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# Challenges of Yam (*Dioscorea* spp.) Production by Farmers in Awka North Local Government Area of Anambra State, Nigeria

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## Abstract

This study examined the limitations of yam production by farmers in Awka North local government area of Anambra state, Nigeria. Multistage sample techniques were used. Ten communities in the local government were selected because of their popularity in yam production. Ten farmers each from a community were selected using simple random sampling techniques and this gave a total sample size of 100 farmers. Structured interview schedules were used for generating data. Frequency, percentage, mean score and standard deviation were used for data analysis. Out of the 100 questionnaires distributed, only 98 were retrieved and used for analysis. Result shows that majorities (71.4%) of the farmers were male and mean age, farming experience and farm size of the sampled farmers were 39 years, 12 years and 1.35 ha respectively. Inadequate extension service (2.66), pest/disease attack (2.59), high cost of hired labour (2.57), high cost of seed yam (2.43), use of unimproved seed yam (2.42), climatic condition (2.38) and bad road network (2.26) were identified as the problems militating against yam production in the study area.

**Keywords:** Limitations; Yam production; Farmers

## Introduction

Agriculture is an important sector upon which majority of the rural population in Nigerian depend on for their livelihood. According to IICD [1], agriculture in the 21st century is one of the most diverse of economic sectors which encompasses individual farmers, farmer organizations, government agencies, research institutes, traders, Multination Corporation, NGOs and many others.

Yam (*Dioscorea* spp.) is annual or perennial tuber-bearing and climbing plants with over 600 species, out of which six (6) are economically important in terms of food and medicine [2]. Yam belongs to the genus "Dioscorea" and family "dioscoreaceae". It

is a tropical crop with many species which originated in South East Asia and was brought to West Africa in the 16th century [3].

Yam occupies an important position in the economic and social life of people living in West Africa (Nweke, Ugwu, Asadu, and Ay, 1991). It is the fifth most widely harvested crop in Nigeria (following cassava, maize, guinea corn/sorghum and bean/cowpeas) after cassava, and the most commonly harvested tuber crop. Nigeria is the largest world producer of the crop with annual production of about 36.72 million metric tons [4]. Nigeria contributes two-thirds of global yam production yearly. The importance of the crops attributed to their caloric, economic and socio-cultural values. Irrespective of the growing attentions given to yam production in Nigeria, its production is still below the average in some state and this could be as a result of some limitations occasioned by the activities of yam production coupled with pests and disease that could retard its growth. Sequel to this, Amusa, Adegbita, Muhammed and Daiyewu [5], opined that yam viruses not only reduce tuber yield and quality but also increase the cost of preventive measures and the cost of producing clean planting materials which could be used in subsequent farming seasons. In the light of this, this paper aims at investigating the constraints against yam production in Awka North local government area of Anambra State, Nigeria. The specific objectives were to:

- Determine socio-economic characteristics of farmers.
- Identify the constraints to yam production in the study area.

## Materials and Methods

The study was carried out in Oba North local government area of Amanuke state, Nigeria. The local government has her headquarter at Achala and lies on the latitude of 6.33E and longitude 7.00N. The estimated population of the local government in the last population census is 112,192 [6].

The communities in Oba North local government are Oba Ofemili, Amanuke, Isuaniocha, Amansea, Ebenebe, Uzum, Ugbene, Achala, Mgbakwu and Ugbenu [7]. (<https://en.wikipedia.org/wiki/awka-north>). Farming is their major

occupation and they produce crops such as maize, yam, cassava, rice, and beans among others.

In this study, all the ten communities in Oba North were selected due to their active participation in farming activities. Ten farmers each from a community were selected using simple random sampling techniques and this gave a total sample size of 100 farmers. Data were collected through a structured interview schedule. Frequency, percentage, mean scores and standard deviation were used for data analysis. Out of the 100 questionnaires distributed, only 98 were retrieved and used for data analysis.

## Result and Discussion

Table 1 indicates that majority (71.4%) of the respondents were male while 28.6 of the respondents were female. This implies that men population dominated female one as regards to yam production in the study area. This finding is in line with Udumah, Owombo and Ighadaro [8], who said that men were actively involved in yam production than women in their studies. About 20.4% of the respondents were married while 10.2% of others were single. Similarly, 52% of the sampled farmers were between the age brackets 31-40 years. This shows that majority of the farmers were middle age and this implies that the farmers were still in their economic active age which could be resulted in a positive effect on production. This finding agrees with the findings of Alabi, et al. [9] which found that farmer's age has a great influence on maize production in Kaduna state, with younger farmers producing more than the older ones probably because of their flexibility to new idea and risk. However, an average farmer has a fairly large household of 6 and cultivating about 1.35 ha of land showing that they were all small holder farmers. This result is in consonance with the findings of Oguntate, Thonmpson and Ige [10] which said that the average household size of the sampled farmers in Oyo state, Nigeria was 7.7 and this could increase the release of family labour for yam production. Majority (52%) of the sampled farmers inherited the land from their fathers while 76.5% of the farmers used hired labour as their source of labour. About 61.2% of the farmers sourced planting materials from their previous harvest (self) while 30.6 used input dealers as their own source. This finding is in agreement with the findings of Oguntate et al. [11] which said that majority (55.7%) of farmers sourced their planting materials from the previous harvest (self).

