



AWARENESS OF CASHEW PRODUCTS POTENTIALS AND MARKET INFORMATION AMONG FARMERS IN KOGI STATE, NIGERIA

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ABSTRACT

The inadequate recognition and exploitation of cashew potentials pose serious problems to farmers and stakeholders in Nigeria in terms of sustainability of the sub sector. The study investigated the awareness of cashew products potentials and marketing information among farmers. Sixty respondent farmers were sampled in Kogi State, which accounts for a total cultivated area of above 30,000ha of cashew in Nigeria. A systematic random sampling technique was employed in selecting the respondents. Data were collected with the use of well-structured questionnaire and analyzed using descriptive statistics as well as Pearson product moment correlation co-efficient (PPMC). Average age of respondents was 49 years and 88.3% were males. Also, 90.7 percent had some form of education and an average farmer had 17 years of farming experience. However, 48.3 % of the respondents cultivates between 0.8-8ha. All the respondents were aware of most cashew products: kernels, juice, wine, fuel wood and Cashew Nut Shell Liquid (CNSL). Access to market information was 96.7%. Farm size (0.0512), farming experience (0.0001) and farmers' knowledge (0.0025) significantly ($p < 0.05$) influenced awareness of cashew products. To harness the enormous potential of cashew products, the National cashew association of Nigeria and other bodies of cashew producers should adopt sensitization campaigns.

Keywords: cashew products, awareness, marketing information, farm size.

INTRODUCTION

Cashew (*Anacardium occidentale*) is an important industrial and export crop whose potential is yet to be fully exploited in Nigeria (Asiru, *et al* 2005). The name cashew is from the Portuguese *Caju*, which in turn comes from the Tupi-Indian word *acaju*. Cashew is indigenous to Brazil but India nourished it and made it a commodity of international trade. The native Indians valued both the cashew nut and the apple (Deckers, *et al* 2001 and Crusoe, 2006). The annual world production of cashew nut according to Opeke (2005), the main commercial product of the cashew plant is about 400,000 tonnes and more than 50 percent of this production comes from South Asia and East Africa, especially India, Vietnam and Tanzania. Umoh, *et al* (2005), reported that India was rated as the world's largest producer of cashew, producing about 32 percent of world's 1.178 million tonnes in 2001-2002 with the entire African continent sharing some 28% of world's total within the same period.

Among 13 countries included in cashew production as noted by (Krishnaswamy, 2006) in the African zone, Nigeria ranks fourth after Tanzania, Cote d'Ivoire and Guinea Bissau, having a total area of 100,000ha and an average annual production of 80,000MT contributing almost 16% of the total production of this particular zone. Its production is 5% of the global situation. During the last three years, Nigeria has been one of the suppliers of raw cashew nuts exported to India. Nearly 18,000 to 23,000MT of raw nuts per annum have been exported. The nut exported is negligible when compared with its total production. Kumo, *at al* (2005), also pointed out that the USA and Europe (mainly UK, The Netherlands and France) account for 75% of world imports. Other major importers included Canada, Japan, Pakistan, United Arab Emirate, South Africa and Kenya

also import for internal processing despite being major producers.

In Nigeria, cashew grows successfully in virtually all agro-ecological zones including the semi-arid areas but with high concentration in the middle belt areas in smallholder farms and plantations. Cashew production comes from over 20 States. These include: Kogi, Kwara, Oyo, Edo, Ondo, Anambra, Enugu, Benue, Cross River, Imo, Sokoto, Nassarawa, Ogun, Osun, Plateau and Kebbi among others (Ezeagu, 2002). It was reported by Onuchi and Aiyelabowo (2006) that in 1995, total hectares of land under cultivation was estimated at 40,000 with about 60% of the holdings owned by smallholders; another 30% were available in the wild; while 10% was in the large and medium size commercial plantation sector. By the year 2,000 there were indications that total hectareage had increased significantly to about 100,000 ha due to the involvement of some State Governments in cashew cultivation (Crusoe, 2006). This expansion was a direct result of the cashew production expansion programme of their various Agricultural Development programmes (ADPs), National Land Development Authority (NALDA) and Tree crop units (TCUs). With a yield estimated at 700kg per hectare. The Cocoa Research Institute Nigeria (CRIN), which has national mandate on cashew production estimates national production to be around 70,000MT annually. She maintains a cashew observatory in Ochaja, Kogi State, where lots of cashew are harvested annually (Crusoe, 2006).

