

## Sesame Farmers' Access to Intervention Input in Batsari Local Government Area of Katsina State, Nigeria

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### ABSTRACT

Sesame (*Sesamum indicum*) commonly called beniseed in Nigeria is an important oilseed crop that has wide range of uses within and outside Nigeria. Dearth of information on farmers' access to intervention input is a serious concern. The study therefore determined sesame farmers' access to intervention input in Batsari Local Government Area (LGA) of Katsina state. Systematic sampling technique was used to select a total of 90 sesame farmers and information was collected using interview schedule. Inferential and descriptive statistics were used for data analysis. Most respondents (47.8%) were within 31-40 years, 61.1% married, all (100%) were both males and Muslims while 50.0% had Quranic education. Also 56.7% had 1-10 years of farming experience, 51.1% had 4-6ha of farm size and 37.8% earned > #500,000 per annum. Majority (75.6% and 71.1%) sourced information from radio and association members respectively. Improved seeds ( $\bar{x} = 107.7$ ), marketing outlets ( $\bar{x} = 112.3$ ) and workshop training ( $\bar{x} = 102.3$ ) ranked 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> respectively among few input respondents accessed. Extension workers ( $\bar{x} = 64.5$ ) also ranked first as constraints followed by time of intervention with  $\bar{x}$  (43.3). Significant correlation exists between age ( $r = -0.235$ ), income ( $r = -0.364$ ), constraints ( $r = 0.026$ ) and respondents' access to intervention inputs. It is concluded that sesame farmers have limited access to input.

**Keyword:** Access, input, constraints, sesame

### INTRODUCTION

Sesame (*Sesamum indicum*) also known as beniseed in Nigeria is a plant family of *Pedaliaceae*. It is an important oilseed crop that originated from tropical Africa from where it spread to India (Purseglove, 1996). It is called "simsim" in East Africa, "Till" in India and "Gingely" in Sri-Lanka. In Nigeria, sesame is called "Ridi" in Hausa, "Ekuku" in Ibo and "Isasa" in Yoruba. Sesame is an important crop to Nigerian agriculture and economy that is extensively and yields well in relatively poor climatic conditions. The total world cultivated area under sesame is reported to be about 6 million hectares. Sixty-six percent of this is concentrated in Asia, 8% in America, Venezuela, Mexico, Guatemala and Columbia (FIIR, 1990), 25% in Africa (mainly Nigeria, Ethiopia and Sudan, Kenya, Niger, Egypt, Mali, Burkina Faso, Tanzania and Chad) (RMRDC, 2004). Global production of sesame is put at 3.84 million metric tons annually having risen from 1.4 million metric tons in the early 1960s (FAO 2010). On the other hand, whereas leading world producer's are India, China, Mexico and Sudan, Nigeria in Africa is second largest producer of sesame and ranks seventh in the World, with an estimated

production of 120,000 metric tones annually (RMRDC, 2004).

In the same vein, sesame seed is mostly produced in Northern states of the federation namely: Benue, Taraba, Kebbi, Kano, Bauchi, Kogi, Plateau, Adamawa, Kwara, Niger, Gombe, Katsina, Yobe, Borno and Nassarawa with the latter being the leading producer in Nigeria. It is reported that sesame is used within Nigeria and constitutes an important component of Nigeria's agricultural exports RMRDC (2004). According to RMRDC (2004) Nigeria realized a sum of 150 million dollars from sesame during the 2004-2005 cropping season with the country's export market increasing progressively with the entrance of China and South Korea, Japan, Turkey, Iran and Europe. RMRDC, (2004) further estimated national production to be about 300,000 metric tonnes annually with about 60-70% of this exported annually. This according to RMRDC, (2004) places the crop as the second largest non-oil export in Nigeria.

Although, industrial processing and utilization of sesame have not been fully developed in Nigeria, sesame is locally processed and utilized in various forms especially in the states where the crop is cultivated. Its oil can be extracted from the

seed and the cake made into kulikuli which together with the leaves are used to prepare local soup known as 'miyar taushe'. The oil is also used locally for cooking as well as for medicinal purposes such as the treatment of ulcers and burns. The stem and the oil extract are equally used in making local soap. According to Mshelia, Sajo and Gungula (2012) the dried stems of sesame can be burnt to ashes, dissolved in water, stored and allowed to settle and the filtrate used in soap making by rural women to generate income

Internationally, sesame seed is the most sought after vegetable oil as its industrial ingredients is good for the production of margarine, canned sardine, corned beef, soap and ink (Sankar, Ali, Sambandam and Rao, 2010). In Greece, a paste of ground sesame seeds is reportedly used for tahini preparation. Sankar *et al* further pointed out that in northern Europe, sesame is commonly used as a bakery product and is particularly popular in Germany and the Netherlands either within breads or on the surface of bread and breadsticks as a garnish. Also sesame is well preferred to other vegetable oils because of its good chemical composition (rancid-resistant) colour, taste and lack of odour. Sankar *et al* maintains that sesame seeds are not only praised for their fabulous nutritional profile but are highly valued for their capabilities in fighting, preventing, and reversing illness and disease.

