

**PATTERNS OF YAM CONSUMPTION AMONG RURAL HOUSEHOLDS IN UMUAHIA NORTH
LOCAL GOVERNMENT AREA OF ABIA STATE, NIGERIA.**

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ABSTRACT

The study analyzed patterns of yam consumption among rural households in Umuhia North Local Government Area, Abia State. Specifically, the study described the socioeconomic characteristics of the heads of rural households; ascertained the food forms of yam consumed by rural households; assessed the preference patterns of yam food form among the rural households. Multi-stage random sampling procedure was adopted to select the respondents for the study. Primary data were collected from 120 rural households' heads that were used for the study. Data were collected through the use of structured questionnaire. Data for the study were analyzed through the use of descriptive statistics such as frequencies, mean scores, standard deviations and regression analysis. The result showed that the age ranged between 30-49 predominated the study. Majority (50.80%) of the respondents were males with a mean household's size of 6 persons. Larger percentages (95%) of the respondents were involved in one form of farming or the other. The result suggests moderate literacy level among the respondents with a mean farming experience of 12.93 years. The mean farm sizes were 1.4 hectare for yam. The mean annual farm income for yam was ₦91, 325. The result on the food forms of yam showed that most of the respondents consume boiled yam (48.51%). The preference pattern result showed that among the yam food form, boiled yam was the most preferred with 50.83% at the first preference ranking. It was therefore recommended that the rural dwellers should expand their farming hectares and improve on their yam and cassava cultivation as all the food forms of yam and cassava are important food among rural households in the study area.

Keywords :Consumption Patterns, Yam, Rural Farm Households

INTRODUCTION

Yam and cassava are among the major staple food crops grown in Nigeria. These crops are of great nutritional and economic importance to both the rural and urban dwellers and also acknowledged to provide some 200 calories of energy per capita daily in Nigerian and West African diet. They are also a source of industrial starch and a preferred staple food appreciated for its taste and cultural role (Bamire and Amujoyegbe, 2005). Their production in

Nigeria has continued to experience a downward trend.

This declining trend in yam production may not be unconnected with poor savings and investment behaviour among farmers. According to Ogheneruemet *et al.* (2014), growth attained within the agricultural sector depends largely on what the farmers do with the seasonal additional incomes generated from their farm activities.

Similarly, Akerele and Ambali (2012) further revealed that the growth rate in the farming economy largely depends on the stock of capital built in a farm organization and the re-investment of such stocks in form of savings for further improvement of the farm organization.

In West Africa, yam has multiple values including the standard food and cash income generation values. Yam consumption is high in Nigeria where it is the fourth most important calorie source after sorghum, millet and cassava. Yam is a major source of cash income for millions of producing households because it has high market demand and it is easily exchanged for cash in rural and urban markets. Nigeria is the largest yam producer in the world, contributing to two-thirds of global yam production each year. However, there has been downward trend in yam production in Nigeria since 2006 when the national output of yam was 39.3million tons which fell to 37.3million tons in 2010 (NBS, 2012). According to Ogbonna *et al.* (2012), decline in yam output results to widening gap between yam supply and demand. Similarly, Kushwaha and Polycap (2001) further reported that as a result of this downward trend in yam output in the country, the commodity has become more expensive particularly in the urban areas.

Analyses of yam price competitiveness provide convincing evidence that high yam production cost is a drag on yam consumption through high product prices. The same set of analyses demonstrates that certain physiological properties of the yam tuber are a clog in the wheel of yam consumption. Range of food staples that compete with yam, range of foods prepared from yam and frequencies of yam consumption all vary significantly among West African countries (Nweke *et al.*, 2013).

Yam is one of the most expensive crops to produce; the planting and harvesting processes require significant labor input, yam seeds are expensive, and the supply of seed is limited. This starkly contrasts with other staple crops, for which approximately 20

percent of harvested yields are saved. Range of food staples that compete with yam, range of foods prepared from yam and frequencies of yam consumption all vary significantly among communities (Okoye *et al.* 2013).

The study specifically focused on the following;

- i. describe the socioeconomic characteristics of the respondents in the study area.
- ii. Ascertain food forms of yam consumed by rural households in the area.
- iii. Examine preference pattern of yam food form among the rural households
- iv. Determine the relationship between socioeconomic characteristics and the preference patterns of yam food forms among rural households in the study area.

