Socio-Economic and Rural Households Consumption Pattern of Yam in Umuahia North, Abia State

Adolphus, G 👤**Nduka, O. L.**[2] 👤**Ekwe, K.C**[2]

¹Department of Agricultural Extension and Rural Development
Rivers State University, Nkpolu-Oroworukwo Port Harcourt, Rivers State, Nigeria
²Department of Rural Sociology and Extension
College of Agricultural Economics, Rural Sociology and Extension
Michael Okpara University of Agriculture, Umudike, Abia State,Nigeria
✉**Corresponding Author**:**Adolphus, Gold**E-mail: gold.adolphus1@ust.edu.ng

ARTICLE INFORMATION	ABSTRACT

The study analyzed the consumption patterns of yam among rural households in Umuahia North of 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 frequency of consumption of yam food forms among rural households; assessed the preference patterns of yam food forms among rural household; determined the monthly expenditure on yam consumption among rural households. Multi-stage random sampling procedure was adopted to select the respondents for the study. Primary data were collected from 130 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. The mean annual farm income for yam was N91, 325. The result on the food forms of yam showed that most of the respondents consume boiled yam (48.51%). The result on the frequency of yam consumption showed that 50.83% of the respondents consumed boiled yam 2-3 times/week, while 57.50% of the respondents eat roasted yam once in a while, 3.33%, every day. 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. The monthly expenditure of yam showed that the mean monthly expenditure on yam by the respondents was N9, 170.00. It was therefore recommended that the rural dwellers should expand their farming hectares and improve on their yam cultivation as all the food forms of yam are important food among rural households in the study area.

Introduction

Yam is among the major staple food crops grown in Nigeria. The crop is 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 (Reuben and Barau, 2012). It is also a source of industrial starch and a preferred staple food appreciated for its taste and cultural role (Reuben and Barau, 2012, Bamire and Amujoyegbe, 2005). Its 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. Oluwasola *et al.* (2012) pointed out that the low productivity-low income-low saving circle of farmers in Nigeria, as in most countries in the Sub Saharan African region, implies that very little is available to invest in increasing the capital stock of farm enterprises. According to Ogheneruemu *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. The LSMS-ISA data indicate that approximately 45 percent of harvested yam seed is saved for the next planting season. This starkly contrasts with other staple crops, for which approximately 20 percent of harvested yields are saved.

Objectives of the Study

The main objective of the study was to assess the consumption patterns of yam among rural households in Abia State. The specific objectives were to:

   i.   describe the socioeconomic characteristics of the heads of rural households in the study area;
   ii.   ascertain food forms of yam consumed by rural households;
   iii.   assess the frequency of consumption of yam food forms among rural households and
   iv.   ascertain the preferred pattern of yam consumption of rural households.

Hypotheses

Ho$_1$: There is no significant relationship between socioeconomic characteristics of rural household and their frequency of yam consumption in the study area.

Methodology

Study Area

The study was conducted Umuahia North which is one of the Local Government Areas in Abia State, South East Nigeria. Its' headquarter is in the city of Umuahia. It has an area of 245 km² and a population of 359,230 (NPC, 2006). The local government is 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 224,017 and has a total of 17 local government areas. The climatic condition of Abia State could be described as tropical 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^{0}C and 28^{0}C with relative humidity of 90% and 80% during the dry season. Some land areas in Abia state arevery 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.

Study Population

The population of this study comprises all rural households in Abia State, Nigeria.

Sample and Sampling Procedure

Multistage sampling procedure was adopted in this research. In the first stage five communities that comprised Umuahia North Local Government of Abia State were selected. The second stage involved random selection of two villages were from each of the five selected communities. The last state involved, random selection of thirteen (13) households from each of the two earlier selected villages. Following this procedure, a sample size of 130 households in all was selected for the study.

Data Collection

Research instrument generally, are devices for collecting data for the study. In the course of this study, data were collected from primary sources using structured questionnaire relevant and current information that addressed the research questions and objectives.

Method of Data Analysis

Data collected for objectives 1, 2, 3 and 4 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.

