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YOUTH PARTICIPATION IN SESAME PRODUCTION IN GWER WEST LOCAL GOVERNMENT AREA OF BENUE STATE, NIGERIA

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ABSTRACT

The study assessed youth participation in sesame production in Gwer West Local Government Area of Benue State, Nigeria. Primary data were collected from ninety three (93) randomly selected sesame youth farmers using a structured questionnaire. Data were analyzed using descriptive statistics (frequency, percentage and mean) and inferential statistics (correlation). Results of the study showed that participation of youths in sesame production was moderate in land preparation (M=2.39), planting (M=2.01), manual weeding (M=2.05) and harvesting (M=2.03) and low in pesticide application (M=1.98), herbicide application (M=1.96), fertilizer application (M=1.73, threshing (M=1.90), winnowing (M=1.85) and bagging (M=1.80). Farmers sourced information on sesame production mainly from friends/relations (80.6%). Constraints to youths' participation in sesame production were insect and diseases attack (M=1.89), insufficient agricultural inputs (M=1.83), inconsistency in agricultural programmes for youths (M= 1.80), insufficient agricultural implements (M= 1.74), lack of technical assistance (M=1.72), lack of access to credit facilities (M= 1.72), weed control problem (M=1.66), and poor access to viable markets (M=1.59). Years of formal education (r= -218; p<0.36) and sesame farm size (r= 281; p<0.36) significantly influenced youths' participation in sesame production in the study area. It was concluded that participation of youth farmers in sesame production was low, but this could be improved by making sesame farming attractive to young people through the provision of production resources, access to education, farm land, and viable markets.

Contribution/Originality: The study is one of the very few studies which have investigated youth participation in sesame production and identified relevant information for policy development and research on the crop which when implemented could increase its production and productivity and enhance the livelihood of farmers.

1. INTRODUCTION

Sesame *(Sesamum indicum L.)* is a flowering plant in the genus Sesamum, commonly known as beniseed and is one of the oldest oil seed crops (Chemonics International Inc, 2002). It is naturalized in tropical regions around the world and is cultivated for its edible seeds (Food and Agriculture Organization Statistical Database (FAOSTAT), 2017). Sesame seed is used for a wide array of edible products in raw and roasted forms and also for industrial uses such as soaps, lubricants, lamp oil, an ingredient in cosmetics, pharmaceutical uses, and animal feed (Bedigian, 2011). It contains a considerable amount of oil, proteins, carbohydrates, essential minerals, a high amount of methionine and tryptophan as well as fibres. Moreover, the seeds are a good source of calcium, phosphorus, and iron and are rich in vitamin B, E and a small amount of trace elements. It has a high content of polyunsaturated fatty

acids, oleic, and linoleic acid. Sesame oil has an excellent stability due to natural antioxidants (Bedigian., Seigler, & Harlan, 1985; Lyon, 1972). Worldwide, sesame consumption is increasing mainly due to the growing world population, changing consumer's consumption patterns and health awareness (Rahman et al., 2020).

The major world producers of sesame seed during 2001-2016 were Tanzania, Myanmar, India, Sudan, China, and Nigeria with an annual average production of 4, 375, 077 metric tons, and an annual average export of 1, 145, 040 metric tons with China and Japan being the major importers of the commodity, importing 327, 107 metric tons and 157, 832 metric tons respectively (Food and Agriculture Organization Statistical Database (FAOSTAT), 2018).

In Nigeria, a steady increase in sesame production per hectare was recorded from 2007-2012 except for 2009 when output per hectare declined by 2.4% from the previous year. Output per hectare increased to about 98% from 2003-2012 culminating in the country becoming the sixth largest producer of sesame seed in the world in 2016 (Food and Agriculture Organization Statistical Database (FAOSTAT), 2017). Nigeria's annual average production and export in 2001-2016 were 460, 988 metric tons, and 164, 774 metric tons respectively (Food and Agriculture Organization Statistical Database (FAOSTAT), 2017).

