



AN ECONOMIC ASSESSMENT OF YAM CONSUMPTION PATTERN AMONG RURAL HOUSEHOLDS IN UMUAHIA AGRICULTURAL ZONE OF ABIA STATE

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ABSTRACT

The study assessed the consumption pattern of yam among rural households' in Umuahia agricultural zone of Abia state. Specifically, the study described the socioeconomic characteristics of heads of rural households in the study area; ascertained the food forms of yam consumed by rural households in the study area; assessed the frequency of yam consumption among rural households in the study area. Multi-stage random sampling procedure was adopted to select the respondents for the study. Primary data were collected from 120 rural household heads that were used for the study. Data were collected through the use of a well-structured questionnaire. The collected data were analyzed using descriptive statistics. The results obtained showed that the age of respondents were 48.2 years. The majority (50.8%) of household heads were males with a mean household size of six persons. The results showed a moderate literacy level among the respondents with a mean farming experience of 12.93 years with a mean annual farm income of N592, 833. The result on the food forms of yam showed that most (48.51%) of the respondents consume boiled yam on the frequency of 2-3 times/week, while 57.50% of the respondents eat roasted yam once in a while. The preference pattern result showed that among the yam food forms, boiled yam was the most preferred with 50.83% at the first preference ranking. The mean monthly expenditure of yam among the respondents' was N83,666; 32.5% of them had no contact with extension workers and 57.5% were members of one cooperative organization or the other. It was therefore recommended that the rural dwellers should expand and improve on their yam farming techniques and become members of cooperative societies so as to enjoy the benefits that accrue to cooperators from government and private agencies.

Keywords: Consumption patterns, Yam, Rural households, Food forms

Introduction

Yam (*dioscorea* species) is a root tuber-bearing food crop cultivated by most Africans. The crop is one of the major staple food crops produced and consumed because of its great nutritional and economic importance to both rural and urban dwellers. Yam is the most commonly harvested tuber after cassava and the fifth most widely harvested crop in Nigeria after cassava, maize, guinea corn (sorghum) and beans (cowpea). According to the National Bureau of Statistics (NBS, 2012) yam is the most cultivated and consumed tuber crop in Nigeria after cassava.



The crop which is important in terms of food, cash and medicine has different species which include: white yam (*dioscorea rotundata*), water yam (*dioscorea alata*) and yellow yam (*dioscorea cayenensis*). Nigeria is said to be the world's largest producer of yam, accounting for over 65% (about 38 million metric tons) of the world total production output (Odigbo, Ogbidi & Ewa, 2015). Buttressing on this, Banire & Amujoyegbe (2015), assert that Nigeria produces over 70% of global yam produced and has the largest yam market globally. Followed by Ghana (7.119mmt), Cote d'Voire (5.808 mmt), Benin Republic (3.220mmt), Ethiopia (1.44mmt), Togo (0.786mmt) and Cameroon (0.579mmt) (FAO, 2014). Yam can be eaten roasted, fried, smoked, pounded or grated and made into a desert. It can also be cooked with beans, plantains or sweet potatoes. Peeled tubers of yam can be prepared into porridge or cooked with traditional spices and served to the sick, lactating mother or the aged as appetizer, womb cleansing or as full meal (Timothy & Bassey, 2009).

In the continent of Africa and in West Africa to be specific, yam has multiple values including the standard food appreciated for its taste, nutritional benefit and income generation values. The crop also plays significant roles in the social, cultural and economic wellbeing of thousands of people in Nigeria. For instance, the prevalence of new yam festivals in most communities in Nigeria, like the Ikeji yam festival by the people of Arochukwu and Arondizuogu in Abia and Imo States, the Ahajioku yam festival of Owerri People and the annual Boki Peoples' yam festival in Imo and Cross River States respectively. In addition, the crop is a major source of income for millions of producing households as it has a high market demand and is easily exchanged for cash in rural and urban markets.

With respect to global production capacity of yam, Nigeria is the largest yam producer in the world, contributing to two-thirds of global yam production each year. However, there has been a downward trend in yam production. This observed by Nigerian Bureau of statistics (NBS) (2012) when the production capacity of yam fell from 29.3 million tons in 2006 to 27.3 million tons in 2010. According to IITA (2009), Currently, the production of yam in the country has continually experienced a declining trend. This declining trend in yam production can be attributed to the poor saving and investment behaviour among farmers. In buttressing this fact, Mbam, Nwibo and Ezike (2011), opined that the low productivity, low income, low saving circle of farmers in Nigeria and in most countries in the Sub-Saharan African region is an implication that very little is available to invest in increasing the capital stock of farm enterprises.

