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Socio-Economic Determinants and Saving Patterns of Women Yam Producers in Benue State, Nigeria

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Abstract
This study examined socio-economic characteristics of women yam producers to determine their saving types and patterns in Ukum local government area (LGA) of Benue State, Nigeria. Data for the study was collected through the use of well-designed qualitative questionnaires combined with oral interviews. 80 women yam producers which serve as sample size of the study were selected through purposive and multi-stage random methods, respectively. Descriptive statistics was used in the analyzes of data. Findings revealed that 80 (100%) of the respondents were female within the age range of 21- 29 years (33.8%). The majority of the women yam producers (51.3%) were married with majority (57.5%) of them had 7-13 years of schooling, and had household size of 6-10 members (52.5%). Majority (51.3%) of the women yam producers had years of experience in farming of 6-10 years. Further, findings revealed on types of savings method undertaken by respondents shows that of the formal type, majority (71.3%) of the respondents save their income with Bank of Agriculture while findings revealed that informal type of savings method undertaken by respondents shows that majority (55%) of the respondent's carryout their savings through *adashe*, The difficulty of finding sufficient seasonal migrant hired labor for yam mound making is one of the biggest constraints to women yam producers other critical constraints are the yam pest and disease problem coupled with high cost, scarcity, and low quality of seed yam. This study concluded that yam is produced with low technologies for labor saving, seed production, and yam pest and disease control. It is thus recommended that a yam seed system should be developed by root and tubers research institute in association with yam producers for provision of sustainable improved quality yam seeds for higher crop productivity in the country.

Keywords: socio-economic characteristics, women yam producers, saving types, yam mound, yam marketing.

Introduction

Yam (*Dioscorea* spp.) a vegetative propagated crop cultivated for its underground edible tubers, is a very important food and income source for millions of producers, processors, and consumers in West Africa and especially Nigeria. Yam remains one of the most common food crop in tropical countries especially in Africa. Globally and regionally, Nigeria remains the highest producer of yam, followed by Ghana, Ivory Coast and Benin (Adifon, 2019; FAOSTAT, 2019).There are five major yam-producing countries globally (Bénin, Côte d'Ivoire, Ghana, Nigeria, and Togo) which account for 93% of the world's production whereas Nigeria alone accounts for 68% of global production.

In the past, Yam is more of a cash crop and therefore a potential crop for income generation. Over the years, it was observed that the village market is the most important point of sale of yam produce followed by the main district market. Yam is primarily considered a man's crop and all the agricultural activities are predominantly carried out by men. However, this does not exclude women from involving themselves in some of the activities, such as marketing and trading. Observation over the years indicates that farm gate sales remains almost entirely a male domain. Since men mostly produce the crop, this leads them to take the decision about the disposal of their output. The situation reverses at the main market where women mainly dominate sales. Brokers and or middlemen buy yam directly from farmers for

resale and get the major share of the profit, though they also take the most risk (Mignouno *et al.*, 2014).

The main actors in the production node of Yam in Nigeria are the male and female farmers. Yam has upgraded from a mere subsistent crop to a crop of high importance due to increasing recognition of its value as an industrial raw material. Apart from being a staple food crop of importance to the teeming population, it is also a raw material in producing high quality yam flour (HQCF), industrial starch, biogas, and ethanol (Gaffney *et al.*, 2019). Yam producers could be small-scale, medium-scale, or large-scale farmers depending on the availability of production resources such as land, machines, or capital. The production activities include but are not limited to land preparation, planting, weeding, fertilizer application, manuring, herbicide application, harvesting, packing, and transportation. Women play essential roles in the production node of the Yam value chain as farmers, hired or family laborers involved in weeding, land preparation, planting, packing, manuring, fertilizer application, harvesting, packaging, and transportation (Sikhu, *et al.*, 2019).

With respect to saving types and behavior of women yam producers in the study area, Jhinghan (2003) viewed saving as that portion of income that is not consumed, that is saving is the portion of income that is not paid in tax or used to purchase or consume goods, but instead flow in to bank account, insurance policies, bond and stock and other financial assets. He further explains that farming households saves for the following reasons; to provide for their retirement, for future needs such as; children education or providing a new home. Also, the dearth of adequate saving in the nation will lead to dearth of investment and subsistence business development. Saving among cooperative farmers' is dependent on farm income, per-capita income, capacity to save, willingness to save, cultural attitudes and distribution of financial institution (Hussein and Thrilwall, 1999).