METHODOLOGY

The study was conducted in Umuahia North Local Government Area of Abia State. Umuahia North is a Local Government Area of Abia State, Nigeria. Its headquarter is in the city of Umuahia. It has an area of 245 km² and a population of 220,660 at the 2006 census. The postal code of the area is 440. The local government is a commercial as well as an administrative council area as it is the headquarters of Umuahia city, the capital of Abia state. It also houses villages of different households of farmers. Abia state is within latitude 4-7 degrees north and 7-8 degrees east with an average population density of 241man/squarekilometer and has a total of 17 local government areas. The climatic condition of Umuahia south could be described as typical equatorial with two main seasons, which are the dry and rainy seasons. The annual rainfall is between 20,000mm and 25,000mm. The average annual temperature is between 26 degrees Celcius and 28 degrees Celcius with relative humidity of 90% and 80% during the dry season. Some land areas in Abia state is very fertile which often times makes the use of fertilizer secondary.

The major food crops grown by the people include cassava, yam, cocoa yam, maize, local beans and various types of vegetables while cash crops found in the state are cocoa, oil palm, kola nut, rubber, plantain, and banana. The people raise fish and various kinds of livestock. Multistage sampling procedure was adopted in the conduct of this research. In the first stage five communities that comprised Umuahia North Local Government of Abia State were selected. In the second stage, two villages were randomly selected from each of the 5 sampled communities. In the third stage, thirteen (12) households were randomly sampled for each of the two earlier sampled. Following this procedure, a sample size of 120 households was sampled for the study.

Data collected for objectives 1, 2, 3, 4, 5 and 6 shall be analyzed through use of descriptive statistics such as frequency, mean etc. However, for objective 4, the

likert type measurement scale was used to indicate the responses which were later analyzed with descriptive statistics. The responses shall be much liked = 5, liked = 4, undecided = 3, liked little = 2, least liked = 1.

The hypotheses were tested with the use of ordinary least square regression analysis. The implicit model is stated thus:

$$Y = b_0 + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + b_6x_6 + e_i$$

Where

Y = consumption pattern (respondents' mean score for consumption of food forms of yam)

x₁ = age of head of household (years)

x₂ = sex of head of household (male=1; female =0)

x₃ = household size (number)

x₄ = educational status of head of household (in years)

x₅ = monthly income of head of household (Naira)

x₆ = farm size (ha)

e_i = error term

RESULTS AND DISCUSSION

Socio-Economic Characteristics of the Respondents

The result analysis on age as shown on Table 4.1 indicates that respondents with the age range of 30-39 predominated (26%), followed by respondents with the age range of 40-49 (22%). From this result, it can be inferred that majority of the respondent are in their youthful and active stage of life where they can harness and utilize their productive energies in farming yam.

Majority (50.80%) of the respondents were males, while (49.20%) were females. This is contrary to the work of Onyemauwa *et al.*, (2008) who says that as far as household consumption management is South-eastern Nigeria is concern, women are in charge. While the household size shows that majority (45%) had 4-6 members, followed by (21%) and (19.2%) of the respondents who had 7-9 and 10 household members respectively. This implies that the respondent had relatively large household size, and this may be attributed to the fact that they are rural dwellers who are involved in farming, hence need more persons to support their farming activities since it is labour intensive. This is in line with the findings of Onyemauwa (2010) who states that on the mean basis, the respondent had eight (8) persons per household. The results further reveal that (61.70%) were part time farmers, (33.30%) were full time farmers while (5.0%) of the respondent had no form of occupation. This implies that 95% of the respondents are practicing farmers. The findings also shows that majority (54.20%) had primary education, (36.70%) had secondary education while (9.20%) had tertiary education, The result on the whole suggests moderate level of literacy among the respondent. This is also in line with Onyemauwa (2010) which showed that about 10% of the respondent in the area did not spend more than 6

years in formal education. The findings further reveal that majority (45.8%) of the respondent had farming experience of 1-9 years, (30.8%) had farming experience of 10-19 years, (12.5%) had farming experience of 20-29 years, (6.70%) had farming experience of 30-39 years while (4.1%) had 40-49 years of experience. On the average, the mean farming experience of the respondents is 12.93 years. The result indicates that majority the respondents were young farmers as exemplified by their ages. The results summarize that majority (62.50%) had farm size of 1.0-1.0 hectare, (20.0%) had 1.1-2.0

hectare, (8.3%) had 2.1-3.0 hectare while only (10%) had 3.5 and above with a mean farm size of 1.44. the results is in line with (Chikeze et al., 2012) which state that size of farm cultivated is a function of population pressure, family size and financial background of the farmers. While the annual income of the respondents in the study area ranges from ₦1, 000 – 50,000 (40.0%) and ₦51,000 –100, 000 (30.90%), (16.60%) had ₦101, 000- 150,000, while (4.10%) and (8.30%) lies from ₦151, 000 and above respectively. The mean annual farm income from yam was ₦91, 325, in the study area.

