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SOCIO-ECONOMIC CHARACTERISTICS AND MARKETING CHANNEL OF SESAME (*SESAMUM INDICUM* L.) FARMERS' WILLINGNESS TO TRADE THROUGH MIDDLEMEN IN BAUCHI STATE, NIGERIA

[1]Musa, A. U., [2]Sani, M. H. and [2]Idi, S.
[1]Department of Agricultural Economics, College of Agricultural Economics and Extension, Joseph Sarwuan Tarka University Makurdi, Benue State, Nigeria.
[2]Department of Agricultural Economics,
Abubakar Tafawa Balewa University, Bauchi, Nigeria.
Corresponding Author's Email: ahmadmusaningy60@gmail.com **Tel.:** 07034920236

ABSTRACT
The research was carried out to determine the socio-economic characteristics and marketing channel of sesame (*Sesamum indicum* L.) farmers' willingness to trade through middlemen in Bauchi State, Nigeria**.** A multi-stage sampling procedure was used to select 204 and 60 sesame farmers and marketers, respectively. Data were analyzed using descriptive statistics. The results revealed an average age of 40 years; majority (84.8% and 80.0%) farmers and marketers, respectively, were married. Majority (89.7% and 96.7%) farmers and marketers, respectively, were males with average household size of 7 persons. About 63% of the sesame farmers had land size range of 1-4 hectares. Almost half of the farmers (41.2%) and marketers (30.3%) have between 6-10 years of experience with a minimum of secondary education of 43.1% and 41.7%, respectively. Most (73.0%) of the sesame farmers did not belong to any cooperative society and contrary to the marketers with 91.7% belonged to various cooperative societies. Majority (58.8% and 98.3%) of farmers and marketers were purely crop farmers and agro marketers, respectively. More than half 65.2% of the farmers were willing to trade through middlemen and 34.8% of the farmers preferred not to deal with middlemen. Majority (90.0%) of the farmers sold sesame produce through village collectors before it reaches the end user. Poor pricing (70.1%), exploitative practices of the middlemen (63.2%), low profit margin (58.3%) and prolonged, deceiving and deceit bargaining (47.5%) were the major constraints faced by the sesame farmers in dealing with middlemen in the study area. The study concluded that sesame farmers and marketers were young, agile and economically productive; middlemen were found to be highly resourceful though posed serious challenge in the marketing channel of sesame. The study recommended marketing intervention by government in sesame marketing activities like involving price appreciation, reduction in the cost of marketing, formulating and implementing marketing policies and rules by government targeted at improving infrastructures such as roads and providing marketing information outfit for sustainable improving the marketing efficiency.

Keywords: Socio-economic factors, Middlemen, Marketing channel, Sesame, Willingness.

INTRODUCTION
There are several challenges involved in marketing of agricultural produce. There is limited access to the market information, literacy level among the farmers is low, multiple channels of distribution that eats away the pockets of both farmers and consumers. The government funding of farmers is still at nascent stage and most of the small farmers still depend on the local moneylenders who are leeches and charge high rate of interest. There are too many vultures that eat away the benefits that the farmers are supposed to get (Roop, 2018).

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Middlemen are marketing intermediaries that do not add anything tangible to the produce but who still receive a fee for expediting the exchange (Agbebi and Fagbote, 2012); their presence in the supply chain often results in produce being sold to consumers at higher prices than would otherwise be the case (Bryceson, 1993). It is well known that middlemen abound in the agricultural trade in many developing countries. Their efficiency and social role have been discussed for decades, and the opinions diverge. Some regard middlemen as purely exploitative and maintain that by bypassing the middlemen, the leakage of benefit would be reduced along the supply chain (Masters, 2008; Frandsen *et al.,* 2009). Others point out that middlemen are indispensable and perform important functions, including selling of sesame to the processing industry, grading themselves, and selling to the world market (Crona *et al.,* 2010; Arya *et al.,* 2015).

Agricultural policy makers, particularly in Indonesia, tend to perceive middlemen as parasites who often take a huge share of the price in agricultural product marketing. Although there is some controversy, the role of middlemen is essential because they are capable of distributing the agricultural products from rural areas. In fact, without the middlemen, the farmers would not be able to sell their agricultural products in large quantities. For example, when farmers sell their products directly to the market, the marketing ability of a retail trader in a certain market location is limited. Conversely, the marketing of products in small volumes is also inefficient, so it will still invite this marketing agency (Ali and Peerlings, 2011).