In addition, there is positive correlation between the values of members' saving and frequency of savings. While examining the saving-income ratio, Aluko (1972), Kessler and Strauss-kalm (1984) Ayanwale and Bamire (2000) claimed that the saving behavior of farmers in developing countries is less dependent on the absolute level of aggregate income and more dependent among other factors on the relationship between current and expected income, the nature of business, household size, wealth and demographic variables like age. The following constraints accounts for agricultural credit in Nigeria: cooperative farmers are unaware of the various source of farm credit that supply at a lower rate of interest and those agencies that charges higher interest rate, poor resources endowment base, lack of security served as pre-requisite in credit transaction institution. He further viewed that village money lenders exploit higher interest charges rate without insisting much on security but compensating the services with higher rate of interest and at times, compelling the farmers to resort to force to sales of the harvest produced. Other constraints are; are inadequate transport and communication that discourages the lending institutions to operate in those areas, for it increases the cost of loan transaction, diversion of production loans for unproductive purpose.

Johnson (2003) opinioned that the following constraints are faced by cooperative farmers in Nigeria; high rate of embezzlement, insufficient capital, week management, politics illiteracy, limited expansion and indiscriminate enrolment of members. Adeyemo and Bamire (2005) stated that cooperative farmers are faced with numerous challenges that hinder their attaining to full potentials in food production and savings. These problems are; high input price, low mechanization, high cost of transportation, infertile land, pest and disease, inadequate funds and general poverty. Babatunde *et al.*, (2007) viewed the following as the major factors that influences saving among cooperative farmers, these are; lack of supervision from loan agencies, lack of collateral by members, high rate of interest charges, among others.

Currently in Nigeria, much literature on yam processing and analysis has found out that bulk of yam produced are processed into local foods such as *poundo yam flour, lafun, fufu, or abacha*. Also, bulk of the yam produced are processed into starch, ethanol, high quality yam flour (HQCF) and animal feeds. Locally there is a particular demand for high-

quality yam flour which had become a significant component in bread flour, biscuits, and confectioneries production, and the production of native and modified starches as well (Samuel *et al.*, 2020). Processing of yam is usually carried out or done at the house hold level, micro processing centers, small to medium-scale processors, and large-scale processors in Nigeria. A more significant percentage of Yam processing occurs at the household level, where women and children serve as main actors in the node of the Nigerian yam value chain. They refine yam manually into local yam products. The medium-scale processors utilize shed, graters, pressers, and modern roasters with fire in areas that protect workers from naked fire. Kareem *et al.*, (2017); Otunba-Payne, (2020); Shioya, (2013) reported that large processors produce up to 100 tonnes of dry yam per day for producing yam starch and other products for industrial use. Otunba-Payne, (2020) further highlighted that many of the extensive processing plants own their yam fields to ensure enough yam is available and make processing profitable.

From observation over the years it was realized that women farmer's activities in production, sales and marketing of yam crop has been erratic and fruitless in the study area. This could have been due to inappropriateness of readily available capital amongst the women farmers thus, there is a need for the women farmers to be proactive in the activities they engaged in such as subverting and stopping activities of male middlemen at the farm gate, improving on their income generation capacity, and consolidating gain in marketing and sales of yam produce consistently in the study area. These reasons must have contributed to the dearth of literature or little or none – empirical research targeted at improving the income status of women yam producers through their savings pattern, hence the need for this study. Based on these, this study intends to analyze the effects of socio-economic characteristics of women yam producers on their saving types and pattern in the study area.

Methodology

Study area

This study was conducted in Ukum Local Government Area (LGA) of Benue State, Nigeria; North central part of the country. It lies between latitudes 6^o 25'N and 8^o 8'N of the equator as well as longitudes 7^o 47'E and 10^o 0'E of the Greenwich meridian. It shares boundary with Nasarawa State in the north, Taraba State in the east, Kogi State in the west, Enugu State in the South-west, Ebonyi and Cross-Rivers State in the south, and has an international border with Cameroon in the South-east. The State comprised of 23 local government areas (LGAs) with Ukum LGA as one of them and the study area for this research work (I am Benue, 2023)

Ukum LGA has its headquarters in Sankera located at the East-North of Benue State and in the zone A senatorial district. The area is bounded by Katsina-Ala LGA, Logo LGA, then Taraba State and Nassarawa States respectively. It has a total land mass of 429,10sq km. It experiences two distinct seasons of raining and dry season. The raining season last from April-October with annual rainfall in the range of 100-200mm. Dry season begin November and ends in March. Temperature fluctuates between 21-37^{o}C in the year. It has a population of about 183,422 people and 6,130,861 people when projected to 2023 from 2006 according to 2006 population census giving a difference of 17yrs difference. Ukum LGA is made up of 13 council wards or districts: Aterayange, Mbatan, Boikyo, Uyan, Ugbam, Huluu, Lumbuv, Mbazun, Tsaav, Mbayenge, Azendeshi, Kendav and Kundav (I am Benue, 2023).

