# A COMPARATIVE STUDY OF GENDER ROLES IN INDIGENOUS PROCESSING AND MARKETING OF YAM AND CASSAVA IN CENTRAL BENUE STATE, NIGERIA

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**ABSTRACT**

*This study investigated the gender roles in indigenous processing and marketing of yam and cassava in central Benue State, Nigeria. The study was carried out in 3 Local Government Areas randomly selected out of 7 Local Government Areas in the zone. A sample of 115 (51 males and 64 females) farmers were randomly interviewed using structured interview schedule. The data were analyzed using descriptive statistics such frequency distributions and percentages. The results of the study indicate that, women and youth performed more tasks in post-harvest activities of yam and cassava. Both men and women faced the same processing and marketing problems but a greater percentage of women suffered more as they were more involved in post-harvest activities of cassava and yam. The study concludes that availability and accessibility to post-harvest technology for improved processing of crops as well as improved marketing infrastructure are key to sustainable food security and poverty reduction. It is recommended that agricultural systems and Non-governmental Organizations (NGOs) should target interventions at individuals in households that performed tasks in post-harvest activities of yam ad cassava.*

**KEY WORDS:** Gender roles; indigenous; cassava, yam, marketing

## INTRODUCTION

Yam and cassava are important food security crops in Nigeria and variously grown by the resource poor farmers. Across the world, Nigeria accounts for about 36.72 million metric tons and 39 million tons of yam and cassava, respectively; and is the largest producer of both crops (FAO, 2008; Central Bank of Nigeria, 2003). Moreover, yam and cassava have great potentials for contributing to national poverty reduction as they are the basic staple foods for Nigerians, accounting for between 50-70 percent of daily supply in their diets (Chandara, 1991).

Yam and cassava processing provide opportunities for employment and income generation, which is particularly important in this country because agriculture and the formal sector are unable to absorb the growing labour force. The value added through processing and marketing agricultural products can be much greater than the value of the raw materials themselves (Akpapunam, 2005). Food processing improves food security by increasing both the availability of and access to food throughout the year. According to FAO (2001) not everyone has access to nourishing foods in Africa. This has led to hunger and malnutrition. FAO (2001) reported that more than 160 million people are severely under weight all over the world. In subSaharan Africa, about 50% of the underfive children died of malnutrition; and about 200 million are stunted (Atimo, 2001). The Nigerian situation is nothing different. USAID (2003) reported that about 11.5 million people were malnourished in 2003; food energy availability was 2, 700 kilocalories/person/day in 2006; protein consumption stood at 61 grams/per day while fat consumption was 63 grams/person/day between 20012003; and the under-five mortality rate was 198 per 1,000 in 2004 while about 38.3% are stunted and 9.3% are wasted. This has been linked to poverty, low food production, and declining economic growth among others.

Food wastage is also an important factor in hunger and malnutrition. In Africa, a large proportion of the fresh produce is lost due to lack of adequate preservation and storage facilities (Akpapunam, 2005). Although, yam and cassava have great potentials for contributing to national poverty reduction among Nigerians, research has shown that cassava has poor shelf life as the roots are highly perishable and about 15%

of yams produced suffer post-harvest losses due to lack of appropriate storage facilities and variety of diseases and pests (Asiedu, 1989). Hence, farmers employ indigenous methods in yam and cassava processing in order to prevent wastage and ensure enough food for the future.

Different members of the household play various roles in post-harvest activities of yam and cassava. Therefore, understanding the different roles played by the family members give a richer and more complete picture of the processing and marketing systems. However, study has shown that inadequate information exists on role performance by different gender category in post-harvest activities of yam and cassava in the study area. Hence, this study was designed to assess the gender roles in indigenous processing and marketing of yam and cassava in 3 local government areas within zone B of Benue State Agricultural and Rural Development Authority, Nigeria.

The study was designed to assess the gender roles in indigenous processing and marketing of yam and cassava in Benue State. Specifically, the study was designed to:

i. describe the socio-economic characteristics of respondents;
ii. ascertain the roles of male, female and youth in indigenous processing of yam and cassava;
iii. ascertain the gender roles in marketing of yam and cassava;
iv. identify the problems militating against indigenous processing and marketing of yam and cassava by men and women farmers.

## METHODOLOGY

The study was conducted in Benue State, Nigeria. Simple random sampling technique was used to select three local government areas in zone B of the Benue State Agricultural and Rural Development Authority. One agricultural block from each local government area and eight cells within each block were purposively selected while in each cell; five farmers were randomly selected for interview. In all, a total of one hundred and twenty (120) respondents were selected for the survey but one hundred and fifteen (51 male & 64 female) respondents were interviewed using structured interview schedule. The data were analyzed using descriptive statistics such as frequencies and percentages.

