AGRICULTURAL EXTENSION SERVICES DELIVERY AND ACCESS AMONG MALE AND FEMALE MELON FARMERS IN NIGER STATE, NIGERIA

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ABSTRACT
The study examined the visitations of extension agents to melon farmers and the effects on their yield. Multistage sampling procedure was used to select the farmers. The first stage involved purposive selection of three Local Government Areas (LGAs) (Agaie, Mokwa and Katcha) due to high level of melon production in these places. In the second stage, random selection of three villages from these LGAs was done. A total of 250 melon farmers were sample (30 respondents from 8 villages each and 10 respondents from a village due low population). Primary data used in this study were obtained by the use of questionnaires administered to melon farmers with the assistance of enumerators. The result of this study showed that 45% of female farmers had farming experience ranging from 11-20 years. Fifty-five percent (55%) of the melon farmers had no extension visit. Also 71% of the female melon farmers had no extension visit too. This study revealed that extension visitation was low in the area; consequently, extension training and information were received by only a few farmers which resulted in inefficient use of technologies, leading to low yield. Based on the findings of the study, one can conclude that extension has a role to play in productivity of the farmers. To enhance melon farmers' capacity and productivity, the study recommended improved extension services in the area. NGOS and other relevant organization should also intensify their efforts in the provision of these services to farmers

Keywords: *Extension service, melon, farmers' access, Niger State.*

INTRODUCTION
Agricultural extension is the application of scientific research and knowledge or delivering of information inputs to farmers through farmer education. Christoplus *et al*., (2015) define extension or rural advisory services as consisting of all the different activities that provide the information and services needed and demanded by farmers and other actors in rural setting to assist. Then in developing their own technical, organizational and management skills and practices so as to improve their livelihood and well-being. Nortjie (2014) stated that throughout human history, civilizations have depended on agriculture for their survival, however as soon as they neglected their agriculture, industries collapsed and the civilizations also collapsed.
The evolution of extension service is related to changes in development objectives and goals which involved achieving national food security, improving rural livelihoods and maintaining natural resources. The crucial role of agricultural extension in the social and economic development of the nation cannot be over-emphasized. Agricultural extension in Africa is the foundation and tool to provide effective agricultural extension services for farmers and farming communities to make well- grounded decision that will increase productivity, diversify, commercialize agriculture and increase income (Abdou, 2015). In Nigeria like other developing countries, agriculture remains the most viable economic sector and considerably contributes towards production and employment. Nigeria produces a variety of agricultural crops, vegetables and fruits to feed its own population and earns foreign exchange through exports

due to the favorable factor such as good climatic condition and fertile soil before discovery of oil (Eboh, 2015). Agricultural extension is considered as a special branch dealing with several economic and social aspects of farming (Bembridge, 2013).

Nigeria is a country well known for its abilities to grow melon particularly in Niger state for local consumption and also for export. According to NSADP (2016), majority of the farmers in Niger Southern part of the state produce melon as a sole crop or in a mixed cropping. Melon popularly known as Egusi is being cultivated in commercial quantity in Niger State, Southern part of the state such as Katcha, Mokwa, Agaie, Gbako, Lavun, Edati, and Lapai LGAs (NSADP, 2000). However, the volume of melon production decreased over time. Problems concerning the Limited growing area and farm practices; such as seed quality, pest control, harvesting, and post-harvesting still remain. In order to help farmers, solve these problems, appropriate technologies from researchers need to be disseminated by agricultural extension workers to farmers. Therefore, the role of extension in enhancing the capabilities of farmers is considered to be very important for the development and enhancement of melon production. Thus, this study examines the extension contacts (visitation of extension agents to melon farmers), yield of farmers and problems encountered. It is anticipated the results of the study can be used as a basis for future policy formulation and strategic planning for melon production to ensure agricultural growth and to increase farm income.

MATERIALS AND METHODS

Niger state south senatorial zone was selected as the study location because it is among the Leading melon production areas in Nigeria (NSADP,2016) Niger south has an altitude of 420m above sea level of north central zone of Nigeria. It is located between Latitude 9º045'N and longitude $6^0$07’E. The climate of the area is suitable for growing melon. Melon is the most economically beneficial crop as an important cash crop in Niger State and is grown on a commercial scale. Nine villages were selected from three (3) LGAs namely: Bakeko, Edotsu, Yinti, Kudu Batati, BokaniNami, Baro with 30 respondent each and Zago with 10 respondents using random sampling method to obtain 250 farmers. This study made use of primary data obtained through the use of questionnaires administered to melon farmers. The primary data were analyzed by the use of descriptive statistics.

