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Role of Household Members in Kolanut Production and Marketing in Ekiti State, Nigeria

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Abstract

This study assessed roles of household members in kolanut production and marketing in Ekiti State, Nigeria. Multistage sampling procedure was used in selecting 80 kolanut farmers. Data were collected from the respondents using structured interview schedule. Data were presented and analyzed using frequency counts, percentage, mean statistic and factor analysis with varimax rotation. Men played prominent roles in land preparation (90.0%), removal of mistletoe from kola nut trees (100.0%) and harvesting (85.0%). Women were more involved in soaking of the nut in water for the removal of the coat (87.5%) and marketing of kola nut (95.0%). Children were involved in removal of nuts from the pods (65.0%) and transporting kola nut to the market (68.8%). Constraints to kolanut production and marketing were group into environmental related issue, policy issue and input related issue. The major dominant variables of these constraints were land tenure system (0.867), instability in government policies (0.904) and unavailability and high cost of improve kola seedling (0.713). The study recommended that programmes aimed at improving the production capacity of farmers should be channeled towards men while those aimed at marketing should be directed towards women for sustainable agricultural development.

Keyword: Household roles, kolanut, production, marketing

Introduction

In Nigeria, cash crops (such as cocoa, kola nut, oil palm) and food crops (such as yam, cassava, maize) form the integral part of agricultural production. These

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products serve as food for man and raw materials for agro-allied industries both within and outside the country. They also provide revenue to farmers and generate foreign exchange to the government. The importance of kola-nut to the Nigerian economy cannot be overemphasized. The kolanut is used as a masticatory and stimulant in the tropics and has social and traditional significance as it features in many traditional ceremonies in Nigeria. The *cola nitida* and *cola acuminata* being the only two species widely exploited and cultivated are grown on large scale in Nigeria. Out of the two species, *cola nitida* is being traded internationally, while the consumption of *cola acuminata* is confined to southern Nigeria. There are three components of kola nut fruit (pods) which are: kola pods, kola husk and kola testa and nuts. Out of these four components only the nut has been found to be of high economic use, either in Nigeria or in the developed countries (Akinbode 1982).

Apart from the fact that it is widely consumed by virtually all categories of income groups, the commodity has been found to be useful in the production of beverages, flavouring material alkaloids, caffeine, theobromine, laxative, heart stimulant and sedatives. In addition, kola-nut husk which is a by-product of processing the seed is widely used for animal feeding because of its high nutritive quality and there was a report that there has been an outstanding growth performance and the apparent nutrient utilization of broilers fed with kola nut husk meal (Babatunde and Hamzat 2005). Kola nut could also be used in jam and jelly production because of the high pectin content. Also, due to the high potassium content of the kola nut testa, it has been suggested as a possible ingredient for making fertilizer (Olubamiwa *et al* 2002).

Prior to the colonization of most African countries, tree cropping was mainly undertaken by men folk. But studies, such as Pala (1976) and Martha (1982) have shown that colonial economy adversely affected traditional pattern of task allocation. The authors observe that the disruption of the pre-colonial division of labour between the sexes in rural communities, because of male migration many women were found doing what was traditionally meant for men. Riley (1997) posits that in no society do men and women perform equal roles or hold equal position of power. It is also a known fact that both male and female members participate alongside in all farming activities, each having different but complementary responsibilities.

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The questions therefore are: Who does what in kolanut production and marketing activities in the household? What are the constraints militating against kolanut production?

Objectives of the study

The overall objective of the study was to assess the roles of household members in kolanut production and marketing in Ekiti State, Nigeria.

Specifically, the study sought to:

i) describe the socio-economic characteristics of respondents;

ii) ascertain household members' role in kolanut production and marketing; and

iii) determine constraints militating against kolanut production.

