



Cashew Nuts Production and Marketing among Farmers in Ugwolawo District, Kogi State, Nigeria

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Abstract: This study assessed production and marketing of cashew nuts by farmers in Ugwolawo District, Kogi State, Nigeria. Data for the study were collected from 105 respondents using a structured interview schedule. Data collected were analyzed using both descriptive (percentages and mean scores) and inferential statistics (Spearman's rank correlation). The results revealed that majority of cashew farmers were educated (68.6%) men (76.0%), who inherited (93.3%) cashew farm land. On average, respondents were 48.9 years of age, had cashew farming experience of 10.6 years, output of 2954.8 kg and cashew annual income of ₦261,766.67. Farmers were aware and used cashew production agronomic practices such as seed selection (Aware =95.2%; Used = 91.4%); land preparation (Aware =98.1%; Used =98.1%); transplanting (Aware =83.8%; Used =62.9%); manual weeding (Aware =100.0%; Used =99.0%); pruning (Aware =96.2%; Used =89.5%); and harvesting (Aware =100.0%; Used =100.0%). The level of cashew nuts production was moderate in 2011 (40.0%); 2012 (55.2%), 2013 (63.8%) and 2014 (42.9%) but high in 2015 (46.7%). Majority (89.7%) marketed their produce through small-scale/retailers (89.5%) and wholesalers (67.6%). All respondents (100.0%) sourced information from fellow farmers and buying agents. The Spearman's rank correlation result showed a significant relationship between awareness and use of cashew agronomic practices by farmers at 5% probability level ($t=0.0198$). It also revealed a significant relationship between respondents' use of cashew agronomic practices and level of production at 5% alpha level ($t=0.0405$). Farmers experienced various constraints in cashew nuts production and marketing. The study concludes that production of cashew nuts was moderate, but with low yields due to a plethora of constraints, including non-utilization of some yield enhancing technologies and poor access to viable markets. It is recommended that farmers should be encouraged to use improved cashew production practices for enhanced production and improved income. Also, government should link producers to viable markets and processing industries to enable them have good return on their investments.

Keywords: cashew nuts, production, marketing, farmers, Kogi State

1. INTRODUCTION

Cashew (*Anacardium occidentale*) is a drought resistant crop that can grow successfully in areas with a distinct dry season or where the annual rainfall is as low as 50cm. It can also grow well in areas with high level of rainfall as much as 350cm annually provided the soil is well drained [1]. It is a tree crop of economic importance to Nigeria and other tropical countries [2].

Cashew is reportedly ranked third in world production of edible nuts that are traded globally [2]. The annual world production of cashew nuts was about 3,186,039 tons and Nigeria was rated the second among the top ten producers with 660,000 tons after Vietnam as the highest producer with 961,000 tons [3]. The introduction of Brazilian cashew biotype with improved and desirable nuts and quality characteristics by the Cocoa Research Institute of Nigeria (CRIN) has further increased the popularity of the crop and the spread in Nigeria [4]. The contribution of Kogi State to the nation's production is about 30% annually, while the Eastern part of the State accounted for about 60% of the State's production [5]. The average yield of the nuts of a mature cashew tree ranges from 7-11kg per annum [5]. In Nigeria, cashew nuts exports represent 7- 8% of non-oil export earnings. The estimated export value varies from US\$ 25- 35 million annually, and supplements the income of about 50,000 farmers and an additional 55,000 people who are employed down its value chain [6, 7]. Nigeria tops the countries that produce the best cashew nuts, followed by India, Cote d'Ivoire and Philippines [8].

Marketing is one of the vital aspects of agriculture, since agriculture entails the production of goods and services, production is said not to be completed until the commodity produced reaches the final

consumer [5]. There has been a tremendous price appreciation of Nigerian cashew nuts in the international markets with tons of cashew nuts, which sold for N24,753.00 in 1993 rising to N180,011.00 in 2003 [9, 10]. However, price of raw cashew nuts dropped from N300, 00.00 (\$833.00) in 2018 to \$1,100 in 2019, signally 34% drop in price from 2018 [8]. The marketing of cashew is mostly affected by price instability due to the seasonality nature of its production and lack of storage facilities [5].