However, it has been observed that due to the importance of sesame to national economy development, series of intervention input were made available by both Government and private sector to boost farmers' production capacity. Nigeria Agricultural and Rural Development Bank (NARDB) and Olam (a subsidiary of Olam International Limited) are the front runners in providing support services to sesame farmers in Nigeria (Mshelia *et al* 2012). These input among others include giving credit in kind and buying output from debtor farmers, supplying production input such as fertilizer and hybrid seeds.

It is obvious that the economics of interventions input allocation in any agricultural activity especially at the micro level is to assist farmers attain improved productivity. However, efficient allocation of the input in this context is dependent on farmers' accessibility to them. In other words, an increase in agricultural production and sesame in particular is difficult without adequate access to relevant input. Incidentally, Amaza and Maurice (2005) have observed a marked deterioration in the productivity of overall Nigeria's agriculture. One of the factors attributed to the declining productivity of the sector is farmers' limited access to resources (Manyong, Olayemi, Yusuf, Omonona, Okoruwa, Idachaba, 2005). It is in this light that the study investigated

sesame farmers' access to intervention input in Katsina state. The specific objectives were to:

1. examine selected socio-economic characteristics of sesame farmers
2. determine accessibility of sesame farmers to intervention input
3. ascertain constraints to sesame farmers' access to intervention input

## METHODOLOGY

The study was carried out in Batsari Local Government Area (LGA) of Katsina State. It is one of the 34 LGAs in Katsina state and has 123 villages. Purposive sampling technique was employed in selecting nine villages namely; Ruma, Yandaka, Kandawa, Kurmiyal, Wagini, Kasai, Tashar Nagulle, Salihawa and Yauyau basically because of the intensity of sesame farming in the communities. Using systematic sampling technique 10 sesame farmers were selected from the lists of registered sesame farmers in each community to give a sample size of 90 sesame farmers used for the study. Data on socio-economic, source of information, access to intervention input and constraints to access were collected with the aid of interview schedule.

The dependent variable (i.e. access to intervention input) was measured on 4-point scale of always, occasionally, rarely, never and was scored 3, 2, 1, and 0 respectively. The mean access to intervention input was obtained and used to categorize sesame farmers' level of access into high (> mean score) and low (< mean score). Frequency counts, percentages and means were used to describe the data, while Chi Square and PPMC were used to test hypothesis.

## RESULTS AND DISCUSSION

### Socio-economic characteristics of sesame farmers

The result in Table 1 shows that most respondents (47.8%) 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. This corroborates the finding of Ewebiyi, Sangotegbe and Ikwuakam (2012) that women farmers in Odeda LGA area of Oyo state. Majority (61.1%) were single. This is very unusual of typical Hausa community as early marriage is a common practice. The result implies that the respondents may rely on other sources of labour for farming activities. The result contradicts the finding of Olukotun, Oseke, Fadele and Babalola (2012) that most maize farmers in Zoba LGA were married. The result further reveals that all (100%) of the respondents were Muslims with 50% having Quranic education. This implies that most of them could only read Arabic language

and may find it difficult to read or have access to agricultural information, programmes, resources and innovation whose instructions are written or conducted in English Language. The finding is in line with Babalola, Okoruwa, Omonona and Oni (2013) who found out that most sugarcane farmers had Quranic education. All (100%) respondents were males. This shows that sesame farming in the area though not gender exclusive is predominantly a male affair. This means that farmers may not have cultural restrictions in sourcing and having access to input. The mean years of experience of most respondents (57.0%) was 14 years. This means that sesame farmers are experienced and this may enhance their access to input. Result further reveals that 37.8%

of respondents 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 cassava farmers earn less than ₦300, 000 annually in Benue state, Nigeria. Majority (46.0%) cultivated between 4-6 hectares of land. This indicates the level of importance attached to sesame crop in the area. Sesame Farmers' sources of labour were mostly paid/hired (67.8%) and self (33.3%). The respondents' marital status (single) could be a reason for their emphasis on both hired and self sources of labour. The finding is in line with Obibuaku (1999) who reported preference for paid/hired and self labour in south eastern, Nigeria.

