

Full Length Research Paper

Extension needs of cashew farmers in Oyo state, Nigeria

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The study focused on the extension needs of cashew farmers in Orire Local Government Area of Oyo State. A multi-stage sampling procedure, involving three stages, was used to select one hundred and twenty (120) respondents. Structured interview schedule was used to elicit information on the extension needs of cashew farmers from the respondents. The analysis of the data was done using descriptive statistics such as frequency counts and percentages. Pearson product moment correlation co-efficient (PPMC), was used to test the relationships between variables. The results revealed the extension needs of respondents to include improved variety, plant spacing, fertilizer application, pest control, harvesting technique and processing; intercropping techniques, storage, mulching and marketing. Correlation analysis show significant ($P < 0.01$; $P < 0.05$) relationship between selected personal characteristics such as age, sex, farm size, farming experience, educational level and extension needs of cashew farmers. Attention must be paid to the identified extension needs of farmers in designing appropriate programmes for the farmers.

Keywords: extension, needs, cashew, farmers, potentials

INTRODUCTION

Cashew is a small to medium-sized tree believed to have originated from a short-growing ecotype *Anacardium occidentale*, L. that occurs among the low vegetation of the resting in coastal north-eastern Brazil. It is a tree crop of considerable economic importance to Nigeria. A tall-growing ecotype is found in the llanos of Colombia, Venezuela, coating a (dry thorn forest) and Canada vegetation of the savannas of the Amazon basin. As a result, Cultivation of cashew started in the early 1950s in the eastern Nigeria through the efforts of the Eastern Agricultural Development (Ezeagu, 2002). Therefore, cashew is well adapted to seasonally wet and dry tropical climates and has the capacity to grow and yield satisfactorily on well-drained, light textured soils with minimum inputs. This indicates that, cashew has a very good adaptability to wide ecological differences (Hammed et al., 2008).

Cashew growing areas in Nigeria cut across different agro-ecological zones including eastern part of the country such as Enugu, Abia, Imo, Anambra, Ebonyi and cross River, western part viz: Oyo, Osun, Ondo, Ekiti and Ogun states as well as the middle belt states of Kwara, Kogi, Nasaraw, Benue, Taraba, Niger and FCT and also Sokoto and Kebbi States in the North West part of the country (Ezeagu, 2002).

Cashew can be propagated by seedlings, air layers and softwood grafts. Vegetative propagation is recommended to obtain true-to-type progeny. In Nigeria, seedlings were raised in the nursery before transplanting into the field for most of the established plantations. Mature large or jumbo sized nuts are usually recommended for plantation establishment. The gestation period for cashew trees is between 2-4 years and continue to produce for 25-30 years. However new dwarf varieties have a gestation period of 1-2 years and also produce for over 20 year (Asiru, et al., 2005).

The trees are usually grown for their kernels and when roasted bring out a very pleasant aroma and taste. In Nigeria, cashew provides both food and

income for the populace. Cashew apple is eaten as raw fruit or fermented to produce alcoholic drink. Raw nuts are processed into kernels which constitute a valuable export product for confectionery in industrialized countries (CTA, 2007). Cashew trees have been planted for re-forestation purposes to combat problem of soil erosion and reclaim marginal land. It also provide live fence, shade, firewood and charcoal (Agbongiarhuoyi, et al, 2008)

Despite the usefulness of cashew trees to Nigerian economy as enumerated above, most farmers still lack adequate knowledge and skills that require achieving crop maximum yield (Cruose, 2006). In most of the cashew farms in Nigeria, it is a common occurrence to see the fleshy apple and some nuts wasting away due to inability of the farmers or lack of adequate information about how to turn them into useful products. Agencies like Agricultural Development Programmes (ADPs) and extension units of research institute are saddled with responsibility of converting technological information into useful knowledge to promote cashew production. The need to recognize and understand farmers' knowledge in order to achieve this laudable objective cannot be overemphasized. This study investigated cashew farmers' perception of extension needs on cashew production. Hypothesis was also tested whether significant relationships existed between selected personal characteristics of farmers and their extension needs.

METHODOLOGY

Study Area.