Cashew crop constitutes a source of income, employment and raw materials for the producing nations [11]. More than 65% of farming families who are smallholder farmers all depend on the crop as a major source of income in Nigeria [12]. Cashew is grown throughout Nigeria but the cultivation is centralized primarily in the south and middle belt regions in smallholder farms and plantations [1].

The major products from cashew are dried cashew nuts, cashew karnels (nuts), which are ready to eat products, cashew nut shell liquid (CNSL), cashew juice, cashew apple candy or jam and cashew apple wine [1]. Ripe cashew apple is sweet and rich in vitamin C and sugar, its nuts contain the fat soluble vitamins A, D, K and minerals such as calcium, phosphorous and iron, which are required for the healthy growth of human body [2]. It was mainly used in afforestation schemes for the control of erosion in the former eastern Nigeria [10].

The problems of cashew production include; old trees, deforestation, low yield varieties, dominance of small holdings and wild varieties, land acquisition, high cost of inputs, climatic conditions, diseases and pests, fire outbreaks, post-harvest losses, infrastructural constraints, poor qualities, market price of the product and the competition amongst the local buying agents [1]. Inability of farmers to afford the application of inorganic fertilizers coupled with its negative effects on the environment is also a problem facing cashew production [13].

The problems facing cashew marketing include: unavailability of labour, lack of processing technology, high cost of production, unstable market system, high interest rate, low funding, inadequate infrastructural facilities such as rural roads, electricity, water supply and poor exit services [14].

Several studies have been carried out on cashew production and marketing in the past. For instance, work was carried out on constraints in cashew production among cashew farmers in southwestern Nigeria [15]. Also, there was a study on socio-economic factors affecting use of information sources among cashew farmers in Niger State, Nigeria [16] and another study on profitability and structural analysis of cashew nuts market in Oyo State, Nigeria [17]. Similarly, an analysis on the profitability of value addition of cashew farming households was conducted in Nigeria [18] as well as an assessment of cashew processing for economic development in Nigeria [5]. This study is different from the earlier ones as it assessed both the production and marketing of cashew nuts in the study area. Moreover, none of these studies was conducted in Ugwolawo District, Kogi State, Nigeria, hence this study became imperative. The study would create awareness among producers of the available improved cashew production technologies and marketing channels for the produce for enhanced productivity, improved income and livelihood.

The specific objectives were: (i) describe the socio-economic characteristics of the respondents; (ii) determine farmers' awareness of cashew production agronomic practices; (iii) ascertain farmers' use of cashew production agronomic practices; (iv) ascertain the level of cashew nuts' production by the respondents in the last five years; (v) identify the marketing channels for the sale of cashew nuts; (vi) identify the sources of information on cashew nuts production and marketing; and (vii) identify the constraints militating against the production and marketing of cashew nuts in the study area.

The study hypothesized that: (H_{01}) there is no significant relationship between awareness of cashew production agronomic practices and use by the respondents; and (H_{02}) there is no significant relationship between the use of cashew agronomic practices and level of production by the respondents.

2. METHODOLOGY

2.1 The Study Area

The study was carried out in Ugwolawo District, Kogi State, Nigeria. Ugwolawo is the headquarters of Ofu Local Government Area and is situated in Kogi East Senatorial District. Ofu Local Government Area is located on latitude $7^{\circ}20'N$ $7^{\circ}05'E$ and longitude $7.333^{\circ}N$ 7.083° (Ofu Local Government, 2015). The LGA has a population of about 192,169 inhabitants [19] with a land mass of

about 8,747.5 square kilometres. The Local Government has a number of tourist delights namely; UlokoAmo Water Falls in Ofokopi, Ugbakoji Hills in Itobe, Egane Water Falls and Ofakete Natural Bridge, Alo Natural Tunnel and Ojuwo Mission Settlement at Ugwolawo. The main occupation of the inhabitants is farming and the major crops grown include maize, cowpea, millet, groundnut, and melon, while the tree crops are cashew, citrus, mango, and *Avenger senegalensis*. The inhabitants also keep livestock such as goats, poultry and sheep [20].