The crop mainly produced for the international market that closes to 95% of the total volume for export and engaging more than 736,000 households in the production and marketing of the crop (central statistical agency (CSA), 2018). Sesame is an important cash crop and plays vital role in the livelihood of many people in Nigeria, sesame is a source of income for the people. However, a number of challenges hampered the development of sesame sector along the market channel. Therefore, the study was initiated to identify implication of middlemen in marketing of sesame produce in Bauchi State, Nigeria.

In Nigeria, sesame is cultivated on over 80,000 ha across most of the Northern States for food and oil. Sesame seeds (approximately 50% oil and 25% protein) are used in baking, candy making, in cooking and salad oil and margarine. The oil can also be used in manufacture of soaps, paints, perfumes, insecticides and pharmaceuticals. Sesame meal, left after the oil is pressed from the seed, is an excellent high protein (34-50%) feed for poultry and livestock (Oplinger *et al*. 2007).

Poor choice of marketing channel causes serious income problems among smallholder sesame farmers (FAO, 2017). Farmers were expected to produce surplus and choose among formal market channels to sell their produce (Nyaupane and Gillespie, 2010). According to utility maximization theory, farmers are assumed to use formal market channels to maximize their expected utility of net returns (Ito *et al.,* 2012).

The actors participated in conventional sesame market chain includes: producers, village collector, wholesalers, cooperatives, union, Ethiopian Commodity Exchange and exporter. The major actors participated in sesame market chain according to Dagnaygebaw (2019) were the producers who are considered as the first link in the marketing chain. The ultimate decisions on what to grow, how much to grow and when to grow are made by them together with the help of extension agents. They are smallholder farmers, who manage sesame from sowing to harvesting and sell product to different actors at nearby market either carrying sack themselves or using pack animals, or animal driven carts. They are also responsible for determining the amount and quality of sesame produced. They produce sesame mainly for a means of earning cash (Dagnaygebaw, 2019).

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Agrarian revolution in Nigeria is incomplete without due recognition of the socio-economic implication. Therefore, socio-economic status shows a glance of the position of an individual in their social and economic conditions in both relative and absolute terms. Tarfa (2016) identified socio-economic restraints to irrigation management as farmers' technical knowledge, educational level, size of farm holding, operating capital and farm income. Idowu (2017) defines socio-economic status of the farmers as the position of individual or group relative to others in the society. This section reviews some of the previous studies. Idowu (2017) defines socio-economic status of the farmers as the position of individual or group relative to others in the society.

Rural farmers are constrained with lack of knowledge and information and this affect their agricultural produce (Obidike, 2011). Aside from the availability of information and other infrastructural challenges, middlemen represent one of the major reasons investors have left the agricultural sector in Nigeria, thus threatening food security in informal sector, middlemen, and poverty among rural farmers in Nigeria (Oguoma *et al.,* 2010). This situation can be explained that farmers are at the mercies of middlemen who made good profit while the farmers are less rewarded for their efforts. Farmers face high production cost but incapable of effectively determining how much the product is to be sold in the market (Oguoma *et al.*, 2010). The middlemen are the gatekeepers and majority of the profit garnered in the production/marketing value chain is gotten by the middlemen. The middlemen buy the farm produce cheaply and sell at a high cost in the market to buyers (Oguoma *et al.,* 2010).

The study objectives were to identify and escribe the socio-economic characteristics of the sesame farmers who disposes their products for sales examines the extent of farmers' willingness to trade through middlemen and describe the types of sesame marketing channel in the study area.

MATERIALS AND METHOD

The Study Area

The study will be carried out in Bauchi State, Nigeria. The State was divided into three Agricultural zone and is located in North-east geo-political zone of Nigeria, and was created in 1976. The state is located between latitudes 9°30' and 12°30' North of the equator, and between longitudes 8°45' and 11°0' East of the green which meridian. It is bounded in a clockwise direction by Yobe, Gombe, Taraba, Plateau, Kaduna, Kano and Jigawa states. There are 20 Local Government Areas (LGAs) in the State. Bauchi State covers about 49,259 Km^2 with a population of 4,653,066 according to National Population Commission (NPC, 2006) which is estimated to be 9,000,0000 people in 2022 at 3.86% annual increase rate. The State is heterogeneous, with predominant tribes like Hausa, Fulani, Jarawa, Sayawa among others (BSEEDS, 2016).