**Table 1**  
**Socio-economic characteristics of respondents**

Variable	Frequency	Percentage	Mean
<b>Age</b>			
31-40	43	47.8	<b>39.6778±10.15258</b>
41-50	23	25.6	
51-60	10	11.1	
above 60	3	3.3	
<b>Marital status</b>			
Married	35	38.9	
Single	55	61.1	
<b>Religion</b>			
Islam	90	100.0	
<b>Education</b>			
Quranic	46	51.1	
Primary	16	17.8	
Secondary	22	24.4	
Tertiary	6	6.7	
<b>Sex</b>			
Male	90	100.0	
Female	0	0.00	
<b>Years of Experience</b>			<b>13.4889±11.71789</b>
1-10	51	56.7	
11-20	28	31.1	
21-30	6	6.7	
31-40	2	2.2	
51-60	3	3.3	
<b>Farm size in ha</b>			<b>8.2444±9.66903</b>
1-3	19	21.1	
4-6	46	51.1	
7-9	6	6.7	
10-12	4	4.4	
above 12	15	16.7	<b>508322.20±377669.37</b>
<b>Income</b>			
< 200,000=00	26	28.9	
200,001 = 300,000	8	8.9	
300,001 = 400,000	4	4.4	
400,001 = 500,000	18	20.0	
> 500,000 = 00	34	37.8	
<b>Labour source</b>			
Self	30	33.3	
Family	20	22.2	
Hired	61	67.8	
Friends	12	13.3	

**Sources of information on intervention input**

Table 2 is a presentation of the various sources of information available to sesame

farmers. The result reveals that radio (75.6%), farmer association members (71.1%), neighbors (65.5%), NGOs (57.8%) and mosque (55.6%)

constituted major sources of information to most sesame farmers. The result is an indication that radio is widely used than other sources of information. However, the relatively high percentage of farmers' association members, extension agents, neighbors as well as NGOs and mosque shows that they are also utilized. This revelation is in consonance with Ugwoke, Mathews-Njoku, Anaeto and Okereke (2009) who among others identified radio as being used to a large extent in receiving agricultural information by farmers in Imo state, Nigeria.

**Table 2**  
**Sources of information on intervention input**

Variable	F	%	Rank
Extension agents	16	17.8	7 <sup>th</sup>
Radio	68	75.6	1 <sup>st</sup>
Television	16	17.8	7 <sup>th</sup>
Friends	16	17.8	7 <sup>th</sup>
Neighbours	59	65.6	3 <sup>rd</sup>
NGO	52	57.8	5 <sup>th</sup>
Newspapers	12	13.3	8 <sup>th</sup>
Association members	64	71.1	2 <sup>nd</sup>
Church	5	5.6	9 <sup>th</sup>
Mosque	50	55.6	6 <sup>th</sup>

### Access to intervention inputs

The result on access to intervention inputs reveals that majority of the respondents had no access to labour (94.4%), tractor services (90.0%), processing equipment (85.6%), loan 84.4% land (67.8%) and herbicides (66.7%). However, farmers had access to input like extension services (65.6%), improved seeds (61.1%) and training workshop (51.1%) on occasional basis. This implies that very few farmers had access to intervention input for sesame production in the area. Although, from the weighted scores access to improved seeds (107.7) ranked first among few input that farmers accessed followed by marketing outlet (112.3). This is in line with Ewebiyi *et al* (2012) who found out that very few women farmers had access to production resources in Odeda Local Government Area of Ogun state, Nigeria.