Methodology

The study was carried out in Ekiti state, Nigeria. The state lies between longitudes $4^0 45^{1'}$ and $5^0 46^{1'}$ east of the Greenwich meridian latitudes $8^0 15^{1'}$ north of the equator. The state is bounded in the south by Kwara and Kogi States while it is bounded in the west by Ogun state, in east by the Edo state, and in the south by Ondo state. The state has a climate marked by two major seasons; the rainy season which lasts between April to October, and the dry season lasting from November to March. The prevailing temperature in the state ranges between 21^0c to 28^0c with high humidity. (Ekiti State Government, 2008). Ekiti state is made up of 16 Local Government Areas (LGAs) with the population of 2,398, 957 persons made up of 1,215,487 males and 1,185,470 females (National Population Commission (NPC), 2007). Agriculture is the main occupation of the people. The main cash crops are cocoa, coffee, kola-nut, cashew and oil palm. Among the food crops planted are; yam, cocoyam, cassava, maize, plantain/banana, rice, beans, pepper, tomatoes and varieties of vegetables.

All kolanut farmers in Ekiti State constituted the population for this study. Multi stage sampling technique was used in the selection of respondents. In the first stage, out of a total of 16 LGAs, 4 LGAs were randomly selected. The selected LGAs were Ekiti south west, Ikole, Ekiti East, Irepodun and Ifelodun. From each of the 4 LGAs 4

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villages each were purposively selected because of their involvement in kolanut production and marketing. The villages were: Ilawe, Odo, Igbara odo and Ilupeju in Ekiti South west LGA. Ayedun oke, Ayedun odo, Ikole and Ipao in Ikole LGA. Omuo oke, Isinbode, Kota and Eda in Ekiti east LGA and Igede, Iyin, Awo and Irapora in Irepodun Ifelodun LGA. From each of the villages, a list of 10 kolanut farmers was collected through the help of village chief (Baale). From the list, 5 kola nut farmers were randomly selected making a total 20 kolanut farmers per LGA. In all, the sample size was 80 kola-nut farmers.

Data were collected from respondents with the use of interview schedule. The interview schedule contained relevant questions on each of the objectives. Content and face validity was done to ensure that the instrument collected the data it intended to collect. This was done by a lecturer in the Department of Agricultural Extension University of Nigeria, Nsukka before field administration.

To ascertain household roles in kola nut production and marketing, activities on kola nut production and marketing were listed for the respondents to indicate who among the households' members (men only, women only, children only, both men and women, all (men, women and children) performed each of the task/activities. These activities included land preparation, planting, weeding, manuring, harvesting among others.

To ascertain the constraints militating against kolanut production, a list of possible constraints was made available. Respondents were asked to indicate the level of the seriousness of each constraint on a 4- point Likert- type scale (4 = to a great extent; 3 = to some extent; 2 = to a very little extent and 1 = to no extent). Frequency, percentage, charts, mean statistic and factor analysis with varimax rotation were used in analyzing the data. Data were subjected to exploratory factor analysis procedure, using principal factor model with varimax rotation in grouping the constraint variables into major constraint factor. In factor analysis, the factor loading under each constraint variable (beta weight) represents a correlation of the variables (constraint areas) to the identified constraint factor and has the same interpretation as any correlation coefficient. However, only variables with loadings of 0.40 and above (10% over lapping variance, was used in naming the factors (Comrey, 1962).

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Results and Discussion

Socio-economic characteristics of the respondents

The mean age of the kolanut farmers was 66 years, implying that, farmers were old. This is a clear indication that young people need to be involve in agriculture particularly cash crop production. The majority (91.2%) of the respondents were male. Also, the majority (91.2%) of the respondents were married. About 35% of the farmers had attempted formal school and they could be described as literate who could read and write. The majority (85%) of the farmers were Christian. The average household size for kolanut farmers was 9 persons while the mean farming experience in kolanut production by the respondents was 34 years. From the results, it is clear that the farmers in the study area had large household size which could serve as sources of labour in the farm. The long farming experience of the farmers could help in addressing issues on farming activities. The mean age of kola trees was 39 years. The optimum economic life of kolanut trees in the plantation as noted by Adebiyi *et al* (2009) was 38 years. This is an indication that the kolanut trees in the study area would have become less productive, hence the need for meaningful rehabilitation.

