INFORMATION NEEDS OF FLUTED PUMPKIN (*Telfairia occindentalis* HOOK L.) FARMERS IN YOLA NORTH LOCAL GOVERNMENT AREA OF ADAMAWA STATE, NIGERIA

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Abstract: The study analysed information needs of fluted pumpkin farmers in Yola North Local Government, Adamawa State, Nigeria. The specific objectives were to: describe the socio-economic characteristic of the respondents; examine information needs on fluted pumpkin of the respondents; assess the information on fluted pumpkin production by the respondents; ascertain the sources of information by the respondents as well as identify the constraints faced by the respondents in the study area. Three wards were purposively selected based on their high involvement in fluted pumpkin farming, 96 commercial fluted pumpkins farmers were identified using snowballing sampling technique and were used for the study. Interview schedule was used to collect data. Descriptive statistics such as mean, frequency and percentages were used for the data analysis. Result shows that most (85.4%) of the respondents were male and 35.4% were between 30-39 years with mean age of 37, while majority (85.4%) practice mixed cropping. About 93% of the respondents had no access to extension services. Distribution of the respondents by source of information revealed that majority (80.3%) sourced their information through friends and neighbours. The study also revealed that inadequate fund (65.6%), poor provision of extension services (47.9%), and poor access of irrigation facilities (40.6%) as the most serious constraints faced by the respondents. It was concluded that fluted pumpkin farming were dominated by male that are in their active age, attended formal education, cultivate an average farm size of 1.6 hectares and utilized any available knowledge or information. The study recommended that farmers growing fluted pumpkin should form cooperative associations which they can access credit not only for production but for the value chain.

Keywords: Fluted pumpkin, information needs, farmers, Yola North

Introduction

Fluted pumpkin is a tropical vine, grown in West Africa as a leaf vegetable and for its edible seeds (fluted guard). It is one of the most important vegetable in Nigeria belonging to *Cucurbitaceae* family and is known by several common names, namely *Ugu* (Igbo), *Iroko* or *Aporoko* (Yoruba), *Ubong* (Efik), *Umee* (Urhobo), *Umeke* (Edo) (Opajobi *et al*., 2011). Fluted pumpkin is the first in the indigenous vegetable crops priority rating of south-eastern Nigeria and was believed to have originated from there (Badifu and Ogunsina, 1991). The leaf is rich in minerals (Iron, Potassium, Sodium, Phosphorus, Calcium and Magnesium), antioxidants, vitamins (thiamine, riboflavin, nicotinamide and ascorbic acids) and phyto-chemicals such as phenols (Fasuyi, 2006). The amino acid profile of fluted pumpkin has also been shown to be very rich and includes alanine, aspartate, glycine, glutamine, histamine, lysine, methionine, tryptophan, cysteine, leucine, arginine, serine, threonine, phenylalanine, valine, tyrosine and isoleucine (Fasuyi, 2006). The fruit case and pulp of Fluted pumpkin which constitute 64% of whole fresh fruit weight can be used as feedstuff for livestock (Essien *et al*., 1992; Egbekan *et al.*, 1998). The vegetable provides an appreciable cash income to small farm families (Akoroda, 1990). The seeds are eaten roasted, boiled or ground to paste as soup thickener (Eleke, 2004).

Fluted pumpkinproduction and consumption has gained popularity in many other parts of Nigeria because of its medicinal, economic and nutritive value (Ugwu, 2001). The crop forms one of the major components of human diet in many parts of Nigeria (Achinewhu and Isichei, 1990). Medicinally, the leaves and juice are recommended for pregnant women, lactating mothers and for the prevention of anaemia (Umeha, 2002). It also helps to solve gynaecological problems in both men and women. These justify the apparent increase in its production in Nigeria. Food and Agriculture Organization (FAO, 2002) noted that a non-wood crop are essentially part of the local subsistence economies but has not received the required attention in the development plan and nutrition programmes of those that depend on them. As a result of this, potential contribution of such crops to human remains unrealized.