Bauchi State is one of the States in the north east of Nigeria that span two distinctive vegetation zones, namely, the Sudan savannah and the Sahel savannah. The Sudan savannah type of vegetation covers the southern part of the State. Here, the vegetation gets richer and richer towards the south, especially along water sources or rivers, but generally the vegetation is less uniform and grasses are shorter than what grows even farther south, that is, in the forest zone of the middle belt. The Sahel type of savannah, also known as semi-desert vegetation, becomes manifest from the middle of the State as one moves from the State's south to its north. This type of vegetation comprises isolated stands of thorny shrubs. On the other hand, the southwestern part of the State is mountainous as a result of the continuation of the Jos Plateau,

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while the northern part is generally sandy (Bauchi State Agricultural Development Program, BSADP, 2015).

The vegetation types as described above are conditioned by the climatic factors, which in turn determine the amount of rainfall received in the area. For instance, the rainfall in Bauchi state ranges between 1,300 millimeters per annum in the south and only 700 millimeters per annum in the extreme north. This pattern is because in the West Africa sub-region, rain generally come from the south as they are carried by the south-western winds. There is therefore a progressive dryness towards the north, culminating in the desert condition in the far north. So also, the case in Bauchi State. Consequently, rains start earlier in the southern part of the State, where rain is heaviest and lasts longer. Here the rains start in April with the highest record amount of 1,300 millimeters per annum. In contrast, the northern part of the state receives the rain late, usually around June or July and records the highest amount of 700 millimeters per annum. In the same vein, the weather experienced in the south and the north varies considerably. While it is humidly hot during the early part of the rainy season in the south, the hot, dry and dusty weather lingers up to the north. In addition to rainfall, Bauchi State is watered by a number of rivers. This include the Gongola and Jama'are rivers.

The Gongola River crosses Bauchi state in Tafawa Balewa Local Government Area in the south and in Kirfi and Alkaleri Local Government Areas (LGAs) in the eastern part of the state, while the Jama'are River cuts across a number of Local Government Areas in the northern part of the state. Moreover, a substantial part of the Hadeja-Jama'are River basin lies in Bauchi State, which has various *fadama* (floodplain) areas in the state that provides suitable land for agricultural activities. These are further supported by the number of dams meant for irrigation and other purposes. These include the Gubi and Tilde-Fulani dams. There are also lakes such as the Maladumba Lake in Misau Local Government Area that further provide the necessary conditions to support Agriculture (Bauchi State Government [BASG], 2018). The major economic activities of the Bauchi State were agriculture, which include both crop and livestock production. The major crop production activities include production of rice, maize, sorghum and soybean in western zone, while for central and northern is millet, sorghum, cowpea and sesame. The livestock production includes rearing of cattle, sheep, goat and poultry (BSEEDS, 2016).

Sampling Procedure

A multi-stage sampling procedure was used in selecting the respondents for the study. In the first stage all Agricultural zones of Bauchi state were selected. In the second stage, two local governments and one market from each agricultural zone were purposively selected making a total of six local governments and three markets. Purposive sampling was based on the level of production and marketing of sesame in these local governments. In the third stage two communities were randomly selected from each local government making a total of 12 communities for the study. In the fourth and final stage, 204 sesame farmers and 60 sesame marketers were proportionally 10% and randomly selected from each community and market to get a sample size for the study (Table 1). A proportion of 10% was used based on previous research conducted by Gizaki *et al.* (2014), on characteristic of sesame value chain development programme in Bauchi state, Nigeria.

The sample frame is the list of sesame farmers obtained from Bauchi state agricultural development programme (BSADP).

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Table 1: Sample Size Selection Procedure

Zone	LGAs	Communities	Sample frame	Sample size (10%)
Farmers	Kirfi	1. Wanka	156	16
Western		2. Badara	162	16
	Alkaleri	1. Alkaleri	213	10
		2. Futuk	101	21
Sub-total			**632**	**63**
Central	Ningi	1. Sama	247	25
		2. Nasaru	190	19
	Darazo	1. Sade	98	10
		2. Gabarin	176	18
Sub-total			**711**	**72**
Northern	Zaki	1. Katagum	135	14
		2. Sakwa	90	9
	Gamawa	1. Gadiya	260	26
		2. Udubo	200	20
Sub-total			**685**	**69**
Total			**2,028**	**204**
Marketers:				
Western	Alkaleri	Alkaleri	150	15
Central	Ningi	Gadar Maiwa	250	25
Northern	Zaki	Sakwa	200	20
Total			**600**	**60**