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Table 1: Distribution of respondents according to their socio-economic characteristics

Variables	Percentage	Mean
Age (years)		
30 – 39	1.2	
40 – 49	2.5	
50 – 59	13.6	66.5
60 – 69	36.4	
70 and above	46.3	
Sex		
Male	91.2	
Female	8.8	
Religion		
Christianity	85.0	
Islam	15.0	
Marital status		
Married	91.2	
Widow	8.8	
Educational level		
No formal education	18.8	
Primary school attempted	35.0	
Primary school completed	18.8	
Secondary school attempted	16.2	
Secondary school completed	6.2	
Tertiary education	5.0	
Household size (number)		
1 – 5	8.7	
6 – 10	59.9	
11 – 15	30.2	9
16 – 20	1.2	
Kola nut farming experience (years)		
10 – 19	5	
20 – 29	29.9	
30 – 39	32.6	34.1
40 – 49	23.7	
50 – 59	8.8	
Farm size (hectare)		
1 – 4	25.0	
5 – 8	60.0	6.3
9 – 12	15.0	
Age of kola plantation (years)		
19 – 30	28.7	
31 – 40	25.0	
41 – 50	37.8	39.1
51 – 60	8.5	

Management system adopted

The results in Figure 1 showed the management systems adopted by the kola nut farmers in their kolanut plantation. Majority (98.8%) of the farmers adopted self-

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management system (i.e. they manage their kola farm by themselves), while 1.2% of them adopted lease management system. This implies that decision taking on how to improve the kola plantation is the sole responsibility of the owners. Also, the farmers do not need to bother about incurring some other production costs like rentage cost. Some of these costs can be burdensome for farmers as they could reduce their take home and so affect their livelihood and reduce their commitment to the welfare of their families. Also, since farmers had a high household size, it would serve as sources of labour for the farmers since they manage their farm themselves.

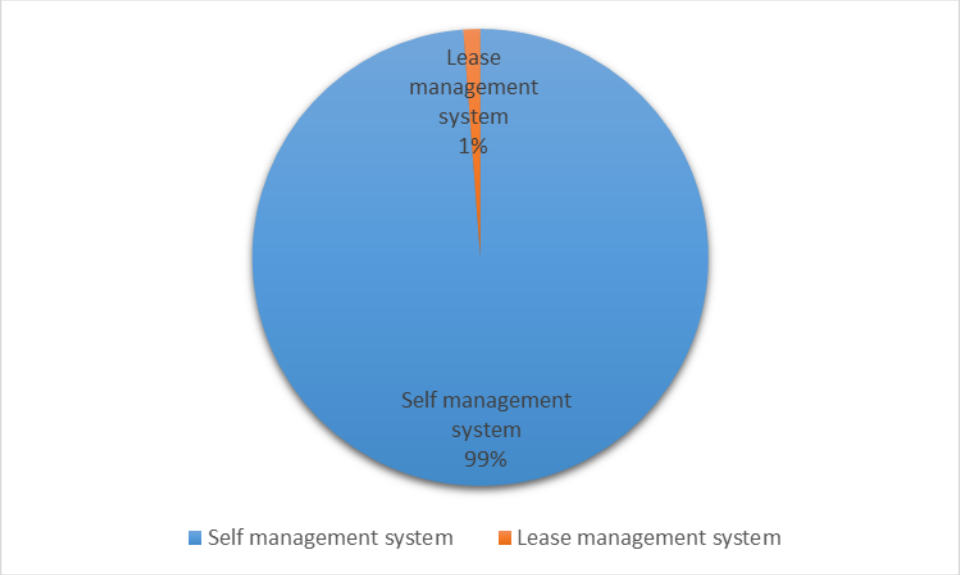

Figure 1: Management systems adopted

Forms in which Kolanut is Sold and the Market Outlet Used

Results in Table 2 revealed that about 45% of the respondents sold their kola nut when the pod had been removed; 36% of the respondents sold their kola nut when both the pod and the white coat had not been removed while 18.8% sold their products when the white coat had been removed. The resons adduced to this could be that, most buyers prefer to see the physical appearance of the kolanut before buying it, this will reveal how the kolanut seed look like. Colour is one of the criteria for selling kola in the South west Nigeria, particularly when the kolanut is for consumption. Kolanut with white appearance is more preferably by people than the

one with pink colour. Also, kolanut without any injury also attract more buyers than the one with some injury. Therefore, the appearance of the kolanut is a major factor for market, hence the preference for the marketers in selling the product when the pod had been removed.