Socio-Economic and Rural Households Consumption Pattern of Yam in Umuahia North, Abia State

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

$Y = F(x_1, x_2, x_3, \ldots x_n) + ei$

Where

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

x_1 = age of head of household (years)

x_2 = sex of head of household (male=1; female =0)

x_3 = household size (number)

x_4 = educational status of head of household (in years)

x_5 = monthly income of head of household (Naira)

x_6 = farm size (ha)

ei = error term

Results and Discussion

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

Socio-economic variables	Frequency	Percentage	Socio-economic variables	Frequency	Percentage
Age			**Annual Income (Yam)**		
20-29	21	17.60	1,000-50,000	48	40.00
30-39	31	26.00	51,000-1000,000	37	30.90
40-49	28	22.40	101,000-150,000	20	16.60
50-59	24	19.90	151,000-200,000	5	4.10
60-69	11	9.10	201,000 and above	10	8.30
70 and above	05	4.20	Mean	91,325,000	
Sex					
Male	61	50.80			
Female	59	49.20			
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			**Cooperative Organization**		
Full time farmer	40	33.3			
Part time farmer	74	61.7	Member	69	57.5
No occupation	6	5.0	Non member	51	42.5
Education					
Primary	65	54.2			
Secondary	44	36.7			
Tertiary	11	9.2			

Farming Experience 1-9	55	45.8	**Extension Contact**		
10-19	37	30.8	Frequency	16	13.2
20-29	15	12.5	Regularly	29	24.2
30-39	8	6.7	Occasionally	31	25.8
40-49	5	4.1	No contact	39	32.5
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, 2017

Socio-Economic Characteristics of the Respondents

This section presents the results of the socio economic characteristic of the rural households head of Umuahia North in Abia state. The socioeconomic variables considered in this study includes age, sex, household size, occupation, education, farming experience, farm size for yam farming, annual income of farmers from yam, extension contact and cooperative membership.

The result of the analysis on age as shown on Table 1 indicates that the mean age of the respondent was 42.88. The age, ranges from 20-70 years, with respondents in the age range of 30-39 predominated (26%), followed by respondents in 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.

The study reveals that 50.80% of the respondents were males, while 49.20% of the respondents were female. This is contrary to the work of Onyemauwa (2010) who says that as far as household consumption management in South-Eastern Nigeria is concern, women are in charge.

Ojuekaiya (2001) defined household size as the number of people eating from one pot. Result on Table 1 shows a household size range of between 1-3 persons, with a mean household size of 6 persons per household. Specifically, 45% of the respondents had 4-6 members of household, 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 and by so doing they need more persons to support their farming activities since farming in the study area is labour intensive and this may not make way for supplementation of farm labour with hired labour except in some occasions. This is in line with the findings of Onyemauwa (2010) who states that on the mean basis, the respondents had eight (8) persons per household.

On the involvement of the respondents in farming, the result of the study shows that 61.70% of the respondent were part time farmers, 33.30% of the respondent were full time farmers while 5.0% of the

respondent had no occupation in the study area. On the whole, the result revealed that 95% of the respondents were farmers. The implication of this result is that the higher percentage of the respondent as farmers is attributable to the fact that the population of the study was the rural households, and a rural household is synonymous with farming.

The findings of the study revealed that 100% of the respondents had acquired one form of education or the other. Majority 54.20% had primary education, 36.70% had secondary education while 9.20% of the respondents in the study area had tertiary education. The result on the whole suggests moderate level of literacy among the respondent. This is 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. This implies that the low education level of the respondent will have a negative influence on the consumption pattern of yam in the study area.

The distribution of respondents based on farming experience is as reported in Table 1. The result shows 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% of the respondents had farming experience of 20-29 years, 6.70% had farming experience of 30-39 years while 4.1% of the respondents had 40-49 years of experience. On the average, the mean farming experience of the respondents is 12.93 years. The implication of this result is that majority the respondents were young farmers as exemplified by their ages who had not had enough years of farming experience. Farming experience is seen to enhance adoption of improved farming practices by the farmers and thereby assuring farmers decision on a technology (Nwaobiala, 2014). This will help improve the cultivation of yam as well as improve their pattern of consumption of their commodities.

The size of the farm cultivated is a function of population pressure, family size and financial background of the farmers (Chikezie *et al.*, 2012). The result in table 4.1 shows that 62.50% of the respondents had 0.1-1.0 hectare farm land for yam cultivation respectively, 20.00% of the respondents had a farm size of between 1.1-2.0 hectares for yam cultivation. Moreover, 8.3% had size range of 2.1-3.0 hectares of land for yam while 10.0% of the respondent only had farm size of 3.1 hectare and above for the cultivation of yam with a mean farm size of 1.44 hectare for yam cultivation. According to Nwaru (2004), the size of any farm is a strong determinant for the quantity of expected farm produce output and going by Ojuekaiye (2001) classification of farm size of 0.1 hectare to 5.9 hectare as small farm, it then implies that all the respondents were small scale farmers. This will not allow for meaningful investment and return to scale and this will definitely have an effect on the consumption pattern of yam by the rural households in the study area.