**Table 3**  
**Distribution of respondents based on access to intervention input**

Variable	Always		Occasionally		Not at all		Weighted score	Rank
	F	%	F	%	F	%		
Improved seeds	21	23.3	55	61.1	14	15.6	107.7	1 <sup>st</sup>
Marketing outlet	32	35.6	37	41.1	21	23.3	112.3	2 <sup>nd</sup>
Herbicides	11	12.2	19	21.1	60	66.7	45.5	6 <sup>th</sup>
Farm land	9	10.0	20	22.2	61	67.8	42.2	7 <sup>th</sup>
Loan	6	6.7	8	8.9	76	84.4	22.3	8 <sup>th</sup>
Labour	0	0.00	5	5.6	85	94.4	5.6	12 <sup>th</sup>
Tractor services	3	3.3	6	6.7	81	90.0	13.3	10 <sup>th</sup>
Extension services	10	11.1	59	65.6	21	23.3	87.8	4 <sup>th</sup>
Workshop training	23	25.6	46	51.1	21	23.3	102.3	3 <sup>rd</sup>
Processing equipment	3	3.3	10	11.1	77	85.6	17.7	9 <sup>th</sup>
Processing centres	3	3.3	5	5.6	82	91.1	12.2	11 <sup>th</sup>
Feeder roads	0	0.00	0	0.00	90	100	0.00	13 <sup>th</sup>
Storage facilities	0	0.00	0	0.00	90	100	0.00	13 <sup>th</sup>
Rodenticide	0	0.00	0	0.00	90	100	0.00	13 <sup>th</sup>
Insecticide	0	0.00	0	0.00	90	100	0.00	13 <sup>th</sup>
Fertilizer	17	18.9	43	47.8	30	33.3	85.6	5 <sup>th</sup>

### Level of access to intervention input among sesame farmers

The result as shown in Table 4 reveals that 52.2% of sesame farmers had low level of access to intervention input. This means that their production will be adversely affected. The result is in tandem with International Fund for Agricultural

Development (IFAD) (2001) who observed that low access to intervention input is a common phenomenon in Nigeria and a common factor that limit production, processing and marketing of agricultural commodities among peasants farm holdings.

**Table 4**  
**Distribution of respondents based on level of access to intervention input among sesame farmers**

Category	Range of scores	F	Percent	Mean	SD
Low	0-6	47	52.2	6.5444	3.29849
High	6.54-15	43	47.8		

**Constraints to sesame farmers' access to intervention input**

The study identified few constraints to sesame farmers' access to intervention input. Using weighted scores, lack of extension workers contact (64.5) and time of intervention (64.5)

ranked 1<sup>st</sup> among factors that constrained sesame farmers' access to intervention input. The result supports the finding of Deji, Adereti and Ilori (2005) that low rate of extension agents contacts is one of the factors limiting farmers' access to agricultural production resources in Ogun state.

**Table 5**  
**Constraints to sesame farmers' access intervention input**

Variable	Serious		Mild		Not a constraint		Weighted score	Rank
	F	%	F	%	F	%		
Lack of Extension workers	15	16.7	28	31.1	47	52.2	64.5	1 <sup>st</sup>
Sabotage	0	0.00	13	14.4	77	85.6	14.4	3 <sup>rd</sup>
Bureaucracy	0	0.00	24	26.7	66	73.3	26.7	2 <sup>rd</sup>
Language barrier	0	0.00	0	0.00	90	100.0	0.00	6 <sup>th</sup>
Format of presentation	0	0.00	6	6.7	84	93.3	6.7	5 <sup>th</sup>
Cost of transportation	0	0.00	12	13.3	78	86.7	13.3	4 <sup>th</sup>
Time of intervention	15	16.7	28	31.1	47	52.2	64.5	1 <sup>st</sup>

**Respondents' socio-economic characteristics and their level of access to intervention input**

The study shows that at 5 percent level of significance, there were significant relationships between sesame farmers' source of labour (self) ( $\chi^2 = 10.777$ ), friends ( $\chi^2 = 2.668$ ) and their access to intervention input in the area. This shows that both labour source (self) and friends influenced sesame farmers' access to intervention input in the study area.

The findings in Table 6 further shows that significant correlation exists between age (r = -

0.235), income (r = -0.364), constraints (r = 0.026) and sesame farmers' access to input. This means that age, income and constraints were sufficient enough to influence sesame farmers' access to inputs. The result also implies that the younger the respondents and more income derived the likelihood of their desire to explore various tactics and means of accessing input to enhance their production potentials as well as curtailing the constraints.

**Table 6**  
**Relationship between the socio-economic characteristics of sesame farmers and their access to intervention input**

Variable	$\chi^2$	Df	Decision	Variable	r-value	Decision
Marital status	0.306	1	NS	Age	-0.235	S
Education	3.248	3	NS	Income	-0.364	S
<b>Source of Labour:</b>				Experience	-0.089	N
Self	10.777	1	S	Farm size	-0.124	N
Family	0.538	1	NS	Source of information	0.018	N
Hired	0.267	1	NS	Constraints	0.026	S
Friends	2.668	1	S			
Membership to Association	2.227	1	NS			

**CONCLUSION**

Most sesame farmers had access to improved seeds and marketing outlets. However, level of access to agricultural input among the respondents was low. Lack of extension agents' contact and time of intervention ranked first among factors that constituted constraints to sesame farmers. Self labour was significantly related with respondents' access to input. Also, age, income and constraints were significantly correlated with sesame farmers' access to input.