Also, the majority (71.2%) of the farmers sold their produce at home while 22.5% and 6.2% sold their produce at the market and farm gate, respectively. When products are sold at home sometimes lessen the burden of the farmers. The farmers prefer this, probably to reduce the cost of transportation to the market. The majority (65%) of the farmers also, patronized itinerant buyers for their produce, while 35% patronized wholesalers. Itinerant buyers are people that moved from village to village like middlemen to buy produce. In most communities where kolanut are produced and sold, the buyers always move around the communities to buy the product. Often time they are the one that dictate the price of the kolanut. Farmers sometime because of their busy scheduled time and nature of work prefer selling the product to the itinerant buyers. Many farmers adopted this because of their urgent need for money and other conveniences attached to it.

Table 2: Distribution of respondents according to forms in which kolanut is sold and the market outlet used for sales of kola nut

Marketing outlet adopted	Percentage
Form which kola nut is sold	
When both the pod of the white coat has not been removed	36.2
After harvesting when the pod has been removed	45.0
When the white coat has been removed	18.8
The point which the farmers sell their kola nut	
Market	22.5
Farm gate	6.2
At home	71.2
Market outlets for sales of kola nut	
Itinerant buyers	65
Wholesales	35.0

Household roles in kola nut production and marketing

Results in Table 3 described the extent to which farmers' household members were involved in kola-nut production and marketing activities. The results revealed that,

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majority (90.0%) of the respondents asserted that men were more involved in land preparation at the nursery stage. This implies that, though other household members were involved in nursery land preparation, men played a prominent role. This is obvious because land preparation is a tedious operation, hence not many women will be able to carry out the operation. The land preparation for kolanut involves clearing, pegging and digging of holes among others. These activities are energy consuming activities which is more suitable for men than women.

Results in Table 3 further revealed that the majority (90.0%) of the respondents asserted that men were more involved in preparation of sheds at the nursery and planting of kola nut seeds at the nursery (95.0%). The shed preparation for kolanut at the nursery require a lot of activities. Farmers need to erect bamboos poles and put the palm leaves on top which serves as a shed to avoid direct heat on the kolanut seedling. Planting is done by transplanting the seedlings from the nursery to the main field. This is usually done during raining season. All these activities are energy consuming, this could be the reason why men were more involved than women.

About 85% of the respondents agreed that men were aslo involved in watering of young kola seedlings at the nursery. Other pre-planting and post-planting activities dominated by men included light weeding at the nursery (92.5%), land preparation for seedling establishment (95.0%), transplanting of kola nut seedlings to the permanent sites (77.5%), planting of shaded materials (88.8%), weeding (91.2%), mulching (96.2%), fertilizer application (97.5%), spraying of herbicides (98.8%), spraying of insecticides (98.8%), removal of mistletoe (100.0%) and harvesting (85.0%). This implies that, men were more involved in the tedious activities of kola production.

The result in Table 3 further showed that women were more involved in soaking of the nuts in water for the removal of the white coat (87.5%), preparation of basket lined with banana leaves for temporary storage (91.2%), transportation from the house to the market (62.5%) and marketing of the kola nut (95.0%). Since women were more involved in domestic activities, therefore, activities such as soaking of the

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nuts in water for the removal of the white coat and preparation of basket lined with banana leaves for temporary storage were activities not difficult for women to involved in since these are house related activities. Also, in traditional Yoruba settings, women were found to be carrying goods on their head to the market, particularly, when the market is not far from their house, they prefer to walk down to the market. thus, activity like transportation of kola nut from the house to the market are the responsibility of the women.

