension services and inadequate farmer training by 70% of the farmers. The policy initiatives towards promotion of cashew cultivators for purchase of raw nuts, credit and infrastructure, small scale processing, value addition and marketing and cashew apple processing will definitely widen the perspective of cashew growers.

Keywords: Cashew, production, income

Introduction

Cashew (*Anacardium occidentale* L.), often referred to as 'wonder nut', is one of the most valuable processed nuts traded on the global commodity markets and is also an important cash crop. Cashew is a poor men's crop but rich men's food. It is a source of income and livelihood. It has the potential to provide source of livelihood for the cashew growers, empower rural women in the processing sector, create employment opportunities and generate foreign exchange through exports. Cashew kernels are of high nutritive value. It contains 21 percent of protein, fat (47%), moisture (5.9 %), carbohydrates (22%), phosphorus (0.45%), calcium (0.05%), iron (5%) for every 100 gm and other mineral elements. Cashew kernel contains 47 percent fat but 82 percent of this is unsaturated fatty acid, which lowers the cholesterol level in blood. The most prominent vitamins in cashew are Vitamin A, D and E, which help to assimilate fats and increase the immunity level. Cashew kernel is a rich source of minerals like calcium, phosphorus and iron. Cashew kernel proteins contain all the essential amino acids such as Arginine, Histidine, Lysine, Tyrosine, Phenylalamine, Cyctine, Methinonine and Valine (Shalini Yadav, 2010). Cashew Kernel provides more energy compared to animal food (147-272 kcal/100 g) and fish (234 kcal/100 g) (Mathew and Shobana, 2013).

Due to the high value of cashew nuts even small pieces find a market in confectionery products (FAO, 1992). Cashew is becoming an important cash crop for farmers in Sri Lanka where there is great potential for increased production for the local market as well as for export. It was found that more than half of the cashew extent is confined to the dry zone of the country. The crop needs more attention in terms of improvement of its management in order to attain higher yields. Sri Lanka is primarily an agricultural country where this sector plays a significant role in the country's economy, accounting for nearly 23 % of the GNP earning about 19 % of foreign exchange. In Sri Lanka, it is estimated that out of 77,809 cashew growing allotments, 61,496 or 79 percent is cultivated in home gardens (Surendra,1998).

Cashew production has been increasing with the surge in demand from the hotel and tourism sector. In 2012, domestic production of cashew grew by 67 per cent to 2,000 metric tons while exports declined by around 53 per cent to 145.8 metric tons reflecting increased domestic demand. The extent of cultivation has been increasing significantly after the end of the conflict (Central Bank of Sri Lanka, 2012). According to Sri Lanka cashew Corporation, the production trend has to catch up fast so during the next 10 to 15 years, the country will produce sufficient cashew nut to fulfill the local as well as the export demand. There is a tremendous demand for cashew cultivation in the Northern and Eastern provinces with the end of 30 years civil disturbances. Cashew is cultivated in all dry zone districts in the island. However the extents are substantial in the district of Batticaloa also (Weerakoon, 2013) Over 90% of the area in the Eastern region under Cashew

is in the Batticaloa district (Statistical Handbook 2007/8). Cashew is cultivated in the coastal areas in almost all DS Divisions in the District. This study was designed to analyse the socio economic status of cashew farmers in Batticaloa district and factors affecting cashew production in the district.

Methodology

This study was carried out in 3 Divisional Secretariat Divisions of Batticaloa district where comparably higher extent of cashew was cultivated viz., Eravurpattu, Manmunaipattu and Korelapattu. 100 cashew farmers were selected in these divisions for the study. Data was collected from the respondents using a structured pre tested questionnaire. Descriptive statistics were used to analyse the socio- economic characteristics of the cashew farming households in the study area. And Multiple Regression model was used to estimate the relationship between income from cashew production and socio-economic variables.

Results And Discussion

Socio economic characters of households

Mean household size of the cashew cultivators was 4.4 (Table 1). Average age of the household head was 50.1 years and it ranges between 27 and 73. Mean income from cashew production was Rs. 12, 850 per month per household.

Table 1: Descriptive statistics of demographic characters of the household

Variables	Mean	Std. Deviation
Household size	4.4	1.7
Age_Household Head	50.14	12.08
Age_Spouse of Household Head	43.16	11.37
Income from cashew production	12850.00	7063.03

Education level of head of household

56% of the cashew growers were educated up to Ordinary Level followed by 27% up to Advanced Level. The average cashew farming experience of Head of households were 15.2 years.

Table 2: Education level of the Head of the Household

Education level of Head of Household	Percent
1 to 5	12
5 to O/L	56
A/ L	27
Diploma	4
Degree	1
Total	`100

Employment status of Head of Household

The distribution of employment status in the district depends upon the nature of education level and skill. The economy of the district was predominantly agriculture-based. This includes paddy farmers, homegardeners, livestock farmers, cashew cultivators, coconut farmers etc. Other occupations in the district included government jobs, engaged in private organizations, fishing and daily wage earners. It was observed that these cashew growers were engaged in other activities also. 48% of them were wage laborers in which some of them involved in carpentry or mason works. And 38% of the cashew cultivators were involved in other farming activities also.