2.2. Population and Sampling Procedure

The population for the study comprised all cashew producers in Ugwolawo District of Kogi State. Ugwolawo District is made up of 4 Council Wards namely; Aloji, Ugwolawo 1, Ugwolawo 2 and Ochadamu. Multistage sampling procedure was employed for this study. Firstly, Ugwolawo Ward 1 was purposively selected due to its predominance in cashew production in the district. Secondly, a census of all cashew producers in the ward was conducted and six (6) villages in the ward were selected out of eighteen (18) villages that make up the ward using simple random sampling technique. A sampling frame was developed for each of the villages, and using a proportional allocation of fifty percent (0.5%) across board, a total sample size of 105 respondents was used for the study [(Ugwolawo (30); Ahi (15); Ofo-olijinwa (15); Ogokolo (25); Agwale (10); and Ukpotume (10)]. Data were collected using a well-structured questionnaire distributed to individual cashew farmers in the selected villages.

2.3. Data Analysis

Data for the study were analyzed using both descriptive and inferential statistics. Descriptive statistics such as percentage, frequency and mean scores were used to analyze all the research objectives, while Spearman's rank correlation was used to analyze the null hypotheses 1 and 2.

3. RESULTS AND DISCUSSION

3.1. Socio-Economic Characteristics of the Respondents

The socio-economic characteristics of the respondents are depicted in Table 1. The results showed that majority (76.2%) of cashew farmers in Ugwolawo District were male, while 23.8% were female. This implies that most of the cashew farmers in the study area were predominantly male. The finding agrees with the studies which indicated that about 84.5%, 93.3%, 78.4% and 91.7% of the respondents respectively were male [14, 16, 17, 21]. The dominance of male over female in cashew nuts production observed in the study area could be attributed to the patriarchal nature of the society which gives the right of land ownership to the male members of the household, thereby making it difficult for the female members to invest in cashew cultivation.

Findings on age of cashew farmers revealed that about 43.9% of the respondents were within the age bracket of 41-60 years, 29.5% were within the age range of 21-40 years, while about 25.7% were above 60 years with a mean age of 48.7 years. This implies that most of the cashew farmers in the study area were ageing since a greater percentage (69.8%) was above 40 years. The finding of this study corroborates the report that most (64.0%) cashew farmers in Ruangwa District, Tanzania were above 40 years [22]. The result also agrees with the studies which found the mean age of cashew farmers to be 41.0 years and 46.5 years respectively [16, 23]. The study however, disagrees with the finding that the average age of cashew farmers in Kogi State was 56 years [18]. The older the farmer becomes the more experienced in farming activities but older farmers could resist new information on improved cashew production technologies since they are avert to new ideas.

The results on level of education revealed that majority (68.6%) of the respondents were educated with about 26.7% having secondary and primary education each while about 15.2% attained tertiary education. This implies that majority of the cashew farmers in the area attained one level of education or another. Other studies found that 53.3%, 61.4%, 52.5% of the cashew farmers were non-literate [14, 22, 24]. Education can enhance adoption of improved cashew agronomic practices and knowledge of cashew marketing. However, this study found that high literate level did not enhance the adoption of improved cashew technologies as less than half of the technologies were used by farmers.

The finding on years of cashew farming showed that a little above thirty two percent (32.4%) of the respondents had about 1-10 years of cashew farming experience, 29.5% had from 11-20 years, 22.9% had 21-30 years and 15.2% had above 30 years with mean cashew farming experience of 10.64 years for the study area. This implies that majority (77.7%) of the farmers in the study area have

beenfarming cashew for a long time. Similar studies showed that 70.0% and 73.3% respectively of the farmers had long time experience in cashew production [14, 23].. Experience could influence farmers' productivity and their ability to manage any constraint in cashew farming and marketing.

On sources of cashew farm land, majority (93.3%) of the respondents reported getting their land through inheritance while 1.9% got it by purchase, 1.0% had theirs through leasing and 3.8% through the community. This implies that majority of the farmers got their cashew farm lands by inheritance. An earlier study [16] found that most (71.1%) cashew farm lands were inherited. Although inherited land could enhance the cultivation of tree crops, this may be at a low scale due to land fragmentation arising from large number of beneficiaries.

The results on cashew nuts output showed that close to half (48.6 %) of the respondents had an output of 1000-2000 kg, 22.9 % had from 2100-4000 kg, 15.2 % had more than 6000 kg, while a few (13.3 %) had about 4100-6000kg of cashew nuts in the previous year, with an average yield of 2,954.76 kg/ha. This implies that generally, farmers had low yield of cashew nuts in the study area. The low yield could be attributed to low usage of some improved production practices such as fertilizer, improved varieties and pesticides.

