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An Overview of Okra Production, Processing, Marketing, Utilization and Constraints in Ayaragu in Ivo Local Government Area of Ebonyi State, Nigeria

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ABSTRACT

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The study was carried out into the production, processing, marketing, utilization and constraints of Okra in Ayaragu in Ivo Local Government Area of Ebonyi State, Nigeria. Data was collected through the use of a well structured questionnaire and Field observations from 60 Okra farmers using simple random sampling technique. The data collected were analyzed using descriptive statistics. The result reveals that majority of the respondents are within their active productive age, with a mean age of 30.5 years, the male sex dominated the production process while 76.7% are married acquiring at least secondary education (41.7%) which aided their ability to understand and adopt new innovation meant to increase productivity. Production was small – scale carried out majorly on farm size of 0.5ha. Processing was carried out using traditional technique of slicing, crushing and grating. Okra utilization was fresh and dried mostly to make draw soup. Marketing was carried out at the farm gate and local market. Among the notable constraints to increase production and marketing are fluctuation of prices and bad roads. If these constraints are adequately cater for it will positively enhance productivity.

Keywords:

Assessment, Okra, Production, Processing, marketing, utilization, constraints

INTRODUCTION

Vegetable are important protective food for the maintenance of health and prevention of disease. It contains valuable food ingredients, which can be successfully utilized to build up and repair the body (Bakhru, 2003; Edet and Etim, 2007). Vegetables are valuable in maintaining alkaline reserve in the body. They are valued mainly for their high vitamin and mineral content (Bakhru, 2003). The production of vegetable has become very popular in many countries of the world due to its importance in the diet of the people. The production of vegetable has been recognized as the most affordable and accessible sources of micronutrient, which is increasingly regarded as a catalyst for rural development and as a means of increasing and generating foreign exchange in Africa (AVRDC, 2004). Okra production constitutes about 4.6 percent of the total staple food production in Nigeria in the year 1970 – 2003 (CBN, 2004). Okra is the most important fruit vegetable crop and a source of calorie (4550Kcal/kg) for human consumption. It ranks first before other vegetable crops (Babatunde *et al.*, 2007). It is one of the most commonly grown vegetable crops in the tropics. Okra cultivation and production has been widely practiced because of its importance to the economy development and can be found in almost every market in Africa. Varieties vary by plant height, size of fruit, color, early or late maturing etc., viz; white velvet, green velvet, long pod, lady finger, dwarf green pods (Udoh *et al.*, 2005). Christo and Onuh (2005); Katung and Kashina (2005) documented that okra is consumed throughout Nigeria. According to CBN (1996), the average growth rate of vegetable crop including okra produced in Nigeria between 1989 and 1993 was 14.0% compared to 6.4% of cassava, 18% for palm oil and 3.8% for maize. Okra as a vegetable crop belongs to the genus *Abelmoschus*, Family *Malvaceae* and has two main species: *Abelmoschus esculentus* (L) Moench and *Abelmoschu Caillei* (A. Chev) Stevels (Siemonsma, 1982). Originated in Africa, the plant is now cultivated in tropical, sub-tropical and warm temperate regions around the world (NRC, 2006). The economic importance of okra cannot be overemphasized. Okra contains carbohydrate, protein and vitamin C in large quantities (Adeboye and Oputa, 1996). The essential and non-essential amino acids that okra contains are comparable to that of Soybean. It was also reported by Eke *et al.* (2008) that fresh okra fruit is a good source of vitamins, minerals and plant proteins. As a result it plays a vital role in human diet; it can be consumed boiled, fried or cooked for the young immature fruits. In Nigeria, okra is usually boiled in water resulting in slimy soups and sauces, which are relished. The fruits also serve as soup thickeners (Schippers, 2000). The leaves, buds and flowers are also edible. Okra seed could be dried. The dried seed is a nutritious material that can be used to prepare vegetable curds, or roasted and ground to be used as coffee additive or substitute (Farinde *et al.*, 2001). Okra leaves are considered good cattle feed, but this is seldom compatible with

primary use of the plant. Okra mucilage is suitable for medicinal and industrial applications. It has medically food application as a plasma replacement or blood volume expander. Industrially, okra mucilage is usually used in glaring certain papers and also useful in confectionery among other uses (Markose and Peter, 1990).