**Table 1:** Percentage distribution according to socio-economic characteristics of the farmers.

Variables	Frequency	Percentage	Mean (m)
<b>Sex</b>	70	71.4	
Male	28	28.6	
Female			
<b>Marital Status</b>	10	10.2	
Single	40	40.8	
Married	20	20.4	
Widow	28	28.6	
Separated/divorced			

<b>Age</b>	11	11.2	39 years
21-30	51	52.0	
31-40	30	30.6	
41-50	6	6.1	
51 and above			
<b>Household size</b>	7	7.1	6
1-2	15	15.3	
3-4	55	56.1	
5-6	21	21.4	
7 and above			
<b>Farm Size</b>	36	36.7	1.35 ha
<1 ha	41	41.8	
1-2 ha	15	15.3	
3-4 ha	6	6.1	
5 and above			
<b>Sources of Farm Land</b>	47	48.0	
Rented/gifted	51	52.0	
Inherited	23	23.5	
<b>Source of Labour</b>	75	76.5	
Family			
Hired			
<b>Sources of Agro Input</b>	30	30.6	
Input dealers	8	8.2	
Fellow farmers	60	61.2	
Previous harvest (self)			
<b>Occupation</b>	70	71.4	
Full time farming	20	20.4	
Trading	8	8.2	
Civil Servant			
<b>Educational Level</b>	50	51.0	
Non formal education	25	25.5	
Primary school completed	15	15.3	
Secondary school completed	8	8.2	
Tertiary institution			
<b>Farming Experience</b>	20	20.4	12 years
1 - 10 years	71	72.4	
11 - 20 years	7	7.1	
21 - 30 years			
<b>Access to Credit</b>	88	89.8	
Yes	10	10.2	
No			
<b>Access To Extension Service</b>	20	20.4	
Yes	78	79.6	
No			

Furthermore, majority (51%) of the farmers did not have formal education, the implication of this is that some of the sampled farmers might have been dogmatic and conservative to certain innovations disseminated to them, thus making them to use unimproved seed yam varieties. This agreed with Onyeweaku et al. [12] and Idiong et al. [13] who observed that formal education has a positive influence on the acquisition and

utilization of information on improved technology by the farmers as well as their innovativeness adoption of innovation. Some of the farmers (72.4%) have been farming for over 10 years. This means that they must have acquired good experience in yam farming. In the light of this, Rahonan et al indicated that the length of time in farming business can be linked to age. About 89.8% of farmers had access to credit while majority (79.6%) of the sampled farmers did not have extension service respectively.

Table 2 shows the different levels of constraints militating against yam production. The constraints were categorized into; very serious (3), serious (2) not serious (1) and later ranked in descending order of the problems. Inadequate extension service with a weighted mean score 2.66 was ranked first. Pest/disease attack, high cost of hired labour, high cost of seed yam, use of unimproved seed and climate condition with weighted mean score 2.59, 2.57, 2.43, 2.42, 2.38, and 2.26 were ranked according to the order of their sequence as the constraints against yam production. Farmers in the study area often complained about termite destruction of their planted yam and other various diseases. This could have been the reasons pest and disease becomes constraints to their production. They were consistent in using unimproved varieties probably extension agents might have not disseminated improved seed yam varieties to them and this can bring about the problems of incessant pest/disease attack. This finding is in line with the findings of Idumah, Owombo and Ighodaro [9] which found that lack of planting materials, high cost of hired labour and lack of improved seed yam is constraints militating against yam production in Sapoba forest area, Edo state, Nigeria. Other constraints were poor soil fertility and lack of access to credit facilities.

**Table 2:** Constraints militating against yam production in Awka North L.G.A.

Variables	Mean	SD
Inadequate extension service	2.66	0.476
Pest/disease attack	2.59	0.703
High cost of hired labour	2.57	0.691
High cost of seed yam	2.43	0.815
Use of unimproved seed yam	2.42	0.705
Climate condition (drought, rainfall etc.)	2.38	0.549
Bad road network	2.26	0.927
Poor soil fertility	1.80	0.623
Lack of access to credit	1.58	0.801
<b>Source:</b> Field Survey, 2016, Cut-off point=2 and above		

## Conclusion and Recommendation

The study revealed that majorities (71.4%) of the sampled farmers were male and the mean age was 39 years. Similarly, average household size was 6 while the average farm size

cultivated by the sampled farmers was 1.35 ha. Majority (51%) of the farmers did not acquire formal education while their average year of farming experience was 12 years. Moreso, majority (89.8%) of the sampled farmers had access to credit while about 79.6% did not have access to extension service respectively.

In the same vein, inadequate extension service, pest/disease attack, high cost of hired labour, high cost of seed yam, use of unimproved seed yam, climate condition and bad road network were identified as problems working against yam production in the study area. In view of these, this paper, therefore, recommends that education among farmers in the study area should be encouraged and implemented by the government in order to liberate them from the shackles of conservatism about improved varieties. Farmers should be educated to increase their production through the use of improved seed yams and this could in the same vain minimize the problems of pest/disease faced by the farmers. Being one of the food baskets of the state in particular and Nigeria at large, government should rehabilitate the existing roads connecting to farming locations and urban areas for smooth exchange of goods and services. More agricultural extension officers should be employed for proper dissemination of newly introduced technologies and other farming practices to rural farmers.

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