Results on income from sale of cashew nuts indicated that about 32.4% of the respondents earned about ₦100,000 and below from cashew farming in the previous year, 5.7% earned ₦401,000-₦500,000, 10.5% earned about ₦201,000-₦300,000, 12.4% earned from ₦301,000-₦400,000 and 16.2% earned ₦101,000-₦200,000 with mean annual cashew income of ₦261,766.67 only. This implies that generally, the amount of money derived from cashew farming in the study area was moderate. Earlier studies reported low income from cashew farming averaging ₦22,955.55 and ₦77,979.17 respectively [16, 25]. The reasonable rate of return despite low output could be attributed to high price at the international market at the time of sales. Cashew nuts production and marketing is a good source of income for farmers, and this is mostly utilized in paying children's school fees and acquiring household equipment and mobility. It is expedient, therefore, for governments at the local and state levels to encourage farmers to sustain the production of the crop in order to improve their income and livelihood.

Table 1. Socio-Economic Characteristics of the Respondents (n=105)

Characteristics	Frequency	Percentage	Mean
Sex			
Male	80	76.2	
Female	25	23.8	
Age (years)			
21-40		29.4	48.74
41-60		43.9	
>60	27	25.7	
Level of Education			
Non Formal Education	33	31.4	
Primary	28	26.7	
Secondary	28	26.7	
Tertiary	16		
Cashew Output (kg/ha)		32	
100-2000	51	46	2954.7
2001-4000	24	22.9	
4100-6000	14	13.3	
>6000	16	15.2	
Cashew Farming Experience (years)			
1-10	34	32.4	10.64
11-20	31	29.5	
21-30	24	22.9	
>30	16	15.2	
Sources of Cashew Farm Land			
Family	98	93.3	

Purchase	2	1.9	
Lease	1	1.0	
Others	4	3.8	
Income from Cashew (N)			
≤100,000	34	32.4	261766.67
101,000-200,000	17	16.2	
201,000-300,000	11	10.5	
301,000-400,000	13	12.4	
401,000-500,000	6	5.7	
>500,000	24	22.9	

3.2.Awareness of Agronomic Practices by Cashew Farmers in Ugwolawo District

Table 2 shows cashew farmers’ awareness of agronomic practices. The results indicated that out of the thirteen (13) agronomic practices listed, majority of the respondents were aware of eleven (11). These included improved varieties (58.1%), seed selection (100.0%), land preparation (100.0%),nursery preparation (52.4%), transplanting (83.8%), herbicides application (82.0%), manual weeding (100.0%), pruning (96.2%), intercropping (82.2%), harvesting (100.0%) and storage (89.5%). However, most farmers reported they were not aware of pesticide application (60.0%) and fertilizer application (67.9%). This implies that most farmers were aware of improved agronomic practices of cashew production.

Table 2. Distribution of Respondents according to Awareness of Agronomic Practices in Cashew Production in Ugwolawo District, Kogi State (n=105)

Agronomic practices	Frequency*	Percentage
Improved varieties	61	58.1
Seed selection	105	100.0
Land preparation	105	100.0
Pesticide application	42	40.0
Nursery preparation	55	52.4
Transplanting	88	83.8
Fertilizer application	41	39.0
Manual weeding	105	100.0
Herbicide application	87	82.0
Pruning	101	96.2
Intercropping	87	82.9
Harvesting	105	100.0
Storage	94	89.5

*Multiple responses recorded

3.3.Use of Agronomic Practices by Cashew Farmers in Ugwolawo District

Results on use of improved cashew agronomic practices are depicted in Table 3. The results showed that majority of the respondents used 7 out of the 13 agronomic practices. The 7 practices used by farmers included harvesting (100.0%), manual weeding (100.0%), seed selection (91.4%), land preparation (100.0%), pruning (89.5%), transplanting (62.9%) and storage of cashew nuts (84.8%). Pruning is an important cultural practice in cashew production. This finding is in line with the work carried out in Wenchi Municipality, Ghana which reported that a greater percentage (52.9%) of cashew farmers pruned their cashew [24]. The finding also confirms the assertion that manual weeding is one of the major issues in cashew production as weeds can prevent the seedling from growing [26]. The practices most farmers did not use were improved varieties (79.0%) which concurs with an earlier finding that most (68.6%) of the respondents used local varieties in cashew production [24]. Furthermore, practices such as pesticide application (86.7%), nursery preparation (93.3%), fertilizer application (83.3%), herbicides application (51.4%) and intercropping (82.9%) were not used by most respondents. Although most farmers were aware of improved agronomic practices of cashew farming; the use of some of these practices was low, probably due to ignorance arising from lack of information, lack of access to the technologies and lack of finances to purchase the vital production inputs.