Children were more involved in removal of nuts from the pods (65.0%) and removal of the white coat from the nut after soaking (61.2%). In most village settings, children are often found in activities like removal of white nuts from the pod and removal of the white coat from the nut. In the process of doing this, they tend to wide away the time at home. These activities are usually performed by children in the evening or after they must have taken their dinner. It could be observed that women mostly under took storage as well as marketing of kola nut. Women know how the can bargain for better price, hence the possibility of marketing the kolanut. It is obvious, as most of these activities do not require much strength hence women would find it easier to handle.

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Table 3: Household roles in kola nut production and marketing

Kola nut activities	Men only	Women only	Children only	Both men and women	All (men, women and children)
Land preparation at the nursery stage	90.0	-	-	1.2	8.8
Preparation of soil medium/shade at the nursery	90.0	-	1.2	1.2	7.5
Planting of kola nut seed at the nursery	75.0	-	1.2	1.2	2.5
Watering at the nursery site	85.8	7.5	5.0	3.8	-
Weeding at the nursery stage	92.5	1.2	3.8	1.2	1.2
Land preparation for seedling establishment	95.0	-	3.8	1.2	
Transplanting of kola nut seedling to the permanent site	77.8	-	1.2	3.8	17.5
Shading (if applicable)	88.8	-	5.0	1.2	5.0
Weeding	91.2	-			8.8
Mulching	96.2	-	1.2	1.2	1.2
Fertilizer/manual application	97.5	-		1.2	1.2
Spraying of herbicide	98.8	-	1.2	-	-
Spraying of insecticide	98.8	-	1.2	-	-
Removal of mistletoe	100.0	-	-	-	-
Harvesting	85.0	1.2	-	8.8	3.8
Transportation from farm to house	6.2	18.8	68.8	1.2	5.0
Removal of nut from the pod	-	31.2	65	-	3.8
Soaking of the nut in water for the removal of the coat	-	87.5	11.2	-	1.7
Removal of the white coats	-	36.2	61.2	-	2.5
Preparation of basket lined with banana/leaves for storage	-	91.2	7.5	-	1.2
Transportation from the house to the market	-	62.5	36.5	-	1.2
Marketing	-	95.0	3.8	-	1.2

Constraints to kola nut production and marketing

Table 4 revealed the results of the rotated component matrix indicating the extracted factors. Three major constraints were extracted based on the responses of

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respondents on constraints to kolanut production and marketing. Factors 1, 2 and 3 were named environmental related issue, policy issues and input related issue.

Under environmental related issue (factor 1), the specific constraining variables to kola-nut production were unfavourable prevailing weather condition – climate change (0.752), soil fertility problem (0.731), land tenure system (0.867) and high evidence of pest and disease infestation (0.849). Climate is a very important factor affecting agricultural production. Temperature and rainfall could affect kolanut production. If the temperature or rainfall is high or low, it could affect production activities. High temperature could increase the rate of water loss in the soil, on the other hand, if the temperature is high it could lead to leaching of soil nutrients. When the nutrients of the soil water are leached, there will be a problem of soil fertility. Also, when there is increase in rainfall or temperature, there would be high incidence of pest and diseases. Land tenure system is also a paramount factor in kolanut production. Since kola need to stay for over so many years on a piece of land, it requires that the land is owned by the intending farmers or lease for over several years. Due to the Land Degree Act of 1978, that vested the ownership of land on State government, some of the intending farmers that intend to go into production may not be given the opportunity.

Variables that loaded under unfavourable policy issues (factor 2) were: lack of fund to carry out farm operations (0.664), lack of adequate government policies in encouraging cash crop (kola nut) production (0.783), instability in government policies (0.904), poor access to good roads (0.862), lack of government assistance toward kola nut production (0.831) and non-availability of credit facility (0.899). Finance and appropriate policy formulation are very important in any production activities. Despite the participation of farmers in kola nut production, there is no adequate government policies to encourage production. Such policies could include access to good road and availability of credit facility. Most of the rural areas have poor access to good roads. This could increase the cost of production of kolanut. It could also affect access to market facility. Also, most farmers in the rural area complaint of non-availability of credit facility to encourage them in production.