Okra production worldwide is estimated at six million tones per year. In West Africa, it is estimated at 500,000 to 600,000 tonnes per year (Burkil, 1997). The total area under cultivation has increased over the years. India is the world largest producer followed by Nigeria and Sudan (Varmudy, 2011). There are two distinct seasons for okra production in Nigeria, the peak and the lean seasons. During the lean season okra fruit are produced in low quantities, scarce and expensive to get (Bamire and Oke, 2003). In the peak season, it is produced in large quantities much more than what the local populace can consume. Adequate processing, preservation, marketing and utilization of okra are necessary to arrest the wastage being experienced during the peak season. The study therefore seeks to assess the level of okra production, processing, marketing and utilization, also to determine the constraints hampering production of Okra in the study area.

METHODOLOGY

The study was conducted between March and July 2012, in the area collectively known as Ayaragu which comprises mainly of the following settlement; Ayaragu Amagu, Ayaragu Ogwo and Okohia Ayaragu. The community which is in Ivo Local government area of Ebonyi State is located on latitude 17°21'N and longitude 17°47'E (NPC, 2006). The major occupation of the people is farming. Their cropping systems are mainly mixed cropping; intercropping as well as sole cropping and the main crops cultivated in the area are cassava, yam, okra, garden egg, cocoyam, rice and sweet potatoes.

Sampling Procedure: The target populations for this study are okra farmers. The respondents are sixty (60) in numbers and are chosen from the population of the okra farmer through random sampling technique.

Data Collection: Primary data were obtained for the study through the structured questionnaires as well as personal interview scheduled to suit the farmer's convenience. Data collected include background information of the respondents, level of okra production, methods of production, processing methods, utilization and constraints. The data collected was analyzed using descriptive statistics like frequency and percentages.

RESULTS AND DISCUSSION

Demographic Characteristics of the Respondents

With regards to the age distribution of the respondents 11.7% were within the age range of below 20years, 58.3% were between 21 and 40 years, 25.0% were between 41 and 60 years while 5% were aged between 61 and 80 years. The mean age of the respondents was 30.5 years indicating that most of the respondents are in their active productive/economic years, hence active participation in the farming activity; this will go a long way to enhance productivity, since

agriculture is a labour intensive activity, which agrees with the findings of Adewumi and Omotesho (2002) which says, productivity and output of the farmer is expected to be affected by his age (Table 1). Virtually all the respondents are male (75%) while the remaining 25% are female, an indication that farm lands are owned by men; most women work with their husbands on family farms and also due to drudgery which agrees with the finding of Emokaro et al., (2007).

Table 1: Distribution of respondents according to age and sex

| Age Range | Frequency | Percentage |
|------------------|------------------|-------------------|
| Below 20 | 5 | 11.7 |
| 21 – 40 | 35 | 58.3 |
| 41 – 60 | 15 | 25 |
| 61 – 80 | 3 | 5 |
| Sex | | |
| Male | 45 | 75 |
| Female | 15 | 25 |

Field Survey 2012

In Table 2, about 15% of the respondents are single, 76.7% are married and 8.3% are widow, this shows that most of the respondents are responsible individuals. It was also revealed in Table 2, that 8.3% of the respondents had informal education, 33.3% had primary education and 16.7% of the respondent had tertiary education, which shows that all of the respondents had one form of education or the other, which shows that they are literate, thus the are in a position to understand and adopt available innovations that enhances productivity. It was also discovered that 5% of the respondent had been in the practice of okra production for between 0 and 1 years, 13.3% of them for between 2 and 3 years, 20.0% had grown okra for

4 to 5 years while 50.0% had been in the production business for between 6 to 7 years and 11.7% of the respondent had grown okra above 7 years, this revealed that majority of the farmers had some level of experience which has enhanced their productivity level. They have over the years been able to acquired strategies which have been used to combat some challenges militating against increased production. Majority of the respondents are into fulltime production of okra (66.7%) while part- time (33.3%), this could be attributed to inadequate availability of full-time employment thus most respondents engage themselves in farming activities, and likewise due to the rural nature of the area.

Table 2: Distribution of respondents according to marital status, education level and farming experience

| Marital Status | Frequency | Percentage |
|------------------------------------|------------------|-------------------|
| Married | 46 | 76.7 |
| Widow | 5 | 8.3 |
| Single | 9