It is observed that vegetable production in Nigeria is dominated by small-scale farmers who produce bulk of the food consumed in the country. It is widely acknowledged that efficient utilization of production inputs and adherence to recommended production practices is the heart of successful agricultural production. This is because; the scope of agricultural production can be expanded and sustained by farmers through efficient information utilization of resources (Ali, 1996; Udoh, 2005). According to Kebede and Gan (1999), the main sources of farm income for small and limited resource farmers are basically arable crop production consisting of vegetable and non-vegetable crops. Mlozi (2003) and Francisca and Eyzayuirre (2006) asserted that increase in vegetable production could improve food security and offer employment opportunities to many unemployed people in Nigeria. Akpan *et al.* (2011) documented that vegetables were the most affordable and accessible sources of micronutrients and its production is increasingly recognized as a catalyst for rural development where majority of people resides and as a means of revenue generation through foreign exchange earning in developing countries.Among the indigenous vegetables, fluted pumpkin variety seems to be widely eaten in Nigeria. It is used to be cultivated for its edible succulent shoots and leaves as a backyard crop; which as a result of movement and transporting the vegetable from South to North as means of business has increased the awareness of the importance of fluted pumpkin that leads to itscultivation in almost all the parts of the country (Akoroda, 1990). However, producers now see its production as business and produce all year round. A number of studies (Adebisi-Adelani *et al.*, 2011; Ibekwe and Adesope, 2010; Emenyonu *et al.*, 2010; Nwauwa and Omona, 2010; Nwachukwu and Oyenweaku, 2009) have been carried out on fluted pumpkin production in other parts of Nigeria, but little or no information exist on the analysis of information needs of fluted pumpkin farmers in

Yola North Local Government of Adamawa State, Nigeria. Therefore, this study was conducted to analyze the information needs of fluted pumpkin farmers. The specific objectives of the study were to:

i. describe the socio-economic characteristic of the respondents in the study area;
ii. examine information needs on fluted pumpkin of the respondents;
iii. assess the effect of adequate information needs on fluted pumpkin production;
iv. ascertain their sources of information and
v. identify the constraints faced by the respondents in accessing information.

Materials and Methods

The study was carried out in Yola North Local Government Area of Adamawa State, Nigeria. Primary data were used for this study, which involved administering of questionnaire to 96 respondents to obtain data with regard to their socio-economic characteristics, information needs and constraints faced by the respondent in the study area. The population for this study consists of all registered commercial vegetable farmers that produce fluted pumpkin in Yola North Local Government Area of Adamawa State. Three (3) wards were purposively selected based on their high involvement in fluted pumpkin farming; these wards were; Jambutu, Gwadabawa, and Rumde. Snowball sampling technique was used, a total of Ninety-six (96) fluted pumpkin farmers were identified and they were all used for the study. Descriptive statistic such as mean, percentage and frequency were used to analyse all the objectives.

Results and Discussion

Socio-economic characteristics of the respondents

Both males and females were engaged in fluted pumpkin production in the study area. Result on Table 1 reveals that majority (85.4%) of the respondents were male while female constituted only (14.6%). This result shows that fluted pumpkin production in the study area is majorly carried out by male which could be as a result of its responsibility on male being household head to cater for his family therefore ventures into fluted pumpkin production in other to generate quick income. This agrees with the finding of Nizamuddin *et al.* (2009) who reported that fluted pumpkin are remunerative crops and that farmers, particularly young men, turn towards its production as is known to generate quick income for sustenance. The age distribution of the respondents shows that majority (35.4%) of the respondents were between 30- 39 years of age, 34.4% were within the age range of 40-49 years of age and the respondents within 20-29 years accounts for 22.0%, while 8.3% of the respondents are more than 50 years of age. This implies that more than 70.9% of the farmers were between 30- 49 years of age, while the mean age of the farmers was 37 years. This result indicates that majority (70.9%) of the respondents are young. The result is in line with the finding of Nworu (2004), who reported that younger farmers are more likely to take risk by seeking and adopting better fluted pumpkin leaf production methods than older farmers who are more often than not conservative.

