



## Gender Differentials in the Processing of Kolanuts for Marketing in Southwest Nigeria

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### Abstract

This study determined the gender differentials in the postharvest processing of kolanut. The study was carried out in Ondo State of Nigeria. Multistage random sampling technique was used to select respondents. Two kolanut producing local government areas (LGAs) Ife East and Ondo East were purposively selected from the state. From Ife East, Ifekola was selected while Bolorunduro community was selected in Ondo East. A total of 150 kolanut processors were randomly selected from the two communities. Structured questionnaire was used to collect information from the respondents. The data retrieved from the information collected were analysed using descriptive statistics. Most (70.67%) of the respondents are 50 years and below while 29.33% of the respondents are above 50 years of age. About 64.67% of the marketers are females while 89.33% of the processors are married with 83.33% of the respondents having formal education. Ninety percent of adult females were involved in the soaking of kolanut in preparation for peeling and 10% of adult males were involved in the same activity. Also, for peeling of kolanuts activity, 96.0% of adult females were involved and 4% of adult male were involved. Ninety seven percent of adult female and 3% of adult male were involved in washing of the peeled kolanut. In the preservation of the peeled kolanut, 86% of adult female and 14% of adult male were involved. Forty six percent of the processors agreed that it is always very difficult to get fresh kolanut to buy. In a similar manner, 52.67% of the respondents agreed that preservative chemicals are not always available to buy. As regards the labour availability for peeling, 45.33% of the respondents are of the opinion that labour for peeling is always very difficult to attract. Some of the processors (32.67%), confirmed that leaves for storing kolanut is always very difficult to get. As regards the preservative chemicals, 54.67% of the processors believed that the chemicals are not always available to buy. In the study, more women are involved in all the activities involving kolanut processing than men. Women involved with kola production and marketing need to form groups to work together and purchase their materials in bulk from towns/cities near them.

**Keywords:** Kolanut, Men, Processing, Women

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### Introduction

Kola grows as a tree form and it is believed that kola trees are native to Ghana and Ivory Coast and their spread was brought about by humans (American Horticultural Society, 2002; Mokwunye and Oluyole, 2017). There are over fifty species of kola. Of these, seven have edible nuts, but only two have been widely exploited, these are *cola nitida* and *cola*

*acuminata*. These species have been important objects of trade for a long time. The most important is *cola nitida* because of its wide economic value (Oluyole *et al*, 2009; Adesida *et al.*, 2021). Kola is mostly produced in Africa and is cultivated to a large degree in Nigeria but also in Ghana, Ivory Coast, Brazil and the West Indian Islands (Adesida *et al.*, 2021). Annual production from these countries alone

is in excess of 250,000 tons while the world production is about 300,000 tons (American Horticultural Society, 2002; Ugwu *et al.*, 2020). According to Mokwunye and Oluyole, (2017), Nigeria produces 88% of the world's kola production and 90% of this is consumed locally while the remaining 10% is exported. This finding was buttressed by Oluokun and Oladokun (1999) and Ogundeji *et al.*, (2020) who claimed that Nigeria produces two million metric tons of kolanut annually which represented 70% of the world's kolanut production.

Kolanut post-harvest processing starts by careful examination and sorting out pods infested with weevils, diseases and other deformities, from the healthy pods. The seed coat or testa of the nuts from these healthy pods are removed by soaking the nuts in clean water for 24 h to enhance rottenness, after which the nuts are skinned and rinsed in fresh water. The rinsed nuts are collected in wide flat baskets through which excess water drains off before they are kept inside the room where they are maintained under ambient room temperature for a period of three days to cure. Defective/infested nuts are picked out during this curing process that usually involves considerable sweating to reduce the moisture content of the nuts. The nuts are then graded into sizes for proper preservation in big sized baskets (Asogua *et al.*, 2011; Adelusi *et al.*, 2021).

Kola is an important economic cash crop to a significant proportion of Nigerian population who are involved in kola farming, trading and industrial utilization. However, Nigeria accounts for about 70% of the total world production of kolanuts (Oluokun and Oladokun, 1999; Oluyole, *et al.*, 2009; Ugwu *et al.*, 2021). The kolanut is used as a masticatory and stimulant in the tropics. It also has industrial usage in pharmaceuticals, production of soft drinks, wines and in

confectionaries (Ogutuga, 1975; Oluwalana *et al.*, 2016). The kolanut pod husk, which is a byproduct from processing the nut, is widely used for animal feeding because of its high nutritive quality. According to Babatunde and Hamzat (2005); Mokwunye and Oluyole (2017), broilers fed with kolanut pod husk meal diets had an outstanding growth performance. Culturally, kolanut is used to observe naming ceremony, wedding ceremony and for entertaining visitors. However, extensively, kolanut is consumed in Nigeria, especially in the Northern part of Nigeria. It is on record that the substantial proportion of the kolanut being produced in Nigeria is consumed domestically (Oluyole *et al.*, 2009; Akerele *et al.*, 2023).