In Benue State, sesame production has been on the increase because of its unique attributes and its recognition as a cash crop. Benue State was the leader in sesame production in Nigeria in 2014, producing about 59 million tons out of a total of 435 million tons for the country (National Agricultural Extension and Research Liaison Services (NAERLS) and Federal Department of Agricultural Extension (FDAE), 2014). The crop is widely grown in the northern and central parts of the country, initially as a minor crop until 1974 when it became one of the major cash earners in many northern states such as Benue, Gombe, Kogi, Jigawa, Kano Nasarawa, Katsina, Plateau and Yobe states as well as the Federal Capital Territory (National Agricultural Extension and Research Liaison Services (NAERLS), 2010). Sesame production plays an important socioeconomic role, particularly in northern states of Nigeria, including Benue State.

The plant is deep rooting and well adapted to withstand dry conditions. It grows on relatively poor soils in climates generally unsuitable for other crops, and so it is widely valued for its nutritional and financial yield from otherwise inclement areas. It is often intercropped with other grains, and well suited to smallholder farming with a relatively short harvest cycle of 90–140 days allowing other crops to be grown in the field (Hahm, Park, & Lo, 2009).

Generally, youth is the time of life when a person is young, especially the time before a child becomes an adult. Youth in Nigeria includes citizens of the Federal Republic of Nigeria aged 18-35 years (National Bureau of Statistics (NBS), 2012). This time of life is assumed to be the most productive stage in which one performs maximally in any task assigned.

The main economic activity for about 80% of Nigerians who live in the rural areas is agriculture. Grassroots' development is therefore dependent on a vibrant agricultural sector, which can only be realized by encouraging the youths to embrace farming as a noble profession in view of the ageing farming population. A major setback of agricultural development programmes in Nigeria is the inability of government to integrate youths into the mainstream of the numerous agricultural programmes over the years (Daudu, Okwoche, & Adegboye, 2009). In view of the growing demand and potential in sesame seed farming, it is expedient to explore the possibilities of growing the commodity to boost the economy, address youths' restfulness and enhance their livelihoods.

Various research works have been conducted on sesame production in Nigeria and elsewhere (Ikwuakam, Iyela, & Sangotegbe, 2016; Monayem, Miah, Afroz, Rashid, & Shiblee, 2015; Umar, 2010). However, none of these studies dwelt on youths' participation in sesame production. Moreover, few research programmes are focused on the crop. Therefore, there is knowledge gap in Benue State sesame landscape, particularly as it relates to youths' participation in the cultivation of the crop, which needed to be addressed. The research identified useful and relevant information for research programmes and for the development of policies, which will optimize sesame production for improving

youth farmers' livelihoods, not only in Gwer West Local Government Area, but in all the states producing the crop in Nigeria.

The objectives of this study were to: (1) describe the socio-economic characteristics of the respondents; (2) determine the level of participation of youths in sesame production; (3) ascertain the sources of information for youths on sesame production; and (4) identify the constraints to youths' participation in sesame production in the study area.

The study hypothesized that there is no significant relationship between selected socio-economic characteristics of the respondents and their level of participation in sesame production in Gwer West Local Government Area of Benue State.

2. METHODOLOGY

This study was conducted in Gwer West Local Government Area (LGA) of Benue State, Nigeria. Gwer West LGA is located between Makurdi LGA and Otukpo LGA. Naka, the LGA headquarter is located at kilometre 40 along the Makurdi-Ankpa inter-state road. The projected figure for 2015 from the 2006 national population for Gwer West LGA was about 154, 942 people (National Population Commission (NPC), 2006) and it occupies a landmass of about 456.45sq km with fifteen council wards (Agbidye & Hyamber, 2015). The LGA has an annual rainfall of between 1500mm and 2000mm. The rainy season starts in April and continues through October, with the highest peak in September. The major crops cultivated in the LGA include rice, maize, guinea corn, sesame, yam, soya beans, among others.

The population for the study comprised all youth sesame farmers in Gwer West Local Government Area of Benue State, Nigeria. Multi-stage sampling procedure was employed for the study. In the first stage, five council wards where sesame is predominantly produced were purposively selected from the fifteen council wards that constitute the LGA. The council wards selected for the study included Sengev/Yengev, Sengev, Mbakyoondu, Mbapa, and Tsambe/Mbesev. The second stage involved simple random selection of two villages/council ward and 10 farmers/village bringing the total sample size for the study to 100. Data were collected through face-to-face personal interview of farmers with the help of a well structured questionnaire. However, only 93 farmers were interviewed. The data collected for this study were analyzed using both descriptive and inferential statistics. The descriptive statistics employed were frequency, percentage, mean scores and standard deviation. The inferential statistic like logistic regression was used to determine the relationship between socio-economic characteristics of farmers and their level of participation in sesame production operations while the hypothesis was tested using Pearson Moment Correlation.