Source: Reconnaissance survey (2020)

Method of Data Collection

The study used primary data which was collected from administration of structured questionnaire to the respondents (farmers and marketers) with the aid of field enumerators. Farmers were first interviewed to generate data with regard to their socioeconomic characteristics such as age, sex, marital status, household size, farm size, farming experience of the respondents etc. Moreover, data of farmer's willingness to trade through middlemen, factors influencing farmers to trade through middlemen, strategies to eliminate or minimize the activities of middlemen and problem faced by farmers in marketing sesame in the study area were captured. Marketers were interviewed after to generate information with regard to sesame marketing channel, marketing margin, structure and conduct of sesame market as well as marketer's socio-economic characteristics.

Method of Data Analysis

The data were analyzed with the use of descriptive statistics. Descriptive statistics (frequency, percentage, range and mean score) was used to achieve objectives i, ii and iii. The mean score was used to determine the extent of farmers' willingness to trade through middlemen. A five-point Likert scale was used as: strongly agree (5), agree (4), undecided (3), disagree (2) and strongly disagree (1). Where, it is represented as 5+4+3+2+1=15, 15/5=3.0, any mean value of 3.0 and above will be considered effective (significant) and any mean value less than 3.0 will be regarded as non-effective (not significant).

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RESULTS AND DISCUSSION

Socio-economic Characteristics of the Farmers and Sesame Marketers

The results from Table 2 reveals the age of the sesame farmers in the study area in which 32.4% were within the range of 28-37 and 30.4% fall between 38-47 years. The total mean of the age of the respondents was found to be 40 years. Respondents that fall between the age bracket of 48-57, 18-27, 58-67 and above 67 years constitute 14.7%, 13.2%, 8.8% and 0.5%, respectively. This is in line with Ikwuakam and Lawal (2015) who reported that most (47.8%) sesame farmers were within the age range of 31-40 years. This means that the respondents are young and full of strength to carry out farming activities. This has implication also on sustainability of sesame farming and respondents' vibrancy in sourcing and having access to input. Furthermore, Samuel *et al.* (2020) reported that, majority (77.8%) of the sesame farmers in Yobe State were aged between 21-60 years with mean age of 38.5 years. This implies that they are predominantly youths and hence agile and economically productive. The finding agrees with those of Sani *et al.* (2014), Oladimeji *et al.* (2014) and Adamu and Bakari (2015) reported that the most active farmers' age group engaged in agricultural production was within 21- 40 years and are more willing and able to take risk in expectation of profit more than the older ones. In another finding, Kumera *et al.* (2020) reveals that sesame production is dominated by the active age group (18-49 years) (67.8%), and only 32.2% of the respondents were above 49 years of age.

Table 2: Distribution of respondents Based on their Age, Sex and Marital Status

	Farmers (n = 204)		**Marketers (n = 60)**		
Variable	**Frequency**	**Percentage**	**Frequency**	**Percentage**	**Mean**
Age					
18-27	27	13.2	6	10.0	
28-37	66	32.4	20	33.3	
38-47	62	30.4	20	33.3	40 years
48-57	30	14.7	14	23.3	
58-67	18	8.8			
68 and above	1	.5			
Sex					
Male	183	89.7	58	96.7	
Female	21	10.3	2	3.3	
Marital status					
Single	22	10.8	12	20.0	
Married	173	84.8	48	80.0	
Divorced	6	2.9			
Widowed	3	1.5			

Source: Field survey (2022)

The result of marital status of both farmers and marketers of sesame as indicated in Table 2 shows that, most (84.8% and 80.0%, respectively) of the farmers and marketers were married in the study area, respectively. About 20.0% of the marketers were single and only 10.8% of the farmers were singles. This corroborates the finding of Olukotun *et al.* (2012) that most maize farmers in Zoba LGA were married. The result disagrees with the finding of Ewebiyi *et al.* (2012) who reported that majority (61.1%) of the farmers in Odeda LGA area of Oyo state were single. This is very unusual of typical Hausa community as early marriage is a common practice. Similar result was found in Samuel *et al.* (2020) who found that, majority

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(77.2%) of respondents were married, 12.4% were single, implying that sesame farming is dominated by married people. This is due to the fact that married people have to bring food to the house to feed their family. Widows, divorcees and widowers also have to farm, for they do not have someone to be feeding them