However, the shelf life and quality of this valuable farm produce is improved by processing. The processing activities are undertaken by both the male and female. This study brought to fore the role of women in kolanut marketing such that more women can be encouraged to go into kolanut marketing as its production can be a bit difficult for women. Their involvement can better their welfare and that of their family. Therefore, the main aim of this study is to determine the gender differentials in the postharvest processing of kolanut. Akinagbe and Ikusika (2016) focused on the roles of household members in kolanut production and marketing in Ekiti State. The findings revealed the different roles played by household members in kolanut production and marketing. Men were primarily responsible for tasks such as land preparation (90.0%), removal of mistletoe from kolanut trees (100.0%), and harvesting (85.0%). On the other hand, women were primarily involved in soaking the nuts in water to remove the coat (87.5%) and marketing the kolanuts (95.0%). Children were engaged in tasks such as removing nuts from the pods (65.0%) and transporting kolanuts to the market (68.8%).

The study also identified constraints faced by kolanut farmers, which were categorized into environmental-related issues, policy issues, and input-related issues. The major dominant variables associated with these constraints were the land tenure system (0.867), instability in government policies (0.904), and the unavailability and high cost of improved kola seedlings (0.713). Based on the findings, the study recommended that programs aimed at improving the production capacity of farmers should be targeted towards men, as they played significant roles in land preparation, mistletoe removal, and harvesting. On the other hand, programs aimed at marketing should be directed towards women, who were major contributors to the soaking of kolanuts and their subsequent marketing. By targeting these specific groups, the researchers suggested that sustainable agricultural development could be achieved.

Adedokun *et al.*, 2012 assessed the socio-economic contribution, marketing, and utilization of edible kolanut (*Cola acuminata* and *Cola nitida*) to rural women's livelihood in Abeokuta, Nigeria. One hundred women were interviewed using a structured questionnaire, and the markets in three local government areas (Lafenwa, Kuto, Iberekodo, and Ishiun at Owode Egba) were purposively selected for the study. Descriptive statistics and cost and return analysis were used to analyze the data. The findings of the study showed that 88.33% of the respondents engaged in the kolanut trade were female. The largest age group was above 45 years, accounting for 52.50% of the participants, and the majority of the respondents were Yoruba. More than half (51.87%) of the women had no formal education and were full-time sellers. Traditionally, 81.67% of the respondents used kolanuts for weddings, while 97.50% used them for dyeing purposes. The cost analysis revealed the average profits for each market,

with Ishiun earning N3,293.375, Lafenwa earning N8,702.83, Kuto earning N4,869.40, and Iberekodo earning N3,127.20. The rate of return on investment was calculated as follows: Ishiun (33.24%), Lafenwa (35.96%), Kuto (33.17%), and Iberekodo (26.54%). Lafenwa had the highest rate of return on investment and profit. The mean value of profit and return on investment for all markets combined was N4,998.21 and 32.23%, respectively. This was attributed to the level of organization in transactions within the market. The study also revealed the market margin for each market: Ishiun (24.95%), Lafenwa (26.45%), Kuto (24.95%), and Iberekodo (21.00%), with a mean margin for all markets at 24.33%. The major problem encountered in the business was storage, with 53.33% of the respondents facing insect infestation and 51.67% experiencing issues related to heat, which reduced the value and price of the product. The study emphasized the importance of implementing good storage systems to improve sales and recommended the development of policies to enhance storage quality and income for the respondents.

### **Methodology**

The study was carried out in Ondo State of Nigeria. Multistage random sampling technique was used to select respondents. Two kolanut producing local government areas (LGAs) were purposively selected from the State. Hence, Ife East and Ondo East were selected. From Ife East, Ifekola was selected while Bolorunduro community was selected in Ondo East. A total of 150 kolanut processors were randomly selected from the two communities. A structured questionnaire was used to collect information from the respondents. The data retrieved from the information collected were analysed using descriptive statistics. This involved the use of frequency, mean and percentages.

**Table 1: Socioeconomic Characteristics of the Respondents**

Variables	Frequency(N=150)	Percentage
<b>Sex</b>		
Male	53	35.33
Female	97	64.67
<b>Age (Years)</b>		
≤ 20	6	4.00
21-30	40	26.67
31-40	32	21.33
41-50	28	18.67
51-60	26	17.33
> 60	18	12.00
<b>Marital Status</b>		
Married	134	89.33
Single	8	5.33
Divorced	2	1.34
Widowed	6	4.00
<b>Educational Levels</b>		
No formal education	25	16.67
Primary education	58	38.67
Secondary education	51	34.00
Tertiary education	16	10.66
<b>Household size</b>		
≤ 6	70	46.67
7-10	74	49.33
>10	6	4.00
<b>Years of experience (years)</b>		
≤ 10	63	42.00
11-20	42	28.00
21-30	21	14.00
31-40	9	6.00
41-50	6	4.00
<b>Variety of kolanut dealing with</b>		
Kola nitida	142	94.67
Kola acumulata	8	5.33