Yam is an integral component of food consumed in Nigeria. The study conducted by Living Standards Measurements Study- Integrated Survey on Agriculture, (LSMS-ISA) in 2011, showed that 46 percent of households consume yam in the post-planting season, while 53 percent of households do consume yam in the post-harvest season. (NBS, 2012).

According to the International Institute of Tropical Agriculture (IITA, 2020) yam tubers consist of about 21 percent dietary fiber and are rich in carbohydrates, vitamin C and essential minerals and it is said to provide about 2000 calories of energy per capita daily in Nigerian diet. The crop is a major source of income and food. It has a high cultural value as they are used in fertility and marriage ceremonies and festivals are held annually in most tribes and communities to celebrate its harvest.

Generally, food consumption pattern depends on the economy, social structure and trade policies of a country, the consumers' environment, age, occupation, climate, available resources, family size, culture and lifestyle of its citizenry (Kotler and Keller, 2007).



Increased production of major food in Nigeria has not been sufficient to satisfy the demands of the citizenry. Hence, there is a big gap between national supply and national demand for food. Supporting this assertion Obeyelu, Okoruwa and Oni (2009) opined that household food consumption pattern in Nigeria has been undergoing dramatic changes over the years, and that there has been an increase in the consumption of carbohydrates foods like yam, cassava, maize and rice. However, it appears there has been a scanty research work done on the consumption of yam despite its place in the nutritional satisfaction of the citizenry. In addition, recent empirical studies on yam have relatively focused at national levels without recognizing that there could be peculiarities and differentials among local rural population.

This study therefore intends to examine the consumption patterns of yam among rural households in Umuahia North Agricultural zone of Abia State. Specifically, the study sought to answer the following research questions:

1. What are the social economic characteristics of the heads of rural households in the study area?
2. What are the forms yams are consumed by households in the study area?
3. What are the consumption preference patterns of yam forms among rural households in the study area?
4. At what seasons are yam food forms consumed in the study area?
5. How much do rural households spend monthly on yam consumption in the study area?

Methodology

The study was conducted in Umuahia Agricultural zone of Abia State Nigeria. The zone is made up of five Local Governments Areas (LGAs) which include: Ikwuano, Umuahia North, Umuahia South, Isiala Ngwa North and Isiala Ngwa South. The population of the study comprised all rural household in Umuahia Agricultural Zone of Abia State, Nigeria. A multistage sampling technique was adopted to select the respondents of the study. In the first stage, three Local Governments Areas that comprised Ikwuano, Umuahia North and Umuahia South were selected. This was because these LGAs were the major growers of yam in the study area. Secondly, a simple random sampling technique was used to select two villages from each of the selected LGA. This gave six village communities used for the study. The Village Communities used include, Ikwuano LGA (Nkatunta & Itunta), Umuahia North (Okwoyi & Isieke) and Umuahia South (Apumiri & Ezeleke). At the third stage, 20 households were randomly selected from each of the six village communities. This gave a total sample population of 120 households. A structured questionnaire called “Yam Consumption Pattern Among Rural Household Questionnaire (YCPARHQ)” was used to elicit information from the respondents.

Descriptive statistics such as frequency, mean and standard deviation were used to analyze objectives I, ii, and iv. However, for research question iii, the likert type measurement scale was used to indicate the responses which were later analyzed with descriptive statistics. The response was ranked thus; Much liked (5), Liked (4), Undecided liked little (2) and (3) least liked (1).

Primary data was used for the study. This was obtained by administering the questionnaires to rural households in the area. The questionnaire addressed relevant and current information that captured the objectives and the research questions of the study.



Results

Socio-economic characteristics of the respondents.