Agricultural extension service constitutes a driving force for any agricultural development. The relationship between agricultural extension agent and the farmers is an important determinant in improving yield of yam and ensuring food security. The result of the findings revealed that 13.20% of the respondents (farmers) had frequent contact with extension agents, 24.20% had contacts with the extension agents regularly, and 25.80% of the farmers had contacts with the extension agents occasionally while majority 32.50% of the respondent did not have any contact with the extension agents in the study area. The implication of this may be low yield of the crops. Therefore, there is need for more extension workers, to visit the farmers as this will enhance increase in yam production.

Cooperative organization is an organized group of persons for the promotion of special interest to meet certain need that cannot be met by individual effort. They contribute to the dissemination of new ideas, practices and products as well as sourcing for loans and farm input. The result of this study shows that 57.50% of the respondents belong to one cooperative organization or the other, while, 42.5% of the respondent were non-members or did not belong to any cooperative society.

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, 2017. * Multiple Responses

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

Table 2 shows the results of the yam food forms consumed by the respondents in the study area. The results shows that among the five food forms from yam, namely, boiled yam, roasted yam, pounded yam, fried yam, and yam flour. All the yam food forms were consumed by the respondents in the study area at different percentage level. Most 48.51% of the respondents consume boiled yam, this was followed by fried yam with 21.29%, roasted yam 18.32%, pounded yam 9.90% and the least consumed among them all was yam flour, 1.98%. The implication of this result is that the most consumed yam food form in the study area is boiled yam while the least consumed yam food form is yam flour. 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, while yam flour seems to be alien to the people in the study area.

Table 3: Distribution of respondents according to frequency of consumption of yam food forms

Yam food form	Every day	4-5times /wk	2-3times/ wk	Once in a while	Total
Boiled yam	4(3.33)	14(11.67)	61(50.83)	41(34.17)	1.84
Roasted yam	4(3.33)	21(17.50)	26(21.67)	67(57.5)	1.67
Pounded yam	4(3.33)	14(11.67)	22(18.33)	80(66.67)	1.57
Fried yam	19(3.85)	13(10.83)	51(42.50)	37(30.83)	2.12
Flour yam	3(2.50)	7(5.83)	17(14.17)	93(77.50)	1.33
Overall mean					1.17
Bench mark Mean Score					2.50
No of Respondent					130

Source: Field Survey, 2017.   Figures in parenthesis are percentages

Frequency of Consumption of Yam Food Forms among Rural Households

Table 3 shows the result of the distribution of respondents according of their frequency of consumption of yam food form in the study area. The result shows that majority (50.83%) of the respondents attested to the fact that they consume boiled yam two to the three times per week. This was followed by 34.17% who said that they only consume boiled yam once in a while, 11.67% reported their consumption of boiled yam at four to four times per week interval while 3.33 % of the respondents reported eating boiled yam every day. The mean score of 1.84 for boiled yam was far lower than the bench mark mean score of

2.50 implying low consumption frequency for boiled yam in the study area. The result further shows that majority (57.50%) of the respondents eat roasted yam once in a while, 3.33% of the sampled population used for the study eat roasted yam everyday with a mean score of 1.67. Further result shows that the respondents agreed to the fact that most of them 66.67%, eat pounded yam once in a while and only 3.33% of them agreed that they eat pounded yam once in a while, and only 3.33% of them agreed that they eat pounded yam everyday with a mean score of 1.57. The implication here is that pounded yam is eaten occasionally where there is a ceremony or an occasion. This corroborate with the work of Nweke *et al.,* (2013) who said that in Nigeria, the frequency of consumption of pounded yam increases within the higher income group. Moreover, the result shows that majority of the respondent 42.50% agreed to eating fried yam two to three times/week, followed by 30.88% eating fried yam once in a while, 10.83% of the respondent eat fried yam 4-5 times/week and then 15.83% of the respondents eat fried yam every day. And the mean score for fried yam consumption frequency is 2.12 implying that the respondents in that area had high frequency of consumption for fried yam compared to any other yam food form. This may be as a result of the fact that they are younger people who may have little children in their home as most little children have high frequency to consume fries to cooked or roasted chip.