## RESULTS AND DISCUSSION

### Socioeconomic characteristics of respondents

Data in Table 1 reveal that a greater proportion (55.7%) of the respondents were females while about 44.3% were males, so each gender had a fair representation in the study. This means that the information collected was not gender biased. The Table also shows that about 21.7% of male farmers were educated compared with 13% of the females. This implies that they were more educated males than females. Although education is not a pre-requisite for farming in the study area, it is important for the farmers to extract information on improved processing and marketing strategies. Furthermore, the results indicate that farming was the main occupation for both male (44.3%) and female (55.7%) respondents. In addition, the result shows that all the female (55.7%) respondents were processors relative to about 3.5% of males. This is in line with the finding of Fresco (1998) that rural women farmers process basic foodstuffs. The result also indicates that about 22.6% of the females were petty traders compared with about 2.6% of males.

**Table 1: Percentage distribution of respondents by socio economic characteristics**

| Characteristic | Male | | Female | |
|---|---|---|---|---|
| | Frequency | Percentage | Frequency | Percentage |
| **Gender** | 51 | 44.3 | 64 | 55.7 |
| **Educational status** | | | | |
| No formal education | 26 | 22.6 | 49 | 42.6 |
| Formal education | 25 | 21.7 | 15 | 13 |
| ***Primary occupation** | | | | |
| Farming | 51 | 44.3 | 64 | 55.7 |
| Trading | 3 | 2.6 | 25 | 22.6 |
| Processing | 4 | 3.5 | 64 | 55.7 |

Source: Field survey, 2004. * Multiple responses

Data in Table 2 show that all the male (44.3%) respondents preferred yam to cassava compared with about 19.1% of the females. In contrast, a great percentage (36.5%) of the females preferred cassava to yam. The reasons given by farmers for their preference of yam included the fact that it had more economic value and was used in social and religious festivities. This finding agrees with the report of Asiedu (1989) that in addition to its nutritional value, yam plays an important role in social and religious festivals, and is therefore, an integral part of cultural heritage for many people in the yam growing areas of West Africa. Furthermore, farmers reported that cassava grows well under unfavorable soils and climatic conditions, has economic value and is the crop for the poor who also are the most hungry. The finding of this study corroborates the report of Okigbo (1981) that cassava has the ability to grow on different soil, requires little care and other inputs for production, it is convenient because it can be left in the ground as food reserves until required, and adaptable to human environments and peasant production system. These qualities and the fact that women are the poorest of the poor might be the reasons why females preferred cassava to yam.

**Table 2: Percentage distribution of respondents by crop preference**

| Crop | Male (n-51) | | Female (n-64) | |
|---|---|---|---|---|
| | Frequency | Percentage | Frequency | Percentage |
| Cassava | 0 | 0 | 42 | 36.5 |
| Yam | 51 | 44.3 | 22 | 19.1 |

Source: Field survey, 2004

**Gender roles in indigenous gari processing**

Table 3 shows that in the study area, all the household members played some roles in gari processing. However, the data revealed that adult females were most involved in peeling (48.7%), washing (60.9%), grating/fermenting (43.5%), sieving (56.5%) and toasting (56.5%) of gari. Furthermore, the result indicates that youth males were predominantly involved in cassava harvesting (52.2%), dewatering of dough (43.5%) and bagging of gari (52.2%). This may be due to the fact that these activities are energy requiring activities and can best be performed by youth males. This finding corroborates the report of Asiedu, (1989) that gari processing is no longer women affair; the entire family members are involved because economically, it provides food and cash to millions of Nigerians. The implication of this finding for government and non-governmental organizations is to ensure that any assistance for the improvement of the quality and quantity of gari should be targeted at the entire members of the family.