**RECOMMENDATIONS**

Appropriate number of extension agents should be deployed to the rural areas to facilitate sesame farmers' contact with them. This is germane in ensuring that good number of sesame farmers is offered extension services in their areas of needs.

Awareness creation is crucial in encouraging sesame farmers to join formidable cooperative associations.

This can increase their chances of accessing formal agricultural information that are relative to sesame farming. This also will be of benefit to most sesame farmers that cannot read and write in English Language and enlighten them on how to go about accessing available intervention input.

Delays in releasing approved input should be adequately addressed. This will further motivate farmers into seeking for such input to boost and improve their production capacity as well as income earning.

### REFERENCES

- Amaza P. S., Maurice D. C.(2005) Identification of factors that influence technical efficiency in rice-based production systems in Nigeria. Paper presented at Workshop on Policies and Strategies for Promoting Rice Production and Food Security in Sub-Saharan Africa:- November 2005, Cotonou (Benin), pp. 7-9.
- Babalola .D. A, V. O. Okoruwa, B. T. Omonona and O. A. Oni (2013) Assessment of the influence of government intervention programme on sugarcane production in Nigeria: Evidence from Jigawa State *Journal of Research and Development* Vol. 1, No.1
- Deji O.F, F.O Adereti and O.A Ilori (2005) Factors associated with accessibility of female headed households to selected agricultural production resources in Ogun State, Nigeria. *Nigeria Journal of Rural Sociology* Vol. 5 Nos 1 & 2 pp39
- Ewebiyi, I.O, N.S. Sangotegbe and O.T. Ikwuakam (2012) Access to productive resources among women farmers in Odeda Local Government Area of Ogun State, Nigeria. *Nigeria Journal of Rural Sociology* Vol. 13, No 1. pp. 89-97.
- Food and Agricultural Organisation (FAO) (2010) Key statistics of food and agriculture external trade. faostat database. accessed from <<http://www.fao.org/es/ess/toptrade/trade.asp> . on 12th July, 2014.
- Federal Institute for Industrial Research (FIIR)(1990) Report on survey of selected agricultural raw material in Nigeria
- International Fund for Agricultural Development (IFAD) (2001) Agriculture in the Federal Republic of Nigeria. Abuja: IFAD, pp.92
- Manyong V. M., Ikpi A., Olayemi JK, Yusuf SA, Omonona BT, Okoruwa V, Idachaba F. S.(2005) Agriculture in Nigeria: Identifying opportunities for increased commercialization and investment. IITA, Ibadan, Nigeria. p. 159.
- Mshelia, J. S.; A. A. Sajo and D.T. Gungula (2012) Sesame production as panacea for poverty alleviation in Nigeria. *Journal of Agriculture and Veterinary Sciences* Volume 4, pp19
- National Population Commission (2007) Census Report. Abuja: NPC
- Obibuaku, L.O. 1999: Agricultural extension as a strategy for rural transformation of Nigeria. University of Nigeria Nsukka Press, pp. 56
- Odoemenem, I.U and L.B. Otanwa (2011) Economic analysis of cassava production in Benue State, Nigeria *Current Research Journal of Social Sciences* 3(5): pp. 406-411.
- Olukotun, F.T, O.Oseke, P.O. Fadele and E.A. Babalola (2012) Sources and problems of obtaining credits facilities among small scale maize farmers in Soba Local Government Area, Kaduna. J.M. Jibin, M.A Hussaini, B.M Auwalu, E.U. Essiet. I.R. Muhammad, S.G. Mohammed, M.I. Daneji, Y. Garba and S.A. Pantami (eds) *Proceeding of the 46<sup>th</sup> annual Conference of Agricultural Society of Nigeria* 5<sup>th</sup>-9<sup>th</sup> November
- Raw Materials Research and Development Council (RMRDC) (2004) Survey report of ten selected agro raw materials in Nigeria BENISEED (Maiden Edition). Raw materials Research and Development council Garki 108pp
- Sankar D, Ali A, Sambandam G, Rao R. (2010) Sesame oil exhibits synergistic effect with anti-diabetic medication in patients with type 2 diabetes mellitus. *Clinical Nutrition* Vol. 3: pp 351-8
- Ugwoke E.O, E.C Mathew-Njoku, E.C. Anaeto, C.F and Okereke E.N (2009) Socio-economic factors affecting farmers use of mass media agricultural programmes in Imo State, Nigeria. *Nigerian Journal of Rural Sociology* Vol. 9 No. 1