The result also shows that 77.50% of the respondents uses or consume yam flour once in a while and 2.50% consume yam flour everyday with a mean score of 1.33, signifying that yam flour is not really indigenous to the rural household in Umuahia North L.G.A. The overall mean score for all the yam food form is 1.17, this is still far below the bench mark means score of 2.50. The implication of this is that the respondents were not really consuming yam food forms frequently and this may be as a result of the fact that they don't plant yam enough and cannot buy yam to consume, either because of the expensive price of yam in the market in recent times.

Table 4 Distribution of respondents according to their preference pattern of yam food form among rural households in the study area.

Yam food forms	Preference Ranking 1st	2nd	3rd	4th	5th
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, 2017.   Figures in parenthesis are percentages

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

Table 4 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 forth 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 5 Regression analysis of the relationship between socioeconomic characteristics and frequency of yam consumption in the households

Socio-economic characteristics	Yam consumed 6-7days/week	Yam consumed 4-5 days/week	Yam consumed 2-3 days/week	Yam consumed once/week	Yam rarely consumed
Constant	-0.033	0.003	-0.356	-0.289	0.495
	(-0.201)	(0.025)	(-1.182)	(-1.174)	(1.478)
Age	.001	0.000	0.003	0.002	-0.005
	(0.325)	(0.084)	(0.712)	(0.780)	(-1.223)
Sex	-0.118	0.086	0.227	0.134	0.024
	(-2.662)***	(2.341)***	(2.808)***	(2.029)**	(0.269)
Educational status	-0.032	0.063	0.035	0.116	-0.075
	(-0.892)	(2.114)***	(0.535)	(2.158)**	(-1.021)
Household size	-0.012	0.005	0.013	0.003	0.001
	(-1.339)	(0.636)	(0.884)	(0.201)	(0.069)
Involvement in yam farming	0.078	-0.104	0.058	-0.009	-0.005
	(1.802)*	(-2.619)***	(0.659)	(-0.120)	(-0.005)
Household Annual income	2.476	-4.202	1.0816	-8.020	2.402
	(0.802)	(-1.648)	(1.922)**	(0.175)	(0.038)
Yam monthly expenditure	5.205	4.049	2.409	-8.371	1.615
	(3.456)***	(3.253)***	(0.878)	(-0.374)	(0.529)
Membership of social organization	.051	-0.016	-0.177	-0.074	0.070
	(1.052)	(-0.409)	(-2.007)***	(-1.028)	(0.710)
F- Ratio	3.008***	4.424***	2.725**	1.259	1.372
R	0.490	0.564	0.472	0.342	0.194
R^2	.240	0.318	0.223	.117	0.038

Source: Field Survey, 2017.   Figures in parenthesis are t-values

*** Significant at 1%; ** Significant at 5% and * Significant at 10%.

 Hypotheses Testing

Table 5 is a regression result of the relationship between farmers' socio economic characteristics and frequency of yam consumption among rural households in the study area.

The table shows the overall goodness of fit of the equation as indicated by the coefficient of multiple determinations for the frequency of yam consumption shows (R^2 = 0.240, 0.318, 0.223, 0.117 and 0.038) for yam consumed 6-7 days/week, 4-5days/week, 2-3 days/week, once/week and yam rarely consumed respectively. These R^2 are low as a result of the wide spread of the respondents responses on the

frequency of yam consumption in the study area. The F-statistics of yam consumed 6-7days/week, 4-5 days/week and 2-3 days/week were significant at 1% confirming the significance of the model.

The result shows that six (sex, educational status, involvement in yam farming, household annual income, yam monthly expenditure and membership of social organization) out of eight variables were statistically significant.

The coefficient of educational status, (2.114) and (2.158) household Annual income (1.922) and yam monthly expenditure (3.456 and 3.253) were positively signed and significant at 1% and 5%; 5%, 1% and 1% alpha levels respectively. This implies that a unit increase in educational status, household annual income, and monthly expenditure on yam would increase frequency of yam consumption by 2.114 and 2.158, 1.922 as well as 3.456 and 3.253 units respectively and vice versa, provided that every other factor remains constant. This means that those socio-economic characteristics have positive impact on the variables on the frequency of yam consumption.

On the other hand, sex and membership of social organization were negatively signed and significant at 1% and 1% respectively. This implies that females have high frequency to yam consumption than the males as they consume yam 6-7days/week. This is contrary to *a priori* expectation even though it may be as a result of the fact that women like fries, frequently consumed fried yams. Similarly, being a member of cooperative organizations decreases ones frequency of yam consumption in the study area denoting negative impacts of these variables. Age and household size were found to be insignificant implying no impact of these inputs on the frequency of yam consumption.