Table 1 Distribution of respondent according to their socio-economic characteristics

Socio-economic variables	Frequency	Percentage
Age		
20-28	21	17.60
30-39	31	26.00
40-49	28	22.40
50-59	24	19.90
60-69	11	9.10
70 and above	05	4.20
Sex		
Male	61	50.80
Female	59	49.20
Annual Income (Yam)		
1,000-50,000	48	40.00
51,000-1000,000	37	30.90
101,000-150,000	20	16.60
151,000-200,000	5	4.10
201,000 and above	10	8.30
Mean	91,325,000	
Household size		
1-3	17	14.10
4-6	54	45.00
7-9	26	21.70
10 and above	23	19.20
Mean	6.47	
Occupation		
Full time farmer	40	33.3
Part time farmer	74	61.7
No occupation	6	5.0
Education		
Primary	65	54.2
Secondary	44	36.7
Tertiary	11	9.2
Farming Experience	55	45.8
1-9		
10-19	37	30.8
20-29	15	12.5
30-39	8	6.7
40-49	5	4.1
Mean	12.93	
Farm Size (Yam)		
0.1-1.0	75	62.5
1.1-2.0	24	20.0
2.1-3.0	14	8.3
3.1 and above	7	10.0
Mean	1.44	

Source: Field Survey, 2016.

Food Forms of Yam Consumed by Rural Households in the Study Area

The result in Table 2 shows that majority (48.51%) of the respondents consume boiled form of yam, (21.29%) consume fried yam, (18.32%) roasted yam, pounded yam (9.90%) while yam flour is (1.98%).

The results indicates that the peoples consume more of boiled yam compare to any other yam form of food while the least consume form is yam flour in the area. This further implies that boiled yam is easy to prepare and can be eating with anything while yam flour is alien to people in the area.

Table 2: Distribution of respondents according to yam food forms consumed in the Study Area

Food forms	* Frequency	Percentages
Yam		
Boiled	98	48.51
Roasted	37	18.32
Pounded	20	9.90
Fried	43	21.29
Flour	4	1.98
Total		100.00

Source: Field Survey, 2016. * = Multiple Responses

Preference Pattern of Yam Food Forms among Rural Households in the Study Area

Table 3 shows the preference pattern of yam food forms among rural households in the study area. The result shows that among the food forms of yam, boiled yam was the most preferred with the highest percentage of 50.83% at the first preference ranking. This may be as a result of its easiness in preparation or in other words, it is the most preferred pattern of eating yam and can always go with oil, stew etc. This was followed by roasted yam with 30.83% at the second preference ranking order. In other words, 30.83% of the respondents preferred to eat yam in roasted form as their second option.

The result also shows that fried yam was the next in line of preference pattern as 25.83% of the

respondents' preferred fried yam as their preferred pattern of yam food forms at the third preference pattern. This was followed by pounded yam with 43.33% of the respondents preferring pounded yam as their preferred pattern at the fourth preference ranking. This may be as a result of the tediousness of preparing pounded yam and more so, pounded yam is described as the ultimate status food that is mostly consumed by people in the upper income group (Nweke *et al*, 2013). The least of all the preferred pattern of yam food form is the flour with 73.33% at the least preference ranking of fifth position. This may be as a result of the fact that yam flour food form is alien to the Easterner as they rarely consume yam flour such as *lafun* and *amala* which are indigenous to the westerners.

Table 3: Distribution of respondents according to their preference pattern of yam sfood form among rural households in the study area.