3. RESULTS AND DISCUSSION

3.1. Socio-Economic Characteristics of Respondents

The socio-economic characteristics of sesame farmers are presented in Table 1. Results show that majority (69.9%) of the respondents were male, whereas about 30.1% were female. Similar studies reported that male (70.0%) farmers dominated sesame production in Nasarawa State (Umar, 2010) and rural youths' participation in family farming (75.0%) in Benue State, Nigeria (Donye, Gwary, Nuhu, & Zhintwen, 2012).

The age of farmers surveyed revealed that majority (68.0%) were in the age group of 27-35 years, whereas 32.3% were in the age bracket of 18-26 years, averaging 25.3 years old. This implies that a substantial number of youths were engaged in sesame production in the study area. Similar finding showed that half (50.0%) of the respondents were in the age group of 21-31 years (Umar, 2010). Most (53.8%) of the farmers were married while 46.2% were single. Marriage confers responsibility on an individual. A married person may be assisted by the spouse in carrying out some of the sesame farming operations.

The number of years spent in formal schooling by the respondents indicated that majority (56.0%) spent 7-12 years, 35.5% had 1-6 years, while 8.5% spent 13-17 years, averaging 8 years. Similar study carried out on organic sesame production in Nasarawa State, Nigeria showed that about 72.0% of the respondents were literate farmers (Umar, 2010). Education could facilitate farmers' understanding and use of improved sesame production technologies, which could contribute to increased crop yield.

Household size for about 49.5% of the respondents was between 6 and10 people, 30.2% had 1-5 persons, 16.0% had 11-15 people, and 4.4% had between 16 and 20 people, with an average household size of 8 persons. The large household size observed could be an advantage for labour supply in sesame production. However, it should be noted that the number of persons in the household may not necessarily represent the size of people that could provide agricultural labour as some may either be too young or too old to participate in strenuous sesame farming operations. The study corroborates the finding of Abu, Ater, & Abah, (2012)who averred that 52.7% of the respondents in their study had household sizes of between 6 and10 persons.

Results on sesame farm size showed that majority (61.5%) of the respondents cropped between 1 and 3 hectares of sesame, 30.3% cultivated more than 3 hectares, while a few (8.0%) planted less than one hectare of land, averaging 2.8 hectares for the study area.

The farmers' farm experience is a measure of the level of expertise in the management of farm resources for greater efficiency (Tiamiyu, Adagba, Ibrahim, & Shaahu, 2013). The results of the study showed that 42.0% of the respondents have been farming sesame for about 1-5 years, 41.0% claimed they have been farming sesame for 6-10 years while 17% reported they have been into sesame farming for 11 years and more, averaging 7.2 years.

Most (75.3%) farmers were members of associations such as thrift, savings and loan societies and market associations, whereas about 24.7% were not involved in any social organization. Membership of social organizations could aid sesame farmers' access to information and credit which when judiciously utilized could increase the production and productivity of the crop (Michael, 2011; Ogundari & Ojo, 2006). The poor reliance on extension for information on sesame farming could be attributed to poor access to extension agents in the study area.

Output from own production showed that about 49.5% of the respondents produced above 400kg/ha of sesame with mean annual output of 667.0kg. This is far lower than the report of mean output of 2155.73 kg of sesame produced by farmers in Nasarawa State, Nigeria (Yaseen, Xu, Yu, & Hassan, 2016). This implies that sesame production by youths in the study area was low, but could be improved through the provision of production resources such as inputs, credit, machinery, farm land, and access to information for increased cultivation.

The annual sesame income showed that a little above half (53.8%) of the respondents earned more than 100,000 naira, 24.7% obtained 50,000-100,000 naira, while 21.5% earned less than 50,000 naira, averaging 328,220 naira only per annum for the study area. Although this amount is moderate, when the labour cost is removed, the actual amount of income earned by the farmers may be low. This notwithstanding, since the youths have shown interest in the production of the crop, they should be encouraged to continue in the venture by all who are interested in agriculture.