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Kolanut production is cost intensive, hence huge sum of money is required for its establishment. When this is not available, it could hinder kolanut production.

The specific variables with high loading under input related problem (factor 3) were high cost of improve kola seedling (0.713), lack of adequate technical know-how on improved farming techniques (0.660), high cost of input like fertilizer etc (0.626), non-availability of agrochemical and insecticides at the right time and in the right place (0.672) and inadequate information on kola-nut production (0.728). Input such as availability of seedlings, fertilizers could encourage farmers in kolanut production. But when this is not available, it constitutes a problem in production. Both agrochemical and insecticide should be available at the right time and in the right places. Meanwhile, inadequate information on kola-nut production could also hinder its productivity. Farmers need to be informed on kolanut production at the right time. When extension agent visit farmers regularly, they would be able to pass the right information and at the right time.

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Table 4: Constraints to kola nut production and marketing

	Component		
	1	2	3
High cost of input like kola nut seedlings and fertilizer	0.358	0.350	0.626
Non-availability of agrochemical and insecticides at the right time and in the right place	0.279	0.247	0.672
Inadequate information on kola production in the study area	0.282	0.218	0.726
Unavailability of labour to carry out essential farm activities	0.663	0.328	0.488
Lack of fund to carry out farm operations in kola production	0.354	0.664	0.325
High cost of improved kola seedlings	0.353	0.260	0.713
Poor extension agent-farmer contact	0.607	0.010	0.604
Lack of adequate government policy in encouraging cash crop (kola nut) production	0.208	0.783	0.117
Lack of adequate technical know-how on improved farming techniques	0.370	0.228	0.660
Instability in government policies in agriculture	0.097	0.904	0.145
Poor communication skill of extension staff to disseminate relevant information on new improved farming techniques on kola production	0.604	0.088	0.527
Unfavourable prevailing weather condition (climate change)	0.752	0.342	0.134
Soil fertility problem	0.731	0.328	0.233
Problem of land tenure system	0.867	0.170	0.217
Sales of adulterated chemicals to farmers	0.711	0.103	0.521
Poor access to good road in transporting harvested kola nut	0.124	0.862	0.202
Lack of government assistance towards kola nut production	0.038	0.831	0.117
Fluctuations in price of kola nut/poor pricing of kola nut	0.692	0.077	0.487
Lack of good storage facilities	0.418	0.593	0.092
Non availability of credit facility (money)	0.074	0.899	0.225
Weed management problem	0.756	0.198	0.410
Improper coordination of the activities of the farmers' organization	0.849	0.117	0.264
High risk and uncertainty in kola nut production	0.746	0.079	0.473
High incidence of pest and diseases infestation	0.744	0.176	0.449

Extraction Method: Principal component Analysis Rotation method varimax with Kaiser Normalization

Note: Factor 1 = Environmental problem; Factor 2 = unfavourable polices; Factor 3 = Input related problem

Conclusion and Recommendations

Kola nut is an important economic cash crop to a significant proportion of Nigerian population who are involved in kola farming, trading and industrial utilization. Kola nuts are best known outside Africa as an ingredient for cola beverages. The study

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found out that the kola plantation is aging, hence the need for upgrading and rehabilitation of kola farms. The findings further revealed that farmers were faced with input related problem like high cost of seedlings, inaccessibility of agrochemical and insecticides and other related input for kolanut production. Some that were available were not supplied at the right time and in the right places. It was also discovered that individual household members have different roles to play in kolanut production and marketing. Based on this therefore, the study recommended that programmes aimed at improving the production capacity of the kolanut should be channeled towards men while those aimed at marketing should be directed towards women for sustainable agricultural development in Nigeria.

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