Table 3. Distribution of Respondents according to Use of Agronomic Practices in Cashew Production in Ugwolawo District, Kogi State (n=105).

Agronomic practices	Frequency*	Percentage
Improved varieties	22	21.1
Seed selection	96	91.4
Land preparation	105	100.0
Pesticide application	14	13.3
Nursery preparation	07	6.7
Transplanting	66	62.9
Fertilizer application	17	16.2
Manual weeding	105	100.0
Herbicide application	51	48.6
Pruning	94	89.5
Intercropping	18	17.1
Harvesting	105	100.0
Storage	105	100.0

*Multiple responses recorded

3.4. Level of Production of Cashew Nuts by the Respondents

Results on the mean production level of cashew nuts by farmers in the study area are presented in Table 4. The results indicated that cashew nuts’ production was moderate in 2014 (\bar{x} = 2.36) and 2015 (\bar{x} 2.39) but low in 2011 (\bar{x} = 1.93), 2012 (\bar{x} = 1.95) and 2013 (\bar{x} = 1.98). Finding revealed that, overall the level of production of cashew nuts in the study area for the year under review (2011-2015) was low. The low level of cashew nuts production could be attributed to the non-utilization of close to half of the improved agronomic practices such as improved varieties (79.0%), pesticide application (86.7%), nursery preparation (93.3%), fertilizer application (83.3%), herbicides application (51.4%) and intercropping (82.9%). Use of these production practices could increase farmers’ production and productivity and enhance their income, thereby improving their standard of living.

Table4. Distribution of Respondents according to Level of Cashew Nuts Production (2011-2015)

Year	Level of Cashew Nuts Production	
	Mean	Standard Deviation
2015	2.39	0.628
2014	2.36	0.667
2013	1.98	0.604
2012	1.95	0.671
2011	1.93	0.775

Key: High= 2.50-3.00; Moderate = 2.00-2.49; Low= <2.00

3.5. Marketing Channels for Cashew Nuts in Ugwolawo District, Kogi State

Table 5 shows the channels for marketing cashew nuts in the study area. The results showed that majority (89.5%) of the respondents sell cashew nuts to retailers at the nearby markets, about 67.6% sell to the wholesalers, while 17.1% and 3.8% sell their produce at the farm gates and to bulk assemblers respectively. This implies that majority of cashew farmers in the study area sell cashew nuts through the small-scale/retailers and wholesalers’ marketing channels. This finding indicates that all the respondents (100.0%) purchased cashew nuts directly from cashew farmers and most (98.3%) of them further sold to other wholesalers and retailers in the market chain [17]. This could influence the pricing of cashew nuts in the study area as the small-scale/retailers and wholesalers buy at cheaper prices from the cashew farmers, thereby making more profits than the producers.

Table 5. Percentage Distribution of Respondents according to Marketing Channels for Cashew Nuts in Ugwolawo District, Kogi State (n=105)

Marketing Channels	Frequency*	Percentage
Producer/farm gate	18	17.1
Small-scale/retailers	94	89.5

Bulk assemblers	4	3.8
Wholesalers	71	67.6

*Multiple responses recorded

3.6.Sources of Information on Cashew Nuts’ Production and Marketing

Table 6 shows the percentage distribution of farmers according to information sources for production and marketing of cashew nuts. The results indicated that all the respondents sourced information on cashew nuts’ production and marketing from fellow farmers (100.0%) and cashew buying agents (100.0%). Other sources of information for farmers were radio (66.7%), television (2.9%), extension agents (2.9%) and village leaders (19.0%). This implies that the most available sources of information on cashew nuts’ production and marketing were fellow cashew farmers, cashew buying agents and radio. It also showed that cashew farmers had low contact with extension agents in terms of information source for cashew nuts’ production and marketing. The finding a similar study in Nigeria indicated that cashew farmers sourced information from their fellow farmers [27]. This finding has implication for extension workers to work hard at information dissemination on improved practices and marketing strategies to cashew farmers in the study area.