3.2. Level of Youths' Participation in Sesame Production

Results in Table 2 depict the responses of youths on level of participation in sesame farming. The results indicated that respondents took part in all sesame farming operations. However, their participation was moderate in land preparation (M=2.39), planting (M=2.01), manual weeding (M=2.05), and harvesting (M=2.03). In contrast, farmers' participation was low in pesticide application (M=1.98), herbicide application (M=1.96), fertilizer application (M=1.73, threshing (M=1.90), winnowing (M=1.85) and bagging (M=1.80).The finding of this study indicated a low level of youths' participation in sesame production. The low level of farmers' participation in activities such as pesticide, herbicide and fertilizer application may be due to their inability to purchase these vital inputs due to high cost. The low participation in threshing, winnowing and bagging implied that farmers may have

engaged either family or hired labour to perform these farming operations. This result concurs with the finding of Daudu et al. (2009) which stated that the level of youths' participation in agriculture in Benue State was very poor.

Table-1. Socio-economic characteristics of sesame farmers (n=93).

Characteristics	Frequency	Percentage	Mean
Gender			
Male	65	69.9	
Female	28	30.1	
Age			
18-26	30	32.3	25.3
27-35	63	68.0	
Marital status			
Married	50	53.8	
Single	43	46.2	
No of years of formal schooling			
1-6	33	35.5	
7-12	52	56.0	8.3
13-17	8	8.5	
Household size			
1-5	28	30.2	
6-10	46	49.5	7.6
11-15	15	16.0	
16-20	4	4.4	
Sesame farm size (ha)			
< 1	8	8.8	
1-3	57	61.5	2.8
> 3	28	30.3	
Farming experience (years)			
1-5	39	42.0	
6-10	38	41.0	7.2
11-15	14	15.2	
16-20	2	2.2	
Membership of social organization			
Yes	70	75.3	
No	23	24.7	
Annual sesame production (kg/ha)			
< 200	23	24.9	
200-400	24	26.0	667.0
> 400	46	49.8	
Annual Sesame Income (Naira)			
< 50,000	20	21.5	
50,000-100,000	23	24.7	328, 220
>100,000	50	53.8	

Source : Field survey, 2018.

Table-2. Distribution of Respondents according to Level of Youth Participation in Sesame Farming Operations (n=93).

Farming Operations	Mean	Standard Deviation
Land preparation	2.39	0.643
Planting	2.01	0.699
Pesticide application	1.98	0.691
Fertilizer application	1.73	0.754
Herbicide application	1.96	0.721
Manual weeding	2.05	2.276
Harvesting	2.03	0.580
Threshing	1.90	0.490
Winnowing	1.85	0.510
Bagging	1.80	0.544

Key: High =2.50-3.00; Moderate = 2.00-2.49; Low =<2.00.

3.3. Sources of Information on Sesame Production

The results in Table 3 show that most farmers sourced information on sesame production from friend/relations (80.6%). Only a few (18.3%) got information on the crop from extension agents, while 2.2% each obtained information from cooperatives and agricultural research institutes. About 1.1% got information through seminars/workshops. Similar finding showed that neighbour/friends/relatives constituted the main source of information to farmers in rural Pakistan (Yaseen et al., 2016). The results disagree with the report, which showed that newspaper (40.2%) was the major source of agricultural information accessed by farmers in Haryana, India (Duhan & Singh, 2017). The poor reliance on the extension agents as a source of information on sesame production could be attributed to poor access to extension services prevalent in the study area.

Table-3. Distribution of respondents according to sources of information on sesame production.(n=93)

Sources	Frequency	Percentage
Extension agents	17	18.3
Cooperative societies	02	2.2
Seminars/workshops	01	1.1
Relations/friends	75	80.6
Agricultural research institutions	02	2.2

Note: *Multiple responses recorded.