The study was conducted in Oyo State in the south West Region of Nigeria. The state covers a total of 27,249 square kilometres of land mass and it is bounded in the south by Ogun State, in the north by Kwara State, in the west it is partly bounded by Ogun State and partly by the Republic of Benin, while in the East by Osun State. Oyo State has an equatorial climate with dry and wet seasons and relatively high humidity. The dry season lasts from November to March while the wet season starts from April and ends in October. Average daily temperature ranges between 25 °C (77.0 °F) and 35 °C (95.0 °F), almost throughout the year. The vegetation pattern of Oyo State is that of rain forest in the south and guinea savannah in the north. Thick forest in the south gives way to grassland interspersed with trees in the North. The climate in the state favours the cultivation of crops like maize, yam, cassava, millet, rice, plantain, cacao tree, palm tree and cashew.

Sampling procedure and data analysis

The respondents for this study were sampled, using purposive and systematic random sampling techniques. Four Local Government Areas (LGAs) viz, Ibarapa east, Afijio, Orire and Saki West were purposively selected due to concentration of cashew farmers in these areas. Five villages were further selected randomly from each of the LGAs making a total number of twenty (20) villages. Thereafter 10 cashew farmers were selected from each village using a systematic random sampling technique to arrive at total number of one hundred and twenty (120) respondents.

Structured interview schedule was used to elicit information on the extension needs concerning cashew production from the respondents. Thirteen (13) major extension needs were identified through Focus Group Discussion (FGD) and literature. The dependent variable of the study is perceived extension needs of cashew farmers while independent variables are farmers' characteristics such as religion, gender, education levels, age, primary occupation, farm size and source of their information. A rating scale of 1 to 3 was used to measure the degree of extension need.

Respondents were asked to indicate on a scale of 1 (No need) to 3 (Great need) the extent of their extension needs on cashew production technologies. Total perceived extension need scores were computed for each need item after which the mean and standard deviations were calculated. Attitudes of respondents toward cashew production technologies were measured with a 3-point Likert continuum of Agree, No Opinion and Disagree. These were assigned respective scores of 1, 2 and 3. Descriptive statistics of frequency counts, percentages, means and standard deviations were used. Correlation coefficient were used to test the relationship between the extension needs and farmers' personal characteristics.

RESULTS AND DISCUSSION

The data collected for the study revealed the mean age of the respondents to be 50 years and mean years of farming experience as 15. This is an indication that more old people were involved in cashew production which corroborates with the findings of Agbongiarhuoyi (2008). Long farming experience is likely to enable the respondents to properly identify their areas of extension needs regarding cashew production.

The mean farm size for cashew farmers in the study area was 2.8 hectares indicating that those involved in cashew production are small scale farmers. Majority (97.5%) of the farmers were male while 2.5% were female. This implies that cashew production in the study area is predominantly male affairs.

About one third (32%) of cashew farmers had no formal education. Among farmers that had formal education more than half (58.3%) belong to primary

Table 1: Distribution of respondents by their socio-economic characteristics n =120

Characteristics	*Frequency	Percentage
Age (Years)		
< 40	30	25
41-50	32	26.7
51-60	17	14.2
> 60	41	34.2
Total	120	100
Education		
No formal education	28	31.7
Primary education	70	58.3
Secondary education	8	6.7
Tertiary	4	3.3
Total	120	100
Sex		
Male	117	97.5
Female	3	2.5
Total	128	100
Farming experience (years)		
5 – 15	36	30
16 – 25	62	51.7
26 – 35	17	14.2
> 35	5	3.5
Total	120	100
Farm size (Ha)		
1.5	110	91.6
6 – 10	8	6.7
> 10	2	1.7
Total	120	100

Source: Field Survey, 2011

Table 2: Distribution of the respondents according to crops intercropped with cashew n = 120

Crops	Frequency	Percentage
Yam	26	21.7
Cassava	16	13.3
Maize	45	37.5
Melon	55	45.8
Ground nut	75	62.5
Tomato	15	12.5
Pepper	20	16.7

Multiple Responses Source: Field Survey, 2011

school category while, 6.7% had secondary school education (Table. 1). Data in table 2 showed the crops that were intercropped with cashew at the early stage of establishment before the closure of the tree canopies. They included yam (21.7%), cassava (13.3%), maize

(37.5%), melon (45.8%), groundnut (62.5%), tomato (12.5%) and pepper (20%). Table 3 showed that farmers were aware of the following cashew products viz: kernels (100%), Juice (78.3%), wine (36.7%), fuel wood (77.5), shell liquid (17.%%) and cashew butter

Table 3: Distribution of the Respondents According to Cashew products potential they are aware of n = 120