Economic uses of cashew

Cashew has for many years been used for food and income generation. The trees are usually grown for their kernels which when roasted have a very pleasant taste. Rehm and Espig (1991); Deckers *et al* (2001) and



CTA (2007), reported that raw nuts which are much in demand in industrialized countries are processed into kernels that constitute a valuable export product for confectionery. They are used as an ingredient for making fruit paste, candied fruit, canned fruit, cashew apple, resins, jams and jellies, chutney, fruit juice, alcohol and vinegar. Cashew kernels rank third after almonds and hazelnuts in the international trade of tree nuts.

Wine and pulp are produced from cashew apple. Apple is eaten as a raw fruit or is fermented to produce a delicious alcoholic drink. The pulp is the fibrous part obtained after extracting juice from the apple and could be used as animal feed or dried and processed into diet fiber biscuit. Another product of cashew is the Cashew Nut Shell Liquid (CNSL). It is greatly valued in the international market as a raw material for brake and clutch linings, paints, and vanishes. It is also used in lacques, agglutinants, insecticides and fungicides (Rehm and Espig, 1991 and Deckers, *et al* 2001). Shomari and Topper (2003) noted that cashew is considered one of the luxury nuts along macadamia and pistachio.

It has been used for re-forestation purposes (e.g. in Nigeria, Cote d'Ivoire, and Madagascar) to combat soil erosion and reclaim marginal land. Cashew tree is found useful in making live fence, shade trees, firewood and charcoal. From the bark extract, a black dye can be made that is used locally for tattooing and tanning. Rehm and Espig (1991) added that in Indian, a gum is obtained from the trunk, which can be used as a substitute for gum Arabic.

In spite of the above economic uses of cashew, there are twin issues of value addition in cashew produce and lack of recognition of Nigeria as a producer and exporter of cashew kernel to the international markets which pose serious challenge to its sustainability, income and job creation. Most farmers lack knowledge in handling the crop for maximum yield (Crusoe, 2006). In many cashew farms, a lot of the fleshy apple and some nuts waste away despite their potential economic uses; because many farmers do not have the capacity to adequately turn the produce into valuable products for local and international consumption and marketing. The selling of raw nuts mainly for export by farmers at give away prices could hinder its development. The export of non-value added and low value added products may result in low foreign exchange earnings and loss of employment. This situation could also hinder the achievement of a proposed long term goal by Chemonics international incorporated prepared for USAID in Nigeria to transform Nigeria from a low-priced commodity producer to a supplier and exporter of high quality cashew products (Chemonics/USAID, 2002).

The present study aimed at investigating the awareness of farmers in cashew products potentials and ascertains the type of market information available to the farmers. The Specific objectives were to determine the socio-economic characteristics of cashew farmers; ascertain the knowledge of cashew value addition; identify the market information on cashew production and

determine the factors influencing cashew marketing in the study area.

Hypothesis

It was hypothesized that:

- There is no significant relationship between cashew farmers' socio-economic characteristics and awareness of cashew products; and
- There is no significant relationship between knowledge of cashew farmers and awareness of cashew products.

MATERIALS AND METHODS

Study area

The study was carried out in Kogi state in the middle belt (North-Central) region of Nigeria. It is popularly called the confluence of River Niger and River Benue with its capital, Lokoja, which was the first administrative capital of modern-day Nigeria. It lies between latitude 7°N and 8.5°N and longitude 5°E and 7.5°E of the Greenwich meridian (Osotimehin, *et al* 2006). Kogi is a major cashew producing state in the country. The state has a total cultivated area above 30,000ha with each farmer holding about 3ha of established plantations (Onuch and Aiyelabowo, 2006). Two large farms of 100ha each dominate commercial cashew farming in the state. These large farms promote an informal out growers' scheme involving farms owned by some secondary schools and small holders in the area. Agriculture is the mainstay of the people and the principal crops grown are cashew, coffee, cocoa, oil palm, peanuts, maize, cassava, yam, rice, and melon (Wikipedia, 2007).

Sampling procedure and data analysis

For this study, data was collected using purposive and systematic random sampling techniques. Three Local Government Areas: Igalamala, Dekina, and Ankpa dominant for cashew production were randomly selected. From them, five main communities noted for high cashew production were now purposively selected. These are Ajaka, Ankpa, Egume, Ochaja and Odolu. A systematic random sampling was used to select 60 respondents using well-structured questionnaire. Descriptive statistics (frequencies, percentage, mean) and Pearson product moment correlation co-efficient (PPMC) were used to analyze the data.