3.4. Constraints to Youths' Participation in Sesame Production

Sesame farmers reported that 23 out of the 25 listed constraints militated against their participation in the production of the crop in the study area Table 4. They included insect and diseases attack (M=1.89), insufficient agricultural inputs (M=1.83), inconsistency in agriculture policy for youths (M=1.80), insufficient agricultural implements (M=1.74), low financial base (M=1.72), lack of technical assistance (M=1.72), limited role of cooperatives (M= 1.66), weed control problem (M=1.61), lack of access to viable markets (M= 1.59), lack of access to agricultural insurance (M=1.54), low farming profit margin (M=1.44), poor transportation system (M=1.44), problem of seed storage (M=1.43), continuous poor harvest (M=1.33), declining soil fertility (M=1.26), high cost of labour for sesame farming operations (M= 1.11), lack of grades and standards (M= 1.11) and limited access to farm land (M=1.01).

Table-4. Constraints to youths' participation in sesame production (n=93).

Constraints	Mean	Std. Deviation
Poor access to credit facilities	1.72	0.539
Poor access to viable markets	1.59	0.630
Problem of seed storage	1.43	0.799
Insect and disease attack	1.89	0.403
Poor transportation system	1.44	0.814
Lack of technical assistance	1.72	0.578
Insufficient agricultural inputs (fertilizers, agro-chemical, improved seeds)	1.83	0.379
Inconsistency in agricultural programme for youths	1.80	0.405
Insufficient agricultural implements	1.74	0.550
Limited role of cooperatives and their unions	1.66	0.521
Weed control problem	1.61	0.608
Limited access to farm land	1.01	0.759
Lack of grades and standard	1.11	0.787
Continuous poor harvest	1.33	0.727
Declining soil fertility	1.26	0.736
Low farming profit margin	1.44	0.699
Lack of agricultural insurance	1.54	0.699
High cost of labour for sesame farming operations	1.11	0.840

Note: Mean ≥ 1.0.

The current sesame marketing system is characterized by lack of grades and standards, limited role of cooperatives and their unions and high transportation cost due to the existence of physical movement of the product, among others (Tiamiyu et al., 2013). Also, inadequate funds, high cost of fertilizer and weed control problem constituted some of the problems militating against youths' participation in sesame production (Abu, Ater, & Abah, 2012).

3.5. Relationships between Farmers' Socio-Economic Characteristics and Level of Participation in Sesame Production

The result of the analysis as shown in Table 5 indicates that there was a significant relationship between level of education and level of participation at 95% level of significant (r = -0.218, p = 0.036). There was also a significant relationship between sesame farm size and level of participation at 90% level of significance (r = 0.281, p = 0.006). This implies that decrease in the level of education of farmers will decrease their level of participation in sesame production. It further implies that an increase in farm size of the farmers will increase their level of participation in sesame production. The larger their farm sizes, the higher the tendency for them to participate in sesame production.

Table-5. Relationship between Socio-Economic Characteristics of Sesame Farmers and their Level of Participation.

Variables	Socio-economic characteristics	Level of education	Sesame size farm
Level of participation			
Person correlation		-218*	281**
Sig. (2-tailed)		0.036	0.006
N		93	93

Note: * Significant at 0.5% level.
** Significant at 0.001 level.

4. CONCLUSION AND RECOMMENDATIONS

The study concluded that married male youths with low education, large households, small farms, low output and low income dominated sesame farming in the study area. The participation of youth farmers in sesame production was low, but this could be improved by making sesame farming attractive to them through the provision of production resources, access to education, farm land, and viable markets, thus ensuring increased crop production and productivity and enhanced income, which could improve their livelihoods.

Based on the above conclusion, the following recommendations were made.

1. Education is key to acceptability and utilization of improved crop technologies by farmers. Therefore, Gwer West Local Government and NGOs with interest in human resources' development should establish evening classes for youth farmers to enable them have access to education without comprising their farming endeavours.
2. Credit is important for farmers to access farm inputs and hire labour for farming operations, therefore, governments and NGOs with interest in sesame production and agriculture in general should provide the rural youths with revolving loans which is expected to enhance their production and productivity.
3. Access to farm land is paramount in any crop production venture. Youth farmers had less access to farm land in the study area; therefore, intensive agriculture where the youths are provided with farm inputs by governments at subsidized rates is imperative for increased productivity of sesame, enhanced income and livelihoods, which are expected to lead to development at the grassroots.
4. Considering the low participation of youths in sesame production farming operations, governments at all levels should remove the obstacles hindering their participation, thereby encouraging them to remain in the business.

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