**Table 3: Percentage distribution of respondents by role performance in indigenous gari processing**

| Activity | Adult male | | Adult female | | Youth male | | Youth female | |
|---|---|---|---|---|---|---|---|---|
| | Freq. | % | Freq. | % | Freq. | % | Freq. | % |
| Cassava harvesting | 15 | 13 | 25 | 21.7 | 60 | 52.2 | 15 | 13 |
| Peeling | 10 | 8.0 | 48 | 48.7 | 25 | 21.7 | 32 | 27.8 |
| Washing | 0 | 0 | 70 | 60.9 | 15 | 13.0 | 30 | 26.1 |
| Grating/fermenting | 0 | 0 | 50 | 43.5 | 25 | 21.7 | 40 | 34.8 |
| Dewatering of dough | 31 | 27.0 | 19 | 16.5 | 50 | 43.5 | 15 | 13.0 |
| Sieving | 0 | 0 | 65 | 56.5 | 0 | 0 | 50 | 43.5 |
| Toasting | 0 | 0 | 65 | 56.5 | 0 | 0 | 50 | 43.5 |
| Bagging | 20 | 17.4 | 20 | 17.4 | 60 | 52.2 | 15 | 13.0 |

Source: Field survey, 2004

**Gender roles in indigenous yam and cassava chips processing**

Data in Table 4 indicates that adult females were most involved in peeling (39.1%), washing (66.1%), cutting and chipping (65.2%) and soaking/drying (77.4%) of cassava chips while youth males were predominantly involved in the bagging of cassava chips. However, the study found that all members of the household were involved in processing cassava chips.

Table 4 further reveals that adult males (36.5%) were predominantly involved in yam harvesting. It also shows that adult females were most involved in peeling (73.9%), washing (73.9%), cutting or chipping (73.9%), steaming or soaking (78.3%) and sun drying (82.6%) while male youths were most involved in bagging yam chips.

Results in Tables 3 and 4 reveal that men and male youths performed tasks that required more energy than women and female youths. This has implication for female headed households and households where the members are unwilling to help the women as they may have to hire labour to perform such tasks if they are to process the crops. This requires that women have access to credit facilities but currently women lack access to credit because of the strict collateral requirements (Alamgir and Arora, 1991). Introducing group lending and group liability can relax these requirements. It also means that researchers have to introduce technologies that reduce drudgery (labour-saving technologies), which are beneficial to both men and women farmers.

**Table 4: Percentage distribution of respondents by role performance in indigenous cassava and yam chip processing**

| Activity | Adult male | | Adult female | | Youth male | | Youth female | |
|---|---|---|---|---|---|---|---|---|
| | Freq. | % | Freq. | % | Freq. | % | Freq. | % |
| Cassava: | | | | | | | | |
| Peeling | 15 | 13.0 | 45 | 39.1 | 25 | 21.0 | 30 | 26.1 |
| Washing | 0 | 0 | 76 | 66.1 | 0 | 0 | 39 | 33.9 |
| Cutting or chipping | 4 | 3.5 | 75 | 65.2 | 10 | 8.7 | 26 | 22.6 |
| Soaking/sun drying | 0 | 0 | 89 | 77.4 | 0 | 0 | 26 | 22.6 |
| Bagging | 5 | 4.3 | 37 | 32.0 | 55 | 47.8 | 18 | 15.7 |
| Yam: | | | | | | | | |
| Harvesting | 42 | 36.5 | 39 | 33.9 | 34 | 29.6 | 0 | 0 |
| Peeling | 0 | 0 | 85 | 73.9 | 0 | 0 | 30 | 26.1 |
| Washing | 0 | 0 | 85 | 73.9 | 0 | 0 | 30 | 26.1 |
| Cutting or chipping | 0 | 0 | 85 | 73.9 | 0 | 0 | 30 | 26.1 |
| Steaming or soaking | 0 | 0 | 90 | 78.3 | 0 | 0 | 25 | 21.7 |
| Sun drying | 0 | 0 | 95 | 82.6 | 0 | 0 | 20 | 17.4 |
| Bagging | 0 | 0 | 25 | 21.7 | 85 | 73.9 | 10 | 8.7 |

Source: Field survey, 2004

**Gender roles in fresh yam and cassava and products marketing**

Results in Table 5 show that adult females were more involved in marketing of fresh yam and cassava (85.2%), gari (85.2%) and chips (100%) than their male counterparts. This is in line with the finding of Fresco (1998) that rural women farmers undertake between 60% and 90% of marketing.

**Table 5: Percentage distribution of respondents by produce and product marketing**

| Produce/product marketing | Adult male | | Adult female | | Youth male | | Youth female | |
|---|---|---|---|---|---|---|---|---|
| | Freq. | % | Freq. | % | Freq. | % | Freq. | % |
| Fresh roots/tubers | 17 | 14.8 | 98 | 85.2 | 0 | 0 | 0 | 0 |
| Gari | 4 | 3.5 | 98 | 85.2 | 0 | 0 | 15 | 13 |
| Chips | 0 | 0 | 115 | 100 | 0 | 0 | 0 | 0 |

Source: Field survey, 2004

**Factors that constrain yam and cassava processing**

Table 6 shows that majority of adult male respondents identified lack of storage facilities (74.8%) and high cost of labour (62.6%) as the most serious factors that constrain yam processing in the study area. In contrast, adult females identified heat and smoke (68.7%), water scarcity (60.9%), inadequate drying platforms for chips (51.3%), scarcity of fuel wood (52.2%), inefficient local processing equipment (50.4%) and high cost of improved processing machine (60.9%) as the most serious constraints to yam processing.