The Table 2 also reveals the age of the sesame marketers in which 66.6% of the farmers were within the age bracket of 28-47 years, 23.3% fall between 48-57 years while 10.0% were within the age bracket of 18-27 with a total mean of 40 years. Table 3 further indicates that, most (89.7% and 96.7%) of the farmers and marketers respectively were males while only 10.3% and 3.3% of the them were females, respectively in the study area. this agrees with Babalola *et al.* (2013) that, all (100%) of farmers were males. The finding is in line with Samuel *et al.* (2020 who reported that, majority (66.67%) of sesame farmers were males and 33.9% were females, implying that sesame production was dominated by males. The reason could be attributed partly to the fact that since mostly men have more physical strength than their female counterparts, they engaged more in strenuous activities. This study coincides with that of Fasoranti (2006) who reported that men have more access to the resources and information required to produce crops more efficiently than their female counterparts. Similarly, Oladimeji *et al*. (2014) and Adamu and Bakari (2015) reported that sesame farming was dominated by males than females.

Household Size, Land Size and Farming Experience of Sesame Farmers and Marketers

Table 3 depicts the household size, farm size and marital status of the respondents. About 38.3% of the sesame farmers have a household size ranges 1- 4 persons and 32.8% have 5 – 8 persons while farmers with household size ranges between 9-12, 13-16 above 17 persons constitutes 17.6%, 5.4% and 5.9%, respectively with a total mean of 7 persons. The result disagreed with Kumera *et al.* (2020) who reported that average household size of 5 persons. Sesame marketers in the study area have an average household size of 8 persons. 46.7% of the sesame marketers have household size ranges from 5 – 8 persons, 26.7% have ranges 9-12, while 13.3% have 1- 4 persons. It has been observed in the study area that the higher the number of the household size, the higher the amount of family labour, as well as the size of land cultivated if majority of the household members are in their productive age and are male which can withstand stress and work for a long period of time. Also, if household size is large, the production goals have to do with profit making in the study area. Similarly, Solomon (2008) and Banmeke (2003) who reported that large household size assist on farm and other household activities. Makama *et al.* (2011) also reported that increase in household size increases the availability of family labour for farming operations, however if the bulk of the members in the household are within the unproductive age, level of production deteriorates. Adole (2016) also reported similar result with mean household size of eight persons in Batsari Local Government Area of Katsina State, Nigeria.

Table 3 further revealed the land size of the sesame farmers in the study area in which more than half (62.7%) of the sesame farmers have land size range of 1-4 hectares. This indicates that sesame farming in the study area is practice in small scale basis. Farmers who have farm size ranges between 5-8 and 9-12 hectares constitutes 25.0% and 9.8%, respectively. This finding is in line with those of Solomon (2008) and Banmeke (2003) who reported that large household size assist on farm and other household activities. Makama *et al.* (2011) also reported that increase in household size increases the availability of family labour for farming operations, however if the bulk of the members in the household are within the unproductive age, level of production deteriorates. Adole (2016) also reported similar result with mean

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household size of eight persons. The result corroborates with Samuel *et al.* (2020) who reported that, the average farm size of sesame farmers in Yobe State was 2.4 hectares with majority (81.67%) of the respondents cultivating (0.5-3ha). This implies that most of the farmers had small farm holdings. This shows that farmers in the study area will not be able to enjoy economy of scale in production. The larger the farm size of the household, the higher the expected level of output. According to Olayide *et al*. (1980), small scale farmers are those that cultivate land of 0.1 to 5.0 hectares of land. Therefore, the majority of the respondents in the study area are classified as small-scale farmers. This may not encourage mechanize system of farming and thus, production may continue to remain at subsistent level. This finding is in line with the findings of Ajeigbe *et al.* (2010); Makama *et al.* (2011); Oladimeji *et al.* (2014) and Adamu and Bakari (2015) which reports that majority of the agricultural production is in the hands of small holder farmers. Imoh and Essien (2005) also reports that farm size affects adoption of technology and that determines whether a farmer will use improved seed or not. Relatively small farm size could constitute a major constraint to technology usage (Sani *et al.*, 2014).