Products potentials	*Frequency	Percentage
Kernels	120	100
Juice	94	78.3
Wine	44	36.7
Fuel Wood	93	77.5
Shell liquid	21	17.5
Cashew butter	34	28.3

*Multiple Responses Source: Field Survey, 2011

Table 4: Distribution of the respondents according to areas of extension needs in cashew production n = 120

Technologies	Frequency	Percentage
Introduction of Improved variety	25	20.8
Plant spacing	119	99.2
Pruning	115	95.8
Nursery Establishment	20	16.7
Weeding	114	95.0
Fertilizer Application	14	11.7
Pest Control	84	70.0
Harvesting Technique	51	42.5
Processing	45	37.5
Intercropping Technique	25	20.8
Storage	112	93.3
Mulching	4	3.3
Marketing	107	89.2

*Multiple Responses Source: Field Survey, 2011

Table 5: Distribution of respondents by category of extension needs n =120

Category of Extension needs	Frequency	Percent
Low	8	6.7
Medium	25	20.8
High	87	72.5
Total	120	100

Source: Field Survey, 2011

Table 6: Correlation of cashew farmers' extension needs and selected socio-economic characteristics

Variables	p	r	Decision
Age	0.000**	0.411	S
Farm size	0.003*	0.269	S
Farming experience	0.023**	0.421	S
Educational status	0.008*	0.240	S

*Significant at $p < 0.01$; * Significant at $p < 0.01$, Source: Field Survey, 2011

(28.3). This indicates a high level of awareness among cashew farmers in the study area regarding various products that could be derived from cashew nuts. This may also enhance their interest in cashew production as well as increasing their demand for technical skills in the processing of the nuts into useful products. The

areas of extension needs indicated by respondents in the study area were improved variety (20.8%), plant spacing (99.2%), pruning (16.7%), weeding (95%), fertilizer application (11.7%), pest control (70%), harvesting technique (42.5%), processing (8%), intercropping technique (12%), storage (93.3%),

mulching (3.3%) and marketing (89.2%). This implies that there is a high level of awareness concerning cashew production technologies among farmers in the study area (Table 4). The extension needs of cashew farmers as revealed by this study were categorized into low, medium and high levels.

On 3-point scale of the extent of extension need, a respondent can score a maximum of 39 points and a minimum of 13 points.

Upper category = 39 to (Mean +SD) = (29.8833 + 4.34670) = 39 to 34.23

Medium category = 34.22 to 25.55

Lower category = (Mean – SD) to minimum = (29.8833 - 4.34670) = 25.54 to 13

Table 5 revealed the existence of a high extension need index as majority (72.5%) of the farmers belong to this category while, 20.8% belonged to medium category of extension needs followed by 6.7% in low level category of extension needs for cashew production technologies.

Hypothesis of the study

The hypothesis of the study stated in null form is as given below:

H₀: No significant relationship between the selected socioeconomic characteristics of cashew farmers (age, farm size, farming experience and educational status).

As shown in table 6, all selected socio-economic characteristics were positively significantly related to extension needs of cashew farmers in the study area. The null hypothesis was therefore rejected. Age ($r = 0.411$) was positively correlated with extension need indicating that the higher the age of the farmers the higher would be the extension needs on cashew production technologies. Also, farm size ($r = 0.269$) had significant influence on cashew farmers' quest for extension needs on cashew production. This implies that farmers with large farm size of cashew would need more extension information on cashew production technologies than their counterparts with smaller farm size. This may be due to the fact that large scale farmers might have committed a lot of investment on cashew plantation and would try as much as possible to guide against losing it to any unguarded management. Farming experience ($r = 0.421$) was positive and significantly ($p < 0.05$) correlated with extension needs of cashew farmers in the study area. It means that, a cashew farmer with more years of experience in cashew production is likely to demand for more information on cashew production than a farmer with fewer years of experience. Educational status ($r = 0.240$) was also significantly related to extension needs on cashew production. It means that the higher the education of the farmer the higher the need for extension information on cashew production. This corroborates with the findings of Adeola et al (2008) that

high level of education was responsible for high degree of information needs among cowpea farmers.

Conclusion

The study showed that there is a very high degree of extension need among cashew farmers in the study area. This assertion emanated from the perception of the respondents that they do require extension information in all aspects of cashew production. Concerted efforts on the part of extension service to disseminate information on cashew production technologies and assistance from other development agencies are greatly required to enhance its production in the study area.

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