The distribution of the respondents' marital status reveals that, 78.1% of the respondents were married, while 16.7% were single. Divorcee constitutes only 5.2% as presented in Table 1. Most rural farmers preferred to marry in order to source out for cheap family labour (Spell *et al.*, 2012). The distribution of the respondents according to household size shows that most of the respondents (66.6%) have household size of 5-9 persons, 19.8% have household size of 10 persons and above, while 13.5% have the household size of 0-4 persons with mean household size of 7. This confirmed the finding of Effiong (2005) that large family size is the important input for unpaid labour, especially in the rural areas. The distribution of the respondents according to educational level shows that majority (78.2%) of the farmers had attained more than primary school level. However, 21.9% of the fluted pumpkin farmers had no formal education. It is well known that the level of education of farmers have significant impact on their productivity and ability to adopt new innovations and learn from what the extension agents teach them. They may also have the ability to combine different inputs to improve their productivity (Balogun *et al.*, 2015).

The distribution of the respondents based on cropping pattern reveals that majority (85.4%) mixed fluted pumpkin with other vegetables such as amarantus, sorel, moringa, okra, tomatoes, and water leaf, while 14.6% solely cultivate fluted pumpkin. This shows that 85.4% practiced mixed cropping; this could be because mixed cropping serves as insurance against failure of one of the crops. This confirm the findings of Fawole and Oladele (2007) that the major reason for having more than one crop on a piece of land at the same time is to ensure increased and steady family income.

Table 1: Descriptive statistics of the respondents

Socio-economic characteristic	Frequency	%
Gender		
Male	82	85.4
Female	14	14.6
Age (years)		
20-29	21	22.0
30-39	34	35.4
40-49	33	34.3
≥ 50	8.0	8.3
Mean age- 37 years		
Marital status		
Single	16	16.7
Married	75	78.1
Divorced	05	5.2
Educational level		
No formal education	21	21.8
Primary education	14	14.6
Secondary education	43	44.8
Tertiary education	7	7.3
Adult education	11	14.6
Cropping pattern		
Sole	14	14.6
Mixed	82	85.4

Source: Field survey, 2016

Respondents' awareness of information needs

The result on Table 2 reveals the information needs among the respondents, 0.97 is identified as the average mean score, any variable with mean score of 0.97 and above were regarded as area of information needs of the respondents. From the study, Site selection and land preparation (mean=0.98), seed selection (mean=1.0), weeding (mean=1.0), fertilizer application (mean=0.98), irrigation (mean=1.0), staking (mean=0.97) and method of crop harvesting (mean= 1.0) all showed information need. The result shows that fluted pumpkin farmers in the study area are aware and need recommended practices for fluted pumpkin production. Sokayo *et al.* (2014) observed that interpersonal connectivity between farmers and agricultural extension agents will enhance farmers' information literacy, knowledge and awareness of current trend in farming that will boost stages of farming and abundance food supply.

Table 2: Distribution of the respondents by awareness of information needs (n=96)

Awareness	Frequency	%	Mean
Site selection and land preparation			
Yes	95	99.0	0.98*
No	1	1.0	0.02
Seed selection			
Yes	96	100	1.0*
Seed treatment			
Yes	64	66.7	0.66
No	32	33.3	0.66
Seed density			
Yes	93	96.9	0.96
No	03	3.1	0.09
Planting method			
Yes	92	95.8	0.95
No	04	4.2	0.08
Weeding			
Yes	96	100	1.0*
Fertilizer application			
Yes	95	99.0	0.98*
No	01	1.0	0.02
Irrigation			
Yes	96	100	1.0*
Staking			
Yes	94	97.9	0.97*
No	02	2.1	0.04
Bio-control of pest			
Yes	57	59.4	0.59
No	39	40.6	0.81
Crop harvesting			
Yes	96	100	1.0*
Average mean score	**0.97***		

Source: Field survey, 2016

Table 3: Distribution of the respondents by utilization of fluted pumpkin practices (n=96)

Utilization	Frequency	%
Site selection and land preparation		
Yes	90	93.7
No	6	6.3
Seed selection		
Yes	92	95.8
No	4	4.2
Seed treatment		
Yes	40	41.7
No	56	58.3
Seed density		
Yes	84	87.5
No	12	12.5
Planting method		
Yes	89	92.7
No	7	7.3
Weeding		
Yes	96	100
Fertilizer application		
Yes	93	96.9
No	3	3.1
Irrigation		
Yes	96	100
Staking		
Yes	92	95.8
No	4	4.2
Bio-control of pest		
Yes	10	10.4
No	86	89.6
Crop harvesting		
Yes	96	100