On the farming and marketing experience of sesame farmers and marketers, experience represents the technical skills or knowledge acquired in practicing a particular trade and it is measured in years. the results in Table 3 indicated that, about 41.2% and 30.3% of the farmers and marketers have years of experience ranges between 6-10 years. While those with 1-5, 11-15 and 16-20 years constitutes 35.3%, 38.3%, 12.7%, 18.3%, 6.8% and 11.7% of the sesame farmers and marketers, respectively. This shows that, both the farmers and the marketers were experience farmers and marketers with a total mean of 8. The result is in line with Sani *et al.* (2014). Who reported that, most (37.22%) of the respondents have farming experience of 6 - 10 years with a mean of 13 years. It could be inferred that sesame farmers in the study area are well experienced in farming sesame and depicts good signal for higher farmers' profit. This finding agrees with that of Abu *et al*. (2011) and Adole (2016) which reported that the average farming experience of sesame farmers in Nasarawa State and Benue State were 12.8 and 15 years respectively. Oladimeji *et al.* (2014) and Adamu and Bakari (2015) also reported similar result in their findings. Amaza and Olayemi (2002) also reported that the higher the number of years spent in farming by a farmer, the more he becomes aware of new production techniques.

On the marketers' years of experience in sesame market, Business or trade, experience refers to the number of years that traders engaged in trading activity where their business experience plays crucial role in decision making activity and know how about reducing business risk. Dagnaygebaw (2019) reported the traders' survey result in which most of the traders were not well experienced in sesame trading business for more than 9 years with range of 1-9 years and mean of 5.35.

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Table 3: Respondents Based on Household Size, Farm Size and Farming Experience

	Farmers (n = 204)		Marketers (n = 60)		
Variable	**Frequency**	**Percentage**	**Frequency**	**Percentage**	**Mean**
Household size					
1-4	78	38.3	8	13.3	
5-8	67	32.8	28	46.7	8
9-12	36	17.6	16	26.7	
13-16	11	5.4	7	11.7	
17 and above	12	5.9	1	1.7	
Land size (X = 4ha)					
1-4	128	62.7			
5-8	51	25.0			
9-12	20	9.8			
13-16	3	1.5			
17 and above	2	1.0			
Farming experience [years] (X = 8)			**Marketing experience (years)**		
1-5	72	35.30	23	38.33	
6-10	84	41.18	18	30.3	8
11-15	26	12.75	11	18.33	
16-20	14	6.86	7	11.67	
21-25	3	1.47	1	1.67	
26-30	5	2.45			

Source: Field survey (2022)

Respondents Educational Level, Membership of Association and Major Occupation

Table 4 shows that, most (43.1% 41.7%) of the sesame farmers and marketers have attended secondary school respectively in the study area. About 21.6% of the farmers have tertiary education while only 5.0% of the marketers have attended the tertiary education. About 23.3% of the marketers have primary education with a reasonable number (28.3%) without any form of formal education. This disagrees with Kumera *et al.* (2020) who reported that, more than 88% of the sesame farmers were either illiterate or had attended only primary school education. Only 6% of the respondents completed secondary school education. This indicated that, the respondents had one form of education or the other which indicating that most of the respondents were literate. This implies there is potential for increased sesame profit since education would enable farmers to have access to information on new agricultural innovations. As reported by Zbinden and Lee (2005), education is important in determining the farmers' ability to access, process and implement information on agricultural technologies while lower level of literacy might be associated with a low level of adaptation of technologies in pre and postharvest activities to produce more and reduce losses.

Table 4 further depicts that most (73.0%) of the sesame farmers did not belong to any cooperative society which is contrary to the marketers where almost all (91.7%) were members of one cooperative society or the other. Only 27.0% of the farmers belong to cooperative society. The result is in line with Samuel *et al.* (2020) who found that, majority (77.2%) of sesame farmers did not participate in cooperative association. The implication of this result is that most of the sesame farmers in the study area did not enjoy the benefits accrued to co-operative societies through pooling of resources together for a better expansion, efficiency and effective management of resources and for-profit maximization. The finding is similar to that

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of Adole (2016) who reported that 73.9% of the sesame farmers did not participate in cooperatives.

The results in Table 4 also revealed the major occupation of both the sesame farmers and marketers in the study area in which majority (59.8%) of the farmers were crop farmers while only 1.7% of the marketers were into crop farming. In the case of the sesame marketers, almost all (98.3%) were involved in the sesame marketing while only 16.2% of the farmers engaged in the agro marketing. Farmers that venture into livestock production, agro-processing, artisans and civil service work constitutes 8.3%, 0.5%, 7.8% and 8.3%, respectively.