RESULTS AND DISCUSSIONS

Socio-economic characteristics of respondents

The data collected from the sixty respondent farmers in Kogi State revealed that 88.3 percent of cashew farmers were male while 11.7 percent were female indicating that more males were involved in cashew production than the female (Table-1). A higher percentage of the respondents 93.3 percent were married while 6.7 percent were single. The mean age of the respondents was 49 years indicating that more old people were involved in the production of cashew. Table-1 showed that most



(45%) of the farmers have had long farming experience in cultivating cashew, as the mean was 17 years. Those who had some form of formal education were mainly in the primary and secondary school categories of 41.7 and 38.3 percent. Table-1 also revealed that 48.3% of the farmers

cultivate between 0.8-8ha while 25.3 of farmers cultivate between 8.1-15.3 ha. Also, 15% cultivate 15.4-22.6 ha and 8.4% farmers cultivate over 22.6 ha. It means that the small-scale farmers constitute about 50% in the lot of cashew farmers in Kogi State.

Table-1. Socio-economic characteristics of respondents.

| Characteristics | Frequency | Percentage | Mean |
|-----------------------------------|-----------|------------|-------------|
| Sex | | | |
| Male | 53 | 88.3 | |
| Female | 7 | 11.7 | |
| Marital status | | | |
| Married | 56 | 93.3 | |
| Single | 4 | 6.7 | |
| Age (years) | | | 49.0 |
| 30-40 | 16 | 26.7 | |
| 41-51 | 21 | 35.0 | |
| 52-62 | 13 | 21.7 | |
| 63-73 | 10 | 16.6 | |
| Farming experience (years) | | | 17.0 |
| 7-15 | 27 | 45.0 | |
| 16-24 | 22 | 36.7 | |
| 25-33 | 11 | 18.3 | |
| Educational status | | | |
| No formal education | 5 | 8.3 | |
| Primary education | 25 | 41.7 | |
| Secondary education | 23 | 38.3 | |
| Tertiary education | 1 | 1.7 | |
| Adult education | 6 | 10.0 | |
| Farm size (ha) | | | |
| 0.8-8.0 | 29 | 48.3 | |
| 8.1-15.3 | 17 | 28.3 | |
| 15.4-22.6 | 9 | 15.0 | |
| Above 22.6 | 5 | 8.4 | |

Source: Field survey, 2007.

Distribution of respondents according to social group membership

Majority (96.7%) of the respondents belong to Cashew Association of Nigeria (Table-2). This development is likely to enhance farmers' knowledge about cashew crop, since such apex body will have a good linkage with Government organizations and other farmers unions.

Table-2. Distribution of respondents according to social group membership.

| Group membership | Frequency | Percentage |
|---------------------|-----------|------------|
| Cashew Association | 58 | 96.7 |
| Cooperative Society | 2 | 3.3 |

Source: Field survey, 2007.

Awareness of cashew products

Table-3 showed that all the respondents were aware that kernels, juice and fire wood (100%) each could be derived from nuts, apple and cashew shell respectively. Also, 95 percent knew that wine is produced from cashew apple while the same percentage is aware of CNSL being made from cashew shell. Only pulp and prunes were of lower awareness to the respondents. This implies that there is high level of awareness of cashew products among farmers and this could enhance its potentials when fully developed by local processors in the study area.

**Table-3.** Distribution of respondents according to awareness of cashew products.

| Products | Awareness | No Awareness |
|----------------------|-----------|--------------|
| Kernels from nuts | 60 (100) | - |
| Wine from apple | 57 (95.0) | 3 (5.0) |
| Juice from apple | 60 (100) | - |
| Pulp from apple | 1 (1.7) | 59 (98.3) |
| Prunes from apple | 1 (1.7) | 59 (98.3) |
| CNSL from shell | 57 (95.0) | 3 (5.0) |
| Fuel wood from shell | 60 (100) | - - |

Source: Field survey, 2007. Figures in parentheses are percentages.

Cashew market information by respondents

Table-4 revealed that most of the respondents (96.7%) claimed to have had access to cashew market information. This result corroborates the findings of Uwagboe, *et al* (2006) that market information is considered very vital as it ensures prompt evacuation of produce to avoid spoilage when there is proper linkage between the farmers and buyers. The principal types of information respondents were knowledgeable of are consumption of kernel and export of cashew nuts (100%) each, cashew selling price (98.3%) and adding value to cashew produce (96.7%). Majority of the respondents however did not have knowledge of demand (98.3%) and

supply (96.7%) of cashew in different areas of production in Kogi State. Though the respondents seem to have had high knowledge of selling price of cashew nuts, the mean selling price per kg/bag and basket were ₦3,040 and ₦272 only. It implies that the purchase price for cashew nuts is low irrespective of their knowledge level. The inadequate knowledge of demand and supply within the state could make buyers dictate prices for producers.