Table 6 further shows that inefficiency of local processing equipment (50.4%) was the only serious constraint to cassava processing identified by the male respondents in the study area. In contrast, adult females reported that inadequate drying platform for gari and chips (67%), lack of storage facilities (63.5%), lack of capital (59.1%), heat and smoke (58.3%), water scarcity (54.8%), high cost of labour (53%), inefficiency of local processing equipment (50.4%) and high cost of improved processing machine (50.4%) were the major problems militating against cassava processing in the study area. The implication of the finding for government and non-governmental organizations is to assist farmers solve the identified processing problems in order to enhance their income and purchasing power for poverty alleviation and improved food security.

**Table 6: Percentage distribution of respondents according to processing constraints**

| Constraint | Yam | | | | Cassava | | | |
|---|---|---|---|---|---|---|---|---|
| | Male | | Female | | Male | | Female | |
| | Freq. | % | Freq. | % | Freq. | % | Freq. | % |
| High labour cost | 72 | 62.6 | 43 | 37.4 | 54 | 47 | 61 | 53 |
| Lack of storage facilities/structures | 86 | 74.8 | 29 | 25.2 | 42 | 36.5 | 73 | 63.5 |
| Heat & smoke | 36 | 31.3 | 79 | 68.7 | 48 | 41.7 | 67 | 58.3 |
| Water scarcity | 45 | 39.1 | 70 | 60.9 | 52 | 45.2 | 63 | 54.8 |
| Lack of capital | 56 | 48.7 | 59 | 51.3 | 47 | 40.9 | 68 | 59.1 |
| Inadequate drying platforms for chips | 45 | 39.3 | 70 | 60.9 | 38 | 33.0 | 77 | 67 |
| Scarcity of fuel/wood | 55 | 47.8 | 60 | 52.2 | 58 | 50.4 | 57 | 49.6 |
| Inefficiency of local processing equipment | 57 | 49.6 | 58 | 50.4 | 57 | 49.6 | 58 | 50.4 |
| High cost of improved processing machines | 57 | 49.6 | 58 | 50.4 | 57 | 49.6 | 58 | 50.4 |

Source: Field survey, 2004

**Factors that constrain yam and cassava marketing**

Table 6 indicates that both male and female respondents faced the same marketing problems of low prices for produce at peak season (male=47.8%; female= 52.2%), poor road infrastructure (male= 48.7%; female=51.3%) and high cost of transportation (male=41.7%; female =58.3%). However, the result revealed that a greater percentage of females faced more constraints as they were more involved in marketing fresh yam tubers and cassava roots and products than the males. The implication of this finding is for government to open up feeder roads and ensure fair pricing for the commodities.

**Table 7: Percentage distribution of respondents by marketing constraints**

| Constraint | Male | | Female | |
|---|---|---|---|---|
| | Freq | % | Freq | % |
| Poor road infrastructure | 56 | 48.7 | 59 | 51.3 |
| Low price for produce at peak season | 55 | 47.8 | 60 | 52.2 |
| High cost of transportation | 48 | 41.7 | 67 | 58.3 |

Source: Field survey, 2004

**CONCLUSION AND RECOMMENDATIONS**

This study examined gender roles in indigenous processing and marketing of cassava and yam in central Benue State, Nigeria. The findings revealed that farming was the main economic activity for men and women. However, all the processing is done at the level of the family but not on a large scale due to lack of capital and improved processing equipment. The study revealed that while men preferred yam women preferred cassava. Furthermore, the study found that women were most involved in all aspects of processing and marketing of the commodities than men and younger members of the family. Therefore, women faced more challenges in their role as processors and marketers than men. There is need for government to encourage improved processing and marketing of cassava and yam for poverty reduction within the farm service centre network and then progressing to other levels. This will ensure that the benefits reach the poorest groups who are the most food insecure. Interventions for promoting food security and poverty reduction have to be linked to strategies that address the underlying causes of vulnerability such as poverty, access to resources, marginalization and gender inequalities. Members of the households responsible for performing various tasks must be targeted.

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