Table 4: Respondents Educational Level, Membership of Association and Major Occupation

	Farmers (n = 204)		Marketers (n = 60)	
Variables	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Educational level				
Primary education	23	11.3	14	23.3
Secondary education	88	43.1	25	41.7
Tertiary education	44	21.6	3	5.0
Qur'anic education	32	15.7	1	1.7
No education	7	3.4	17	28.3
Adult and literacy education	10	4.9		
Membership of association				
No	149	73.0	5	8.3
Yes	55	27.0	55	91.7
Major occupation				
Crop farming	120	58.8	1	1.7
Agro marketing	36	16.2	59	98.3
Livestock producers	17	8.3		
Agro processors	1	0.5		
Artisans	16	7.8		
Civil servant	17	8.3		

Source: Field survey (2022

Sesame Farmers Land Ownership and Sources of Information on Sesame Price

From the result of Table 5, about 47.1% of the sesame farmers own their lands through inheritance while 27.0% through purchase. While 14.7%, 5.9% and 2.0% owns their farmlands through rent and lease, respectively. Only 3.4% cultivate on community land in the study area. The results agreed with who reported that, among the different forms of land ownership in Benue State, land owned through inheritance was the most dominants which accounted for 59.44%. Farmers that obtained their land by purchase constituted 22.78%. Meanwhile, 17.78% of the respondents acquired their land through lease/rent. This implies that easy access to land led to high profit. This is similar to that of Rahman (2003) who reported that land acquisition by inheritance and purchase tend to promote security, motivation and good management to farmers for efficient utilization of resources than land acquired through lease or hired. Alfa-n (2014) also report that most (42%) of the respondents acquired their land through inheritance, 16% got theirs through lease, 23% purchased their land while 10.5% obtained theirs through gift. This may mean that, there is the opportunity for people that might want to go into commercial production of this crop with 23% of the respondents being able to purchase their own land.

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Table 5 further revealed the various sources of farmers' information about sesame price in which 42.6% got their information from middlemen and 17.2% from cooperative society. While 15.2%, 11.3%, 3.9%, 2.9%, 2.5% and 0.5% from traders in the market, inputs suppliers, media, personal observation, BSADP and processors, respectively. Kumera *et al.* (2020) report a similar finding that, trader's sources of information were 55% through cell phone, 10% from other traders in their residence and 35% from media, another trader and cell phone.

Table 5: Farmers Land Ownership and Sources of Information on Sesame Price (n = 204)

Variables	Frequency	Percentage
Land ownership		
Inheritance	96	47.1
Purchase	55	27.0
Communal	7	3.4
Rent	30	14.7
Leased	12	5.9
Others	4	2.0
Source of price information		
Input suppliers	23	11.3
Middlemen	87	42.6
Cooperative society	35	17.2
BSADP	6	2.9
Processors	1	0.5
Phone calls	8	3.9
Traders in the market	31	15.2
Media	5	2.5
Personal observation	8	3.9

Source: Field survey (2022

Income of Sesame Marketers and Farmers

Table 6 showed that, almost half (43.33%) of the marketers have annual income range of ₦100,000-1,000,000, 16.7% have ₦1,100,000-2,000,000 and 13.3% have ₦5,100,000 – 6000000 while 11.0%, 10.0%, and 5.0% have ₦4,100,000-5,000,000, ₦2,100,000-3,000,000 and ₦3,100,000-4,000,000, respectively.

The result from the Table 6 further revealed that, most (77.9%) of the sesame farmers have an annual income range of ₦50,000 – 1,040,000. While 13.7%, 6.4%, and 1.5% have between ₦1,040, 000 – 2,030,000, ₦2,030, 000 – 2,030, 000 and ₦4,010,000 – 5,000,000, respectively in the study area. The results agreed with Samuel *et al*. (2020) who reported that 37.8% of sesame farmers earned above ₦500, 000.00 annually from sesame. This implies that sesame farmers are high income earners. The result contradicts Odoemenem and Otanwa (2011) finding that farmers earn less than ₦300, 000 annually in Benue State, Nigeria. Similarly, the distribution of annual farm income in Yobe State, Nigeria as reported by Samuel *et al.* (2020) in research titled analysis of profitability of sesame production showed that most (31.11%) of the farmers earned ₦151,000.00 – ₦200,000.00 as annual farm income with mean of ₦153,143.20 (approximately $3.5). if farming households (average 7 members) without other source of income were to depend solely on the farm income for a minimum cropping season of 4 months, individual member of the household would be living below the poverty line of $1 per day. This implies that the farmers earned low annual farm income when compared to the standard poverty line of one dollar per day. The low farm income could be as a result of

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constraints associated with sesame farming such as high cost of fertilizer, pest and disease, high cost of transportation, lack of improved seed varieties which can reduce farmers' profit.