Sampling procedure and data collection

The LGAs and respondents were selected for the study through purposive and multi-stage random sampling methods, respectively. Benue State was divided into three agricultural zones based on soil, climate and vegetation. The zones are zones I – III. In stage I, agricultural zone (III) was purposely selected for the study because of its high production of yam. In stage II, Ukum LGA was purposely selected out of the seven LGAs found within the Benue North-East. In stage III, seven communities were purposely selected out of the communities found in Ukum LGA. The seven communities were: (Aszendeshi,

Tsaav, Borikyo, Aterayange, Mbatian, Uyam, and Ituuluv). The seven communities were purposely selected due to high rate of yam production activities observed over sometime. 10% proportionate to size of women yam producers were selected from each of the selected communities (sample frame of the study area) which will result into the sample size (115) for the study (Table 1). In this study, a total of one hundred and fifteen (115) questionnaires were administered to the respondents, but only eighty (80) administered questionnaires were retrieved by the researcher and hence, based on these eighty (80) returned questionnaires was the sample size of the study.

Table 1: Distribution of selection based on agricultural zone, LGA, communities, population (sample frame) and sample size of the study.

Agricultural zone selected	LGA selected	No of communities selected	Sample frame	Sample size (10%)
Benue North East (Zone III)	Ukum	Adzendeshi	197	20
		Tsaav	102	10
		Aterayange	140	14
		Borikyo	210	21
		Mbatan	190	19
		Uyan and	109	11
		Ityuuluv	194	20
Total	1	7	1,142	115

Source: Field survey, 2022.

The data for this study were mainly derived from primary sources. The primary data were collected with the aid of a well-structured questionnaire supplemented with personal interviews. The data were collected on socio-economic characteristics of the women yam producers as well as their production activities during the 2022/2023 production season.

Methods of Data analysis

The data were analyzed by the use of descriptive statistics. The descriptive statistics involved the use of mean, frequency distribution, percentages and tables for presentation. It was used to analyze the socio-economic characteristics of the respondents i.e. the women yam producers in the study area.

Table 2: Description of predictor variables and a priori expectation

Variables code	Description of variable	Method of measurement	Expected sign
X_1	Age of famers	Age of farmers in years	-
X_2	Marital status	Single = 1, married = 2, Divorced = 3, separated = 4	+ or -
X_3	Educational level	Number of years spent schooling	+
X_4	Annual income	Naira	+
X_5	Farm size	Hectares	+
X_6	Household size	Number	+
X_7	Access to credit	Yes= 1, no = 2	+
Ao	Constant		
B_1 - B_2	Regression coefficients		
et	Stochastic error term		

Source: Field survey, 2022

Results and discussion

Description of socio-economic characteristics of respondents

The result of findings in Table 3 further shows the distribution of respondents based on their age groups. High proportion (33.8%) of the respondents were between the ages of 21-29 years, this was followed by farmers with ages of 40-49 and this constituted some proportion (21.3%), and small proportion (16.3%) of the respondents were of ages ranging between < 20 and 50-59 years. This implies that majority of the respondents belong to the active age group and energetic enough to take up responsibilities in their farms. It is at active age when farmers can carry out the physical requirements of farm activities. This is line with Sulaiman-Dikko and Bello (2023) study in Mubi region of Adamawa State, which indicated that most of the women were relatively young and energetic. The finding implies that most of the participants were youthful women who are economically productive by engaging in agricultural activities rather than been redundant or dependent.

The distribution of the respondents as also reflected on Table 3 revealed that majority (51.3%) of the women producers were married while some proportion (27.5%) were un-married. It is findings generally observed that married persons have more responsibility than the un-married and hence more efforts are given in terms of participation in farm activities so as to enable them generate more food and income to meet their domestic requirements The fact that majority of the farmers were married could be attributed to the role family labour can play in farming activities. This agreed with the findings of Adeoye study (2017) on land use conflict between farmers-herdsmen carried out in parts of Kano,Yobe and Borno States of Nigeria who found out that majority (91%) of the farmers were married. Still in Table 3 result shows on educational status of the respondent's, majority (57.5%) had 7-13 years of schooling, some proportion (25%) had 0-7 years of schooling, small proportion (12.5%) had 14-18 years of schooling, while little proportion (5%) had 19-25 years of schooling. This indicates majority of the respondents can read and write, thus referred to as literates. There is modesty in educated group of people and in whatever they partake in. Education has a great ability to expose farmers to better methods and farming technologies, this could be the reason for high production rate in the study area.