Yam food forms	1st	Preference 2 nd	Ranking 3 rd	4 th	5 th
Boiled	61 (50.83)	31 (25.83)	14 (11.67)	6 (5.00)	8 (6.67)
Roasted	16 (13.33)	37 (30.83)	44 (36.67)	17 (14.17)	6 (5.00)
Pounded	13 (10.83)	17 (14.17)	22 (18.33)	52 (43.33)	15 (12.50)
Fried	25 (20.83)	30 (25.00)	31(25.83)	30 (25.00)	4 (3.33)
Flour	5 (4.17)	4 (3.33)	10 (8.33)	13 (10.83)	88 (73.33)

Source: Field Survey, 2016. Figures in parenthesis are percentages

Table 4 shows a regression analysis result obtained by regressing four household member categories that influences yam food forms consumed in the study area. The four explanatory variables (household member category) are Adult men, Adult women, Youths and Children. The result shows that out of the four explanatory variables fitted into the model, three were statistically significant at 10%, 1%, and 10% respectively.

The preference results show that adult male and adult women had preference for boiled yam, but the preference of the adult men is significant (1.784) at

10% alpha level implying that adult men preferred boiled yam more than the adult women. This may be as a result of the fact that adult men do engage themselves in high energy demanding jobs, so this attracts their preference for high energy food such as boiled yam. The result also shows that youth and children do not prefer boiled yam at all, as indicated by negative coefficients.

On the preference for roasted yam, the results shows that adult men and children preferred roasted yam while adult women and youth do not prefer roasted yam at all, as indicated by the negative signs. On the

preference for pounded yam, the regression result showed that all the households member category do not prefer pounded yam food form as indicated by the negative coefficients and the children had high non preference for it as indicated by a negative but significant variable. This is in agreement with the a priori expectation as children do not like eating pounded yam.

The result on preference for fried yam shows negative and insignificant result for adult men and women, implying that adult men and women do not have preference for fried foods, but the coefficients

of the youths is positive and significant (2.008) at 1% alpha level, implying a strong and positive preference for fried yam. This agrees with a priori expectation as younger people prefers fries to boiled foods, as fried foods appeals to their taste and smell organs and the children also prefers fried yam even-though the result is not significant.

On the preference for yam flour, the result showed that adult men and youth had no preference for flour yam food form while adult women and children prefers flour yam but they were not all significant.

Table 4: Regression analysis result of the relationship between household's members and preference for yam food forms consumed in the households

Variables	Boiled yam	Roasted yam	Pounded yam	Fried yam	Flour yam
Constant	1.722 (7.485)	2.549 (15.403)***	3.622 (22.495)	2.592 (12.241)***	4.545 (36.158)***
Adult men	0.450 (1.784)*	0.121 (0.590)	-0.140 (-0.639)	-0.240 (-0.924)	-0.107 (-0.423)
Adult women	0.217 (0.850)	-0.002 (-0.219)	-0.380 (-1.625)	-0.225 (-0.974)	0.042 (0.161)
Youths	-0.310 (-1.048)	-0.005 (-0.047)	-0.023 (-0.087)	0.447 (2.008)***	-0.366 (-1.504)
Children	-0.140 (-0.605)	0.025 (0.082)	-0.555 (-1.786)*	.052 (0.220)	0.020 (0.093)
F-Ratio	0.981	0.094	3.333***	2.592***	0.732
R	0.178	0.056	0.316	0.200	0.154
R ²	0.032	0.003	0.100	0.040	0.024

Source: Field Survey, 2017. Figures in parenthesis are t-values
*** Significant at 1%; ** Significant at 5% and * Significant at 10%.

CONCLUSION

From the findings of the study, the mean age of the respondents was 42 years, mean households size of 6 persons per household, mean years of farming experience was 12 years, mean farm size for yam was 1.44 hectare. It was equally revealed that majority of the respondents had one form of education or the other. The food forms of yam consumed by the rural households were boiled yam (48.51%), roasted yam (18.32%), pounded yam (9.90%), fried yam (21.29%), and yam flour (1.98%). The frequency of consumption of yam food forms showed that boiled yam was consumed most 2–3times/week, while flour yam was consumed least, once in a while. Based on the findings of the study, the following recommendations were made;

1. There is need for the rural dwellers to expand their farming hectarages and improve on their yam and cassava cultivation as all the food forms of yam and cassava are important food among rural households in the study area.
2. Research institutes such as National Root Crop Research Institute (NRCRI) should train rural households/farmers on how to add value to their farm produce in order to improve the shelf life of yam and cassava

products and makes them more appealing to the farming families for consumption.

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