Table 1 presents the socio-economic characteristics of the heads of the rural households in the study area. The socioeconomic variables considered includes age, sex, household size, occupation, education, farming experience, farm size, annual income, extension contact and cooperative membership. The result obtained showed that the mean age of the heads of the rural household studied was 42.88. The study revealed that 50.80% of the respondents were males, while 49.20% were females. On household size, 45% of the respondents had 4-6 members of household. It was revealed that 95% of the respondents were involved in farming, either on full time or on part time. On education, the result showed that 100% of the respondents were educated with majority (54.20%) of them graduates of primary school. Majority (45.8%) of the respondents had a farming experience of 1-9 years, with 62.50% of the respondents having a farm size of 0.1 to 1.0 hectare. The mean annual farm income for yam was N592,833. Majority (32.50%) of the respondents do not have any contact with extension agents in the study area. This may be the reason behind the low yield of yam in the study area. Finally, 57.50% of the respondents belong to one cooperative organization or the other.

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
Total	120	100.00
Mean	48.22	
Sex		
Male	61	50.80
Female	59	49.20
Total	120	
Household size		
1-3	17	14.10
4-6	54	45.00
7-9	26	21.70
10 and above	23	19.20
Total	120	100
Mean	6.47	
Occupation		
Full time farmer	40	33.3
Part time farmer	74	61.7
No occupation	6	5.0
Total	120	100.00
Education		
Primary	65	54.2
Secondary	44	36.7
Tertiary	11	9.2
Total	120	100



Farming Experience

1-9	55	45.8
10-19	37	30.8
20-29	15	12.5
30-39	8	6.7
40-49	5	4.1
Total	120	100.00
Mean	12.93	

Farm Size (Hectare)

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
Total	120	100.0
Mean	1.44	

Annual Income (N)

200,000-299,000	30	25
300,000-399,000	42	35
499,000-499,000	26	21.7
500,000-599,000	10	8.3
600,000 and above	12	10
Total	120	100.00
Mean	592,833	

Extension Contact

Frequency	16	13.2
Regularly	29	24.2
Occasionally	31	25.8
No contact	39	32.5

Cooperative Organization

Member	69	57.5
Non member	51	42.5

Source: Field Survey, 2024:

Food forms of Yam consumed by Rural Households in the study Area

Table 2 shows the result of yam food forms consumed by rural households in the study area. Five food forms of yam, which include boiled yam, roasted yam, pounded yam, fried yam and yam flour, were mentioned. The result revealed that the respondents at different percentage level consumed all the food forms. Most (48.51%) of the respondents consume boiled yam, 21.29% fried yam, 18.32% roasted yam, 9.90% pounded yam and the least 1.98% consumed yam flour. This implies that in the study area yam is mostly consumed boiled and least consumed in the form of yam flour. This could be because boiled yam is quick and easy to prepare as well as being almost accepted by all.



Table 2: Distribution of respondents according to yam food forms consumed

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, 2024

Preference pattern of yam food forms among household in the study area.

The preference pattern of yam food forms among rural households in the study area is presented in Table 3. 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 because of its easiness in preparation as it can always go with oil, stew or soup. This was followed by roasted yam with 30.83% at the second preference ranking order. 25.83%, 43.33% and 73.33% of the respondents preferred fried yam, pounded yam and yam flour at the third, fourth and fifth (least) preference ranking.

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

Yam food forms	1 st	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, 2024. Figures in parenthesis are percentages

Seasonality of consumption of yam food form

The seasonality of yam food form consumption in the study area is presented in table 4. The result of the study shows that majority (65.00%) of the respondents eat boiled yam anytime they feel like eating it. Others 13.33%, 12.5%, 7.5% and 1.67% prefers consuming boiled yam during rainy season, harvest season, dry season and planting season's respectively. This implies that there is really no specific season where the respondents have particular flare for eating boiled yam. For roasted yam, the result shows that 53.33% of the respondents eat roasted yam anytime. This is followed by 17.5%, 11.67%, 10.00% as well as 7.5% of the respondents prefers eating roasted yam during dry season, harvest season planting season and rainy seasons respectively. This is true of the study area as yam is being roasted for sale all year round. 44.17% of the respondents indicated that they consume pounded yam during ceremonies, while the least (4.17%) of the respondents consume pounded yam during the rainy season.



Table 4: Distribution of respondents according to their seasonality of consumption of yam food form

Yam food forms	Harvest season	SEASONALITY		PREFERENCES		
		Rainy Season	Dry Season	Planting Season	Ceremony	Anytime
Boiled	15 (12.5)	16 (13.33)	9 (7.5)	2 (1.67)	0 (0)	78 (65.00)
Roasted	14 (11.67)	9 (7.5)	21 (17.5)	12 (10.00)	0 (0)	64 (53.33)
Pounded	7 (5.83)	5 (4.17)	13 (10.83)	11 (9.17)	53 (44.17)	31 (25.83)
Fried	5 (4.17)	15 (12.50)	6 (5.00)	5 (4.17)	3 (2.5)	86 (71.67)
Flour	8 (6.67)	2 (1.67)	6 (5.00)	11 (9.17)	59 (49.17)	34 (28.33)

Source: Field Survey, 2024. Figures in Parenthesis are percentages.