Table 6: Distribution Based on the Sesame Marketers Annual Income

Farmers	**(n = 204)**	
Income range	**Frequency**	**Percentage**
Income (₦)		
50,000 - 1,040,000	159	77.9
1,040,000 - 2,030,000	28	13.7
2,030,000 - 3,020,000	13	6.4
3,020,000 - 4,010,000	1	0.5
4,010,000 - 5,000,000	3	1.5
Mean = 798,248.04		
Marketers (₦)	**(n = 60)**	
100,000 - 1,000,000	26	43.3
1,100,000 - 2,000,000	10	16.7
2,100,000 - 3,000,000	6	10.0
3,100,000 - 4,000,000	3	5.0
4,100,000 - 5,000,000	7	11.7

Source: Field survey (2022)

Sesame Farmers' Willingness to Trade through Middlemen

Table 7 shows that majority (65.2%) of the sesame farmers were willing to trade through middlemen while 34.8% were not willing to. This situation can be explained that farmers are at the mercies of middlemen who made good profit while the farmers are less rewarded for their efforts. Farmers face high production cost but incapable of effectively determining how much the product is to be sold in the market (Oguoma *et al.*, 2010). The middlemen are the gatekeepers and majority of the profit garnered in the production/marketing value chain is gotten by the middlemen. The middlemen buy the farm produce cheaply and sell at a high cost in the market to buyers (Oguoma *et al.*, 2010).

Rural farmers were constrained with lack of knowledge and information and this affect their agricultural produce (Obidike, 2011). Aside from the availability of information and other infrastructural challenges, middlemen represent one of the major reasons investors have left the agricultural sector in Nigeria, thus threatening food security in informal sector, middlemen, and poverty among rural farmers in Nigeria (Oguoma *et al.*, 2010).

Sani *et al.* (2011) revealed that majority of the middlemen (55%) play a vital role by providing agrochemicals for sale, 8.33% provide credit facilities, 1.67% provides transport services and 33.33% provide advisory services.

Table 7: Sesame Farmers' Willingness to Trade through Middlemen (N = 204)

Willingness to trade through middlemen	**Frequency**	**Percentage**
No	71	34.8
Yes	133	65.2
Total	**204**	**100.0**

Source: Field survey (2022)

Sesame Marketing Channel

From the result in Table 8, the most common marketing channel of sesame in the study area was producer→village collector→wholesaler→exporter as indicated by 90.0% of the

marketers, followed by 6.7% and 3.3% of them who reported producer→wholesaler→exporter→importer and producer→cooperatives→union→importer as their marketing channel respectively. In contrary to this, According to Baba *et al.* (2019), report the sesame marketing channels in Abuja as; Farmers → Consumers, Farmers → Retailers → Consumers, Farmers s → Wholesalers → Retailers → Consumers, Farmers → Rural buyers→ Wholesalers → Retailers → Consumers, and Farmers → Rural buyers → Licensed Buying Agents→ Exporting Companies→ Consumers.

Table 8: Distribution Based on Sesame Marketing Channel (n = 60)

Marketing channel	Frequency	Percentage
Producer-village collector-wholesaler-exporter-imp	54	90.0
Producer-wholesaler-exporter-importer	2	3.3
Producer-cooperatives-union-importer	4	6.7

Source: Field survey (2022)

CONCLUSION AND RECOMMENDATIONS

The study concluded that majority of the respondents (farmers and marketers) were predominantly youth, agile and economically productive to carryout farming activities and are more willing and able to take risk in expectation of profit, also middlemen were found highly resourceful in linking and facilitating sesame marketing for the smallholder farmers in the study area. The study recommended that formulating and implementing policies by government targeted at improving infrastructures such as roads and providing market information outfit that disseminates information timely to farmers are essential for improving marketing efficiency of sesame, also supply of adequate farm inputs by government and in partnership with private concerns and availability of adequate credit to market participants at appropriate interest rates are pre-conditions for improving competitiveness among farmers, wholesalers and retailers.

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