RESULT AND DISCUSSIONS

Farming experience in melon production

Farming experience is an important factor in agriculture. Result of this study showed that 45% of the male and 41% of female farmers had farming experience ranging from 11-20 years (Table1). The average farming experience for the male and female farmers were 25 and 19 years respectively. This shows that the farmers had considerable experience in melon farming which could influence their productivity. In agriculture, land is considered to be the most important factor of production. Result from this study revealed 53% of male farmers cultivated the range of 11-20 hectares of land with a mean size of 1.65 hectare (table 1). This result is similar to the findings of Ohen and Ajah (2012) who reported that, the majority of the farmers in their study were small scale farmers with mean farm size of 1.2hectare. Twenty eight percent (28%) of the female farmers cultivated the range of 0.1-1.0 hectare and 39%with a mean size of 1.3 hectares. The table below indicates the farmers are small scale farmers.

Table 1: Distribution of Melon farmers based on farming experience and farm size

Variable	Male (%)	Female (%)
Farming experience (years)		
1-10	24.8	22.6
11-20	45.5	41.6
21-30	35.7	27.4
31-40	7.50	5.30

Farm size (ha)		
0.1-1.0	31.7	28.4
1.1-2.0	53.5	39.7
2.1-3.0	23.7	17.1
Greater than 3	7.40	5.20
Standard Deviation	1.65	1.30

Extension contacts

Table 2 reveals that 55% of the male melon farmers had no contact with extension agents; likewise, 71% of the female melon farmers had no contacts with extension agents too. Twenty three percent (23%) male farmers had extension contacts between 3-4 times, while 12% of female farmers had extension contact between 3-4 times. Overall, farmers in the study area were found to have very poor extension services. This study revealed that extension contact was low in the area; many of the melon farmers had never received an agent on their farms. Consequently, extension training and information on melon farming were received by only few farmers which may result in inefficient use of technologies, leading to low yield. Similarly, AL-sharafat *et al*. (2014) and Baloch and Thapa (2014) argued that the productivity of date palm trees declined in Pakistan, mainly due to ineffective extension services that is; untrained extension officials and lack of field demonstration.

Extension provision remained low for both men and women melon farmers, and women made less use of extension services than their male counterpart. Female farmers have no or less extension contact due to religious affairs and lack of female extension agents in the study area. Adekola *et al*., (2017) said that for agricultural development to be accelerated and for production to increase, extension services must be invigorated as farmers largely depend on it for their information needs.

Table 2: Distribution of farmers according to extension contact

Variable	Male (%)	Female (%)
Number of Extension Contact		
No contact	55.3	71.5
1-2	14.2	10.4
3-4	23.4	12.6
5-6	8.3	5.1

Quantity of Melon Produced.

It was found that 0.7% of male and female farmers had yields of above 4, 000kg/ha. Sixty-three percent 63% of the male farmers harvested between 2000-3000kg/ha while 51.7% of the female farmers harvested the same quantity. NSADP (2014) gave the yield potential of the two common varieties of melon as NME11, 150 tons/hectare and GME13 as 140tons/hectare. Comparing the yield realized by the farmers with the potential of the crop, the yield realized by the farmers in the area was very low, implying that there is still room to increase melon yields in the study area. The results indicate that access to extension services and use of recommended knowledge and technology, farmers can enhance their productivity.

Table 3: Distribution of Melon Farmers based on the quantity of yield obtained.

Variable	Male (%)	Female (%)
Yield harvested (kg)/ha		
2000-3000	63.5	51.9
3001-4000	49.3	38.2
Above 4001	0.7	0.7

Constraints Encountered by melon farmers

About 90% of male and 95% of female melon farmers had the problem of high cost of production. Farmers lacked improved storage technology as reported by 55% of male and 53% of female farmers. Ninety-five percent (95%) of male farmers and about 98% of female farmers

indicates lack of extension services as a problem in the area. This supports the view given by the Bello and Salau (2011) that the capacity of extension organizations to effectively deliver extension services to farmers has been impaired by erratic releases of funds and adverse effects on the overall performance of agricultural extension services. The feeder roads in most cases are poor and impassable especially during the wet season. Also, Sixty-one percent (61%) of male and 63% of female melon farmers indicated transportation as a problem in the area. The lack of good road and high cost of transportation prevents farmers from carrying their produce on time. Despite a focus on extension, the findings of this study also revealed that provision of an effective extension services alone cannot ensure the intended improvement in the yield. Land holding size, availability of required labour and adequate capital to manage inputs equally play important roles in enhancing crop yield.

Table 4: Distribution of Melon farmers based on constraints encountered

Variable	Male (%)	Female (%)
Constraints		
High cost of production	90.7	95.7
Lack of credit	69.8	93.0
Problem of transportation	6.4	63.6
Poor storage facility	55.8	53.3
Poor extension services	95.7	98.3
Inadequate improved technologies	59.7	91.7

Multiple responses

CONCLUSION AND RECOMMENDATION

The study revealed that the majority of melon farmers in the study area were small-scale producer. There is the need for agricultural extension services to promote melon production in the study area. In enhancing farmer's capabilities and increased melon productivity, there is a need for inclusion of female extension agents. The government needs to pay serious attention to address the production problems faced by farmers. Finally, it is necessary to place emphasis on building and expanding rural transportation infrastructures, including all-feeder roads, in orders to facilitates interaction between farmers, markets and extension officials.

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