Table 3: Employment status of the Head of the Households

Employment	Percentage
Government	8
Private	6
Wage labour	48
Farmer	38

Total	100.0

Size of Land Holding

Households possessed different sizes of lands. On average they owned 24.5 perches for cashew cultivation. And this value ranges between 9.5 to 60 perches.

Economic part of cashew sold

30% of the respondents stated that they were only selling nut of cashew. But the rest of them were selling both cashew apple and nut. Average yield of tree per annum was 759 fruits.

Factors affecting income from cashew cultivation

The results of the regression model on the factors that affect income from cashew cultivation are shown in Table 4. The coefficient of determinant (R^2) is 0.377, suggesting that 37.7% variation in income from cashew cultivation is accounted for by variations in the selected explanatory variables. The most important variables explaining variations in income were education level of head of household and spouse, farming experience and land area under cashew cultivation. As the farming experience increases the income from cashew cultivation also increases. This was interpreted by the positive and significant sign (1% level) of the household. This is because experience might have taught the farmers to know the best and right time to harvest for value addition and, hence, get more money in return. This result is in consonance with the findings of Lawal *et al* (2010) on cashew in Nigeria. Enete *et al*., 2002 reported that years of experience had a positive impact on production systems and household income among women farmers in Nigeria. Education level of the household head significantly ($p<0.01$) reduces the income from cashew cultivation, whereas education level of the spouse increases the income ($p<0.1$) (Table 4). In the study are majority of the women in the households were involved in cashew cultivation activities and educated women may be able to adhere to and adopt new farming technologies. Land area under cashew cultivation also significantly and positively ($p< 0.01$) influences the income from cashew cultivation. This was in consonance with the results in a study by Wongnaa (2013), on production of cashew in Wenchi municipality, Ghana.

Table 4: Estimates of Regression analysis results

Explanatory variables	**Dependent variable: Income from cashew cultivation**		
	Co-efficient	**Std. Error**	**t- values**
Household size	-131.22	413.12	-0.32
Age of Head of Household	180.49	172.22	1.05
Education level_ HH Head	-1058.99	308.66	-3.43***
Age of spouse	-116.36	175.35	-0.66
Education level of spouse	453.03	267.81	1.69*
Farming experience	355.60	91.03	3.91***
Land area under cashew	275.04	53.29	5.16***
Constant	1858.96	4872.39	0.38

***Significance at 1% level **Significance at 5%level

*Significance at 10%level

R squared = 0.423 Adjusted R squared= 0.377

Constraints in cashew cultivation

Various constraints were militating against the production, marketing and processing of cashew fruits in the district. Most of the respondents (72%) were constrained by the inadequate capital followed by inefficient extension services and inadequate farmer training by 70% of the farmers. Product diversification is another area for adding value and income to cashew farmers. 67% of the cashew cultivators stated inadequate processing knowledge. Price information influences many aspects of production, processing and marketing. 60% of the respondents were constrained by lack of price information. Ezeagu (2001) reported that prices of cashew nuts in Nigeria both at local and international markets impact significantly or its productivity, He stated that good market prices are strong incentive for farmers, but when prices are low and even more when they remain depressed for two years and beyond, cashew farmers are frustrated and sometimes destroy their trees. USAID (2002) reported that unstable prices of nuts had sent a lot of exporters out of business in the cashew nut trade.

Table 5: Constraints in cashew cultivation

Constraints	Percentage
Inadequate capital	72%
Lack of processing knowledge	67%
Insufficient price information	60%
Poor marketing channel for raw nuts	55%
Inefficient extension services and inadequate farmer training	70%
Inadequate availability of good plating material	43%
Lack of storage facilities	58%

Conclusion

This study looked at the socio economic status of cashew farmers and factors influencing cashew production in Batticaloa district. Results revealed that mean household size of the cashew cultivators was 4.4. Mean income from cashew production was Rs. 12, 850.00 per month per household. 30% of the respondents stated that they were selling only the nut of cashew. But the rest of them were selling both cashew apple and nut. Average yield of tree per annum was 759 fruits. Regression results revealed that education level of the household head significantly ($p<0.01$) reduces the income from cashew cultivation. Land area under cashew cultivation and farming experience also significantly and positively ($p< 0.01$) influences the income from cashew cultivation. But cashew cultivators were constrained by several limitations. Therefore, they should be trained and educated in terms of agronomic practices, processing technologies so as to increase productivity. Among other things, farmers should have more access to extension services in order to improve their knowledge of farm management. The policy initiatives towards promotion of cashew cultivators for purchase of raw nuts, credit and infrastructure, small scale processing, value addition and marketing and cashew apple processing will definitely widen the perspective of cashew growers.

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