Table 6. Percentage Distribution of Respondents according to Information Sources on Cashew Nuts in Ugwolawo District, Kogi State (n=105)

Sources of information	Frequency*	Percentage
Fellow farmers	105	100.0
Village leaders	20	19.0
Extension agents	3	2.9
Radio	70	66.7
Television	3	2.9
Cashew buying agents	105	100.0

*Multiple responds recorded

3.7.Constraints to Production and Marketing of Cashew Nuts

Entries in Table 7 show the constraints to production and marketing of cashew nuts in the study area. The results showed that 7 out of the 12 constraints militating against cashew nuts’ production in the study area were very severe. These included lack of access to improved post-harvest technology (90%), inadequate access to improved cashew varieties (89.5%), poor knowledge of improved agronomic practices (89.5), poor processing facilities (87.6%), inadequate capital (83.8%), high cost of inputs (83.8%) and high pest and disease infestation (81%) while constraints such as low productivity of existing plantations (91.4%), difficulty in acquiring land for cashew production (78.1%) and inadequate labour for cashew farming (55.2%) recorded low severity. Production constraints with high mean scores included lack of access to improved post-harvest technology (M=2.84), inadequate access to improved cashew varieties (M=2.86), poor knowledge of improved agronomic practices (M=2.85), poor processing facilities (M=2.79) and inadequate capital (M=2.76), high cost of inputs (M=2.78) which could be as a result of lack of government intervention in subsidizing the price of inputs, high pest and disease infestation (M=2.75) which could be due to the high cost of inputs for pest and disease control as well as poor knowledge of pest and disease control for cashew, lack of incentives for cashew production (M=2.17) and change in climatic condition (M=2.05). Earlier studies found that 70.0% and 72.0% respectively of cashew farmers ranked inadequate capital as the most sever constraintto cashew production [14, 28]. This could be attributed to the difficulty in acquiring loan from the bank due to lack of collateral. Change in climatic condition could be as a result of the seasonal fluctuations in rainfall. The severity in inadequate access to improved cashew varieties, poor knowledge of improved agronomic practices and lack of incentives for cashew production could be due to lack of access to research centres for cashew and poor services of extension agents in the study area, while the severity in lack of access to improved post-harvest technologies and poor processing facility could be attributed to poor government support and policy for cashew nuts’ production.

Results in Table 6 also show that low selling price of produce due to lack of pricing policy (81.7%), poor transportation system (93.3%), lack of institutional support (91.4%), unstable prices of nuts (89.5%), inadequate government policies (88.6%) and poor storage facilities (81%) constituted very

severe constraints to marketing of cashew nuts in the study area. The severe constraints included poor marketing networks/channels (75.2%) inadequate market information (67.6%) and insufficient buyers (46.7%), while competition among local buying agents (79.0%) and poor quality of cashew nuts (63.8%) were not severe to most farmers. The marketing constraints with severe mean scores were poor transportation system (\bar{x} =2.91), lack of institutional support (\bar{x} =2.87), inadequate government policies (\bar{x} =2.86), unstable prices of nuts (\bar{x} =2.83), low selling price of produce due to lack of pricing policy (\bar{x} =2.78), poor storage facilities (\bar{x} =2.70) and inadequate market information (\bar{x} =2.02), which could be due to poor extension service and far location of research centres. The findings corroborate the study of ===== who reported that the seasonality nature of cashew nuts production and lack of storage facilities, among others constituted severe problems to cashew nuts marketing [5]. The poor transportation, lack of institutional support, inadequate government policies, low selling price of produce due to lack of pricing policy, poor storage constraints could be due to lack of government intervention in the cashew production and marketing in the study area. This finding is corroborated with a study on factors associated with low yield of cashew in Nigeria where all the farmers indicated poor price of cashew nuts (100%) and most (98.3%) identified inadequate government policy as major factors militating against cashew nuts marketing [27].

This generally implies that there was high level of severity of some constraints to production and marketing of cashew nuts in the study area. Findings also indicated that there is a wide range of constraints militating against the production and marketing of cashew nuts in Ugwolawo District, Kogi State, Nigeria. These could affect the prospects and opportunities in cashew industry.