Table 4 further showed that a reasonable amount (95%) of the respondents obtained information on cashew marketing from Cashew Association of Nigeria. It means that the social group proved to be more effective than other sources.

Table-4. Access to cashew market information by respondents.

| Variable | Knowledge | | No knowledge | |
|----------------------------|-----------|------------|--------------|------------|
| | Frequency | Percentage | Frequency | Percentage |
| Market information access | 58 | 96.7 | 2 | 3.3 |
| Type of information | | | | |
| Cashew selling price | 59 | 98.3 | 1 | 1.7 |
| Supply in different areas | 2 | 3.3 | 58 | 96.7 |
| Demand in different areas | 1 | 1.7 | 59 | 98.3 |
| Cashew nut consumption | 60 | 100 | - | - |
| Cashew value addition | 58 | 96.7 | 2 | 3.3 |
| Export of cashew nut | 60 | 100 | - | - |
| Information source | | | | |
| Cashew association | 57 | 95.0 | 3 | 5.0 |
| CRIN | 1 | 1.7 | 59 | 98.3 |
| Fellow farmers | 2 | 3.3 | 58 | 96.6 |

Source: field survey, 2007.

Factors influencing cashew marketing

In Table-5, the most important factors militating against cashew marketing are poor price of cashew nuts (100%), inadequate government policy (98.3%) and low awareness of cashew potentials (76%). Other factors include poor extension contact (100%), small nut size (96.7%) and inadequate processing (75%) while low production and low nut supply were categorized as not

important. It means that both the severe and most severe factors could be serious constraints to cashew marketing in the study area. They could affect prospects and opportunities of cashew industry. The result is in line with Chemonics/USAID (2002), which reported that Nigeria needs to be transformed from a low-priced commodity producer to a supplier and exporter of high quality cashew.

**Table-5.** Factors influencing cashew marketing.

| Factors | Most important | Important | Not Important |
|------------------------------------|----------------|-----------|---------------|
| Low awareness of cashew potentials | 46 (76.0) | 14 (23.3) | - |
| Poor price from buyers | 60 (100) | - | - |
| Inadequate processing | 15 (25.0) | 45 (75.0) | - |
| Poor extension contact | - | 60 (100) | - |
| Low production | - | - | 60 (100) |
| Low nut supply | - | 1 (1.7) | 59 (98.3) |
| Small nut size | 2 (3.3) | 58 (96.7) | - |
| Inappropriate Government policy | 59 (98.3) | 1 (1.7) | - |

Source: Field survey, 2007. Figures in parentheses are percentages.

Correlation of awareness and knowledge of cashew products on farmers' socio-economic characteristics

Table-6 revealed that, awareness of cashew products is significantly related to knowledge of farmers $r = 0.38$. The null hypothesis was rejected. It implies that the more a cashew farmer is aware of cashew products potentials, the more his knowledge about them. The table also indicated that knowledge directly influence farmers

characteristics such as farm size $r = 0.25$. This means that the more knowledgeable a farmer is on cashew products, the more the farm holding would be.

In Table-6, there is a positive correlation between farming experience in cashew production and awareness of cashew products. It means that the higher the experience of a cashew farmer, the higher would be his awareness on cashew products and potentials.

Table-6. Correlation of farmers' socio-economic characteristics and awareness of cashew products.

| Variables | p | r | Decision |
|----------------------|----------|------|----------|
| Knowledge of farmers | 0.0025** | 0.38 | S |
| Farm size | 0.0512** | 0.25 | S |
| Farming experience | 0.0001** | 0.68 | S |
| Age of farmer | 0.7984 | 0.03 | NS |

Source: Field survey, 2007.

** Significant at $p < 0.05$. p = Probability r = Coefficient S = Significant NS = Not significant

CONCLUSIONS

The study showed that farmers were quite aware of most of the cashew products: kernels, juice, fuel wood, wine and CNSL but with low awareness of its potentials. The main types of markets information which farmers had knowledge of were cashew nut consumption, export of nuts, selling price and value addition. There is less knowledge on demand and supply of cashew in different areas. This could have some implication on farmers' market price and income. The factors influencing cashew marketing were poor price of nuts, inappropriate Government policies, poor extension contacts and inadequate processing. Farm size and long years of farming experience were significantly related to awareness of cashew products.

It is recommended that to harness the enormous potentials of cashew products, sensitization and training be given by cashew association of Nigeria and other development agencies to assist cashew producers.

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