Monthly Expenditure on yam Among Rural Household in the study Area

The results in table 5 showing the monthly expenditure on yam by the respondents indicates that most (65%) of the respondents spend between ₦80,000 - ₦89,999 monthly on yam consumption. In the same view, 3.33%, 6.66%, 8.33%, 10% and 6.66% of the respondents spend between ₦50,000-₦59,999, ₦60,000-₦69,999, ₦70,000-₦79,999, ₦90,000-₦99,999 and ₦100,000 and above respectively on yam consumption monthly. The mean monthly expenditure on yam by the respondents was ₦83,666.00.

TABLE 5: Distribution of respondents according to their monthly expenditure on yam consumption in the study area.

Monthly Expenditure ranges (N)	Frequency	Percentages	Rank
50, 000 – 59,999	4	3.33	6 th
60, 000 – 69, 999	8	6.66	5 th
70, 000 – 79, 999	10	8.33	4 th
80, 000 – 89, 999	78	65	1 st
90,000 – 99, 999	12	10	2 nd
100, 000 & above	8	6.66	5 th
Mean expenditure		N83,666.00	

Source: Field Survey, 2024.

Discussion of Findings

The findings of the study revealed that the respondents are still in their youthful and active stage of life where they can harness and utilize their productive energies in farming. On household size, the respondents had relatively large household size to help in farm labour. This agrees with Onyemauwa (2010) who claimed that farming households in Ohaozara, Ebonyi State had the mean number of 8 persons per household. Most of the respondents were educated with a farming experience of 1-9 years and a farm size of 0.1 to 5.9 hectares indicating a small farm and that all the respondents were small scale farmers. (Ojuekaiye 2001). Annually, most of the respondents had an estimated farm income range of between ₦200,000 - ₦399,000 from yam production. Majority of the respondents do not have any contact with extension agents in the study area. This may be the reason behind the low yield of yam in the study area. With reference to the food forms of yam consumed by rural households in the study area, which include boiled yam, roasted yam, pounded yam, fried yam and yam flour, the result revealed that the respondents at different percentage level



consumed all the food forms with boiled yam been the most consumed. This may be as a result of the fact that boiled yam is quick and easy to prepare, as well as being almost accepted by all. Pounded yam ranking fourth could be due to the tediousness of its preparation and it is also described as the ultimate status food that is mostly consumed by people in the upper income group (Nweke, Aidoo and Okoye, 2013). Seasonality of yam food form consumed showed that majority of the respondents consume fried yam at any time. This implies that fried yam preference does not attach itself to a particular period or season of the year; rather it is being consumed whenever anybody feels like. Also, the fact that most of the respondents indicated that they consume yam flour during ceremonies is indicative of the fact that yam flour is not well eaten or consumed in the east, as it is consumed In the Western part of the country. The result of the mean monthly expenditure on yam revealed that the respondents spend reasonably on yam consumption in the study area.

Conclusion and Recommendations

The study analysed the consumption patterns of yam among rural households in Umuahia Agricultural zone of Abia State, Nigeria. Based on the findings from the study it can be concluded that the consumption of yam is seen as a very essential meal in the study area and that the consumption pattern of yam depicts that it is true as it produces nutritional wellbeing and satisfaction of its citizenry.

The study therefore recommends as follows

- (1) There is need for the rural dwellers to expand their farming hectarages and improve on their yam cultivation as all the food forms of yam are important food among rural households in the study area.
- (2) Trainings should be organized frequently by research institutes such as the National Root Crop Research Institute (NRCRI) to train rural households/farmers on how to add value to their farm produce in order to improve the shelf life of yam products and make them more appealing for consumption.
- (3) Government should assist yam farmers with credit at low interest rate so as to motivate them to increase their scale of production.
- (4) Yam farmers should form farmers cooperative group so on to enjoy the benefits that accrue to cooperators from government and private agencies such as provision of subsidies agrochemicals, fertilizer, quality seeds/seedlings and tractor for purpose of attaining increased productivity.



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