Source: Field survey, 2016

Distribution of the respondents by utilization of fluted pumpkin practices

The distribution of the respondents by utilization of fluted pumpkin recommended production technologies indicated that majority of the respondent utilized good number of recommended technologies for fluted pumpkin production (Table 3). Most 93.7%, select, prepare and utilized good site for farming; all (100%) of the respondents' select viable seeds before planting. In other to attained optimum yield and avoid competitions among the plant, 87.5% make use of recommended seed density of fluted pumpkin, while 92.7% utilized planting methods. All (100%) of the respondents weed and irrigate the crops while 95.8% made use of staking materials. The result also reveals that only 10.4% used Bio-control method of pest. Kansana *et al*. (1996) indicated that participation in training, access to communication sources and numbers of information sources have significant association with level of knowledge and utilization of improved agricultural technology.

Sources of information of the respondents

The distribution of the respondents by source of information reveals that majority (80.3%) sourced their information through friends and neighbours (Table 4); only 2.3% reveals that they get their information on recommended methods of production through extension agents. By implication, there is an inadequate extension service to fluted pumpkin farmers in the study area which may deny the respondents information on modern agricultural techniques. This result is in line with the findings of Odini (2014) who stated that farmers sought information by asking friends, neighbours, talking to relatives and discussions with those whom they thought had the needed and right information.

Table 4: Distribution of the respondents based on their sources of information

Sources of information	Frequency	%
Radio	13	9.8
Television	5	3.8
Newspaper	2	1.5
Extension agent	3	2.3
Non-government organisation	3	2.3
Friend/Neighbour	106	80.3
Total	**132**	**100**

Source: Field survey, 2016
*Multiple responses

Table 5: Constraints militating against pumpkin farmers access information need

Constraints	Frequency	%
Poor access of irrigation facilities	39	40.6
Poor technical know-how on production	20	20.8
High cost of production	13	13.5
Poor access to improved seed	29	30.2
Poor road network	19	19.8
Poor pricing system	13	13.5
Poor provision of extension service	46	47.9
Inadequate/ lack of funds	63	65.6
Unsuitable market channel	8	8.3
Weed problem	1	1.0

Source: Field survey, 2016
*Multiple responses

Constraints militating against pumpkin farmers access information need

The frequency distribution of respondents according to the constraints faced by respondents in the study area reveal that inadequate fund (65.6%), poor provision of extension contact (47.9%), poor access to irrigation facilities (40.6%) and poor access to improved seeds (30.2%) has been identified as the

most serious problem facing the farmer in the study area (Table 5). Small holder farmers often lack access to appropriate inputs and the necessary technical production skills due to inadequate input and soft credit market as well as weak extension systems (USAID, 2005). This finding agrees with that of Estolas (1996) who confirm that farmers experience a number of constraints in agricultural production; these includes inadequate fund, inadequate training and extension support, inadequate irrigation facilities, high cost of farm inputs and road conditions among others.

Conclusion and Recommendations

Based on the study, it was concluded that fluted pumpkin farming were mostly undertaken by males that are in their active age and attended formal education and cultivate on the average farm size of 1.6 hectares. Average mean score was identified to be 0.97, any variable with mean score of 0.97 and above were regarded as area of information needs of the respondents. Site selection and land preparation (mean=0.98), seed selection (mean=1.0), weeding (mean=1.0), fertilizer application (mean=0.98), irrigation (mean=1.0), staking (mean=0.97) and method of crop harvesting (mean= 1.0). The study also revealed that the respondents needed recommended agricultural information but their major sources of information were from friends and neighbours. Base on the finding of the study, the following recommendations are suggested to improve access to and productivity by farmers in the study area:

i. Farmers growing fluted pumpkin should create a cooperative associations through which they can access their information needs such as on how and where to borrow, methods of production, value chain, local processing, marketing and distribution.
ii. Extension service for farmers should be strengthened by the extension institution situated within the study area by making frequent visits to farmers, so as to make available to farmers the latest information on fluted pumpkin production and good agronomic practices to improve their productivity.

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