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. It was equally revealed that majority of the respondents had one form of education or the other and majority of the respondents belonged to one social organization 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.

The study also revealed that the preference pattern of yam food forms among rural households showed that boiled yam was the most preferred pattern with 50.83% at the first preference ranking while flour yam was the least preferred pattern with 73.33% at the fifth preference ranking.

Recommendations

Based on the findings of the study, the following recommendations were made;

1. There is need for the rural dwellers to expand their farming hectares and improve on their yam cultivation as all the food forms of yam are important food among rural households.
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 products and make them more appealing to the farming families for consumption.

References

Akerele, E.O & Ambali, O.I. (2012). Consumption and Saving Pattern Among Rural Farming Household in Abeokuta North Local Government Area of Ogun State, *Journal of Agriculture and Veterinary, Vol 4 : 53-62.*

Bamire, A.S & Amujoyegbe, B. (2005). Economic Analysis of Land Improvement Techniques in Small-Holder Yam-Based Production Systems in the Agro-Ecological Zones of South Western, Nigeria, *J. Human Ecol. 18 (1): 1-12.*

Chikezie, N. P., Omokore, D. F., Akpoko, J. G & Chikaire, J. C. (2012). Factors Influencing Rural Youth Adoption of Cassava Recommended Production Practices in Onu-Imo Local Government Area of Imo State, Nigeria. *Greener Journal of Agricultural Science.* Vol. 2 PP 259-268.

Kushwaha, S. & Polycap, I.M. (2001). Economic of Small Scale Yam Production in Qua'an Pau Local Government Area of Plateau. In: Nto, P.O.O., Mbanasor, J.A. and Nwaru, J.C. (2011). Analysis of Risk among Agribusiness Enterprises Investment in Abia State, Nigeria. Journal of Economics and International Finance. 3(3): 187- 194.

NBS (2012) NBS National Bureau of Statistics/Federal Ministry of Agriculture and Rural Development Collaborative Survey on National Agriculture Sample Survey (NASS), 2010/2011-Draft Report. 2012. https://nigerianstat.gov.ng

National Population Commission (NPC) (2006) Nigeria National Census: Population Distribution by Sex, State, LGAs and Senatorial District: 2006 Census Priority Tables (Vol. 3).

Nwaobiala, C. U (2014). "Farmers Participation in IFAD/NDDC/ Community Based Natural Resources Management Programme Technologies in Cross River State, Nigeria. *Journal of the Science of Aquaculture, Food Technology and Environment,* Vol. 13(1), 119-124.

Nwaru, J.C (2004). Gender and Relative Production Efficiency in Food Crop Farming in Abia State of Nigeria. *The Nigerian Agricultural Journal*, Vol. 34 (1): 119-124.

Nweke, F., Aidoo, R & Okoye, B (2013). Yam Consumption Patterns in West Africa. Final Report for BMGF, July, 2013.

Ogbonna, M.C., Onyenweaku, C.E & Nwaru, J.C (2012). Determinants of Rural Poverty in Africa: The Case of Yam Farm Households in South Eastern Nigeria. *Int'l Journal of Agric. and Rural Dev.* 15(2): 1129- 1137.

Ogheneruemu, O.E., Olubunmi, O.A & Adetutu, E.S (2014). Savings Determinants among Rural Households in South West Nigeria. *World Rural Observations.* 2014; 6(4): 6-11.

Ojuekaiya, E. O. (2001). Economic Analysis of Cassava Production in Three Local Government Areas of Kogi State. M.Sc Thesis, Department of Agricultural Economics and Rural Sociology, ABU, Zaria.

Oluwasola, O.; Kassali, R & Amusan, C.A (2012). Factors Enhancing Investment and Farm Capitalization in Small Holding in Nigeria: Policy Implication for Transforming the Agricultural Sector. *International Journal Agriscience.* 2(3):265-279.

Onyemauwa, C.S (2010). Analysis of Households Consumption of Cassava Products in Ohaozara, Ebonyi State, Southeast Nigeria. *Researcher Journal Vol.2 (6).*

Reuben. J & Barau, A.D (2012). Resource use Efficiency in Yam Production in Taraba State, Nigeria. *J. Agri Sci. 3(2): 71*

11