From Table 3, the study reveals that majority (51.3%) of the women yam producers had years of experience in farming of 6-10 years while some proportion (26%) had < 5 years of experience, followed by small proportion (17.5%) of the farmers with experience of between 11 – 20 years. This indicates that farmers whose years of farming experience is more, may likely be technically efficient in production. As regards to the farmers land holdings, result from Table 3 indicated that majority (53.7%) had farm size of 1.1-3.0 hectares, some proportion (22.5%) had farm size of less than <1.0 hectares with small proportion (5%) of the farmers who had farm size of over 6.1 hectares. This result demonstrated that women that participate in yam production are more of small scale women farmers. On household size, findings from Table 3 indicates that majority (52.5%) of women farmers had household size of 6-10 members, some proportion (25%) of the female producers had <5 members, while small proportion (17.5%) had household size of 11-20 members. It was observed that majority of the women yam producers had an average of 6-10 members in a household. On land ownership, Table 3 results revealed that high proportion (42.5%) owned land for farming through purchase, some proportion (26.3%) owned land through gift, some proportion (23.7%) had land for farming through rents, small proportion (5%) owned land by inheritance, and few proportion (1.3%) had land for farming through lease. Furthermore, on Table 3, results on major occupation of the respondents shows that majority (56.3%) of the respondents were yam producers, some proportion (20%) were market women, small proportion (15%) were yam marketers, little proportion (6.3%) were engaged in livestock production, still little proportion (2.5%) were traders, and few proportion (1.3%) were engaged in poultry business.

Result from Table 4 on savings method and type undertaken by respondents shows that of the formal type majority (71.3%) of the respondents save their

income with Bank of Agriculture, some proportion (17.5%) carryout their savings with cooperative societies, small proportion (7.5%) carryout their savings with mobile banks, while few proportion (3.7%) carryout their savings with commercial banks. Also on Table 4 findings revealed that informal type of savings method undertaken by respondents shows that majority (55%) of the respondent's carryout their savings through *adashe*, some proportion (23%) of the respondents does their savings through daily contribution, small proportion (12.5%) of the respondents carryout theirs through friends and relatives, while small proportion (6.3%) of the respondents carryout their savings through religious groups. Because it is the very wide spread indigenous system of saving thrift and credit which seems to be well-managed and successful in the study area.

Table 3: Socio-economic characteristics of respondents (n =80)

Characteristics	Variable	Frequency	Percent (%)
Gender	Female	80	100
	Male	0	0
	Total	**80**	**100**
Age	< 20	13	16.3
	21-29	27	33.8
	30-39	10	12.5
	40-49	17	21.3
	50-59	13	16.3
	Total	**80**	**100**
Marital Status	Single	22	27.5
	Divorced	9	11.3
	Separated	4	5
	Widowed	4	5
	Married	41	51.3
	Total	**80**	**100**
Years of schooling	0-7	20	25
	7-13	46	57.5
	14-18	10	12.5
	19-25	4	5
	Total	**80**	**100**
Farming experience	< 5 years	21	26.3
	6-10	41	51.3
	11-20	14	17.5
	21-30	2	2.5
	31-40	1	1.3
	41-50	1	1.3
	Total	**80**	**100**
Farm size	< 1.0 hectare	18	22.5
	1.1-3.0	43	53.7
	3.1-6	15	18.3
	> 6.1	4	5
	Total	**80**	**100**
Household size	< 5 Nos.	20	25
	6-10 Nos.	42	52.5
	11-20 Nos.	14	17.5

	> 20 Nos.	4	5
	Total	**80**	**100**
Land Ownership	Inheritance	4	5
	Purchase	34	42.5
	Lease	1	1.3
	Rent	19	23.7
	Gift	21	26.3
	Total	**80**	**100**
Major occupation	Crop production	12	15
	Livestock	5	6.3
	Poultry	1	1.3
	Marketing	45	56.3
	Trading	2	2.5
	Market woman	16	20
	Total	**80**	**100**

Source: Field survey, 2022

Table 4: Savings method and types found among the respondents in the study area

Savings Method	Types	Frequency	Percentage (%)
Formal method	Cooperative societies	14	17.5
	Bank of Agric	57	71.3
	Conventional	3	3.7
	Mobile Bank	6	7.5
	Total	**80**	**100**
Informal method	*Adashe*	44	55
	Friends & relative	10	12.5
	Religious group	5	6.3
	Daily contribution	21	26.3
	Total	**80**	**100**

Source: Field survey, 2022

Conclusions

The difficulty of finding sufficient seasonal migrant hired labor for yam mound making is one of the biggest constraints to yam production expansion; other critical constraints are the yam pest and disease problem coupled with high cost, scarcity, and low quality of seed yam. This study concluded that yam is produced with low technologies for labor saving, seed production, and yam pest and disease control. It is thus recommended that a yam seed system should be developed by the farmers in association with root and tubers research institute for provision of sustainable improved quality yam seeds for higher crop productivity.

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