Table 7. Constraints to Production and Marketing of Cashew Nuts in Ugwolawo District, Kogi State (n=105)

Constraints	Very Severe (%)	Severe (%)	Not Severe (%)	Mean
Production Constraints				
Low Productivity of Existing Plantations	91.4	1.9	6.7	1.15
Inadequate Access to Improved Cashew Varieties	89.5	6.7	3.8	2.86
Poor Knowledge of Improved Agronomic Practices	89.5	5.7	4.8	2.85
Inadequate Capital	83.8	8.6	7.6	2.76
Lack of Access to Improved Post Harvest Technology	90.5	2.9	6.7	2.84
Lack of Incentives for Cashew production	39.0	39.0	21.9	2.17
Change in Climatic Condition	35.2	34.3	30.5	2.05
Inadequate Access to Labour for Cashew Farming	18.1	26.7	55.2	1.63
High Pest and Disease Infestation	81.0	13.3	5.7	2.75
High Cost of Inputs	83.8	10.5	5.7	2.78
Difficulty in Acquiring Land for Cashew Cultivation	13.3	8.6	78.1	1.35
Poor Processing Facilities	87.6	3.8	8.6	2.79
Marketing Constraints:				
Inadequate Market Information	17.1	67.6	15.2	2.02
Low Selling Price of Produce due to Lack of Pricing Policy	85.7	6.7	7.6	2.78
Lack of Institutional Support	91.4	3.8	4.8	2.87
Poor Marketing Networks/channels	10.5	75.2	14.3	1.96
Poor Transportation System	93.3	4.8	1.9	2.91
Poor Storage Facilities	81.0	8.6	10.5	2.70
Insufficient Buyers	12.4	46.7	41.0	1.71
Poor Quality of Produce (cashew nuts)	13.3	22.9	63.8	1.50
Inadequate Government Policies	88.6	8.6	2.9	2.86

Competition Among Local Buying Agents	4.8	16.2	79.0	1.26
Unstable Prices of Nuts	89.5	3.8	6.7	2.83

Mean cut-off point= 2.0

3.7.1 Relationship between Awareness and Use of Cashew Agronomic Practices

The relationship between level of awareness of respondents and their use of cashew agronomic practices was tested using Spearman's rank correlation and the result obtained is presented in Table 8. The Spearman's correlation coefficient (Rho) was 0.2272, indicating that the variables have 22.72% positive relationship among them. The correlation coefficient was significant at 5% level (prob>/t/=0.0198), indicating that there was a significant relationship between the use of cashew agronomic practices and awareness of the respondents. The null hypothesis is therefore rejected.

TABLE 8: AWARENESS VS USE OF CASHEW AGRONOMIC PRACTICES

	AWARE	USE
AWARE	1.0000	
USE	0.2356	1.0000
Spearman's rho =	0.2272	
Test of H0: AWARE and USE are independent		
Prob> /t/ =	0.0198	

3.7.2. Relationship between Use of Agronomic Practices and Level of Production of Cashew Nuts

Spearman's rank correlation was used to test the relationship between the use of agronomic practices and level of production of cashew and the result is presented in Table 9. It was found that there was 20.02% positive relationship between the variables (Rho=0.2002), which was significant at 5% alpha level (prob/t/=0.0405). The null hypothesis which states that there is no significant relationship between respondents' use of agronomic practices and level of production of cashew nuts is therefore rejected.

TABLE 9: USE OF AGRONOMIC PRACTICES VS LEVEL OF PRODUCTION

	USE	PRODUCTION
USE	1.0000	
PRODUCTION	0.1809	1.0000
Spearman's rho =	0.2002	
Test of H0: USE and PRODUCTION are independent		
Prob> /t/ =	0.0405	

4. CONCLUSION

The study concludes that male farmers with long years of farming experience dominated cashew farming in Ugwolawo District, Kogi State of Nigeria. Overall, the level of production of cashew nuts was low due to a plethora of constraints, including non-utilization of some yield enhancing technologies and poor access to viable markets. This study is important for raising the awareness level of cashew farmers on available improved cashew agronomic practices and marketing channels and stimulating their interest for sustainable management of cashew farms. It can enhance extension workers' choice of communication channels to adopt for proper diffusion of information on cashew improved technologies among farmers as well as encourage policy makers to design and implement realistic policies on cashew production and marketing for enhanced farmers' income and livelihoods.

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