**Source:** Field survey, 2022

### Results and Discussion

Table 1 shows the demographic/socio-economic characteristics of the respondents (kolanut processors). The findings showed that 70.67% of the respondents are 50 years and below while 29.33% of the respondents are above 50 years of age. This indicates that most

of the kolanut processors are still active to participate in the business. This is a good indicator as this would improve the efficiency of the processors. Table 1 also shows that 64.67% of the marketers are females showing that female participate more in the business. This result is in consonance with Adamu *et al.*,

(2006); Taiwo et al., (2017). Azeez (2015) stated that majority of rural women engaged in off-farm activities such as packing of farm produce, processing of farm produce and storage of crops among others while their male counterparts are involved in the production of tree crops. It could also be revealed from Table 1 that 89.33% of the processors are married while 4.00% are widows. This is an indication that there would be more availability of family labour that would assist in the running of the business. The findings also showed that 83.33% of the respondents have formal education. This is likely to have a positive impact on the profit level of the business as education increases the efficiency. Education enables one to be able to read and interpret a new technology hence will enable him to be able to apply such a technology appropriately and hence increases his efficiency. Most (58.0%) of the respondents are well experienced in kola processing as they have been doing the work for more than 10 years. This is a good indicator as long years of kola processing experience tend to increase the efficiency of the processors. Table 1 also shows that majority of the processors (94.67%)

deal with kola nitida. This shows that Kola nitida is more predominant in the study area.

Table 2 shows the gender that actually carries out a particular activity in kolanut processing. Ninety percent of adult female were involved in the soaking of kolanut in preparation for peeling and 10% of adult males were involved in the same activity. Also, for peeling of kolanut activity, 96% and 4% of adult female and adult males were involved respectively. Ninety seven percent of adult female and 3% of adult male were involved in washing of the peeled kolanut. In the preservation of the peeled kolanut 86% of adult female and 14% of adult male were involved. In addition to the activities stated above 90% of adult women and 10% of adult male were involved in the packaging of peeled kolanuts. For transportation of the peeled kolanuts to the market, 89.3% of adult female and 10.7% of adult male were involved. The findings showed that all the activities are being carried out more by women than men. Hence, it can be said that kolanut processing is more of feminine job. Notwithstanding, few males still participate in all the activities under kolanut processing.

**Table 2: Gender participation in kolanut processing**

Activities	Adult male		Adult female	
	Freq	%	Freq	%
Soaking of kolanuts in preparation for peeling	15	10.00	135	90.00
Peeling of kolanuts	6	4.00	144	96.00
Washing of the peeled kolanuts	5	3.33	145	96.67
Preservation of the peeled kolanut	21	14.00	129	86.00
Packaging of the peeled kolanuts	15	10.00	135	90.00
Transportation of the peeled kolanuts to the market	16	10.67	134	89.33

**Source:** Field survey, 2022

Table 3 shows the problems encountered in the course of kolanut processing by the processors. In Table 3, 46.00% of the processors agreed that fresh kolanut is always very difficult to get while 54.00% of the processors believed that it

is not difficult to get fresh kolanut to buy. In a similar manner, 54.67% of the respondents agreed that preservative chemicals are not always available to buy while 45.33% did not agree. As regards the labour availability for

peeling, 45.33% of the respondents are of the opinion that labour for peeling is always very difficult to get while 54.67% did not believe it. To some of the processors (32.67%), leaves for storing kolanut is always very difficult to get while most of the processors (67.33%)

believed that one can get the leaves with ease. As regards the preservative chemicals, 54.67% of the processors believed that the chemicals are not always available and 53.33% believed that even if the chemicals are available, they are always very expensive to buy.

**Table 3: Problems encountered in kolanut processing**

Problems	Yes		No	
	Freq.	%	Freq.	%
Fresh kolanut is always very difficult to get buy	69	46.00	81	54.00
Labour is always very difficult to get for peeling	68	45.33	82	54.67
The leaves for storage is always very difficult to get	49	32.67	101	67.33
Preservative chemicals are not always available to buy	81	54.67	68	45.33
Preservative chemicals are always expensive	80	53.33	70	46.67
Problems of kolanut spoilage is very common during Preservation	90	60.00	60	40.00

**Source:** Field survey, 2022

**Conclusion and Recommendations**

The study which was carried out on gender differentials in the processing of kolanuts revealed that more women are involved in all the activities of kolanut processing than men. The study also revealed that most of the processors in the study area deal with Kola nitida showing that this is the variety of kolanut that is common in their area. Some of the problems confronting kolanut processing according to some processors in the study area include unavailability of kolanut to buy, difficulty in getting labour for peeling, difficulty in getting leaves for storing kolanuts, in-availability and expensiveness of the preservative chemicals. However, to some processors, they are not being faced by the mentioned problems. Women involved with kola production and marketing need to form groups to work together, buy their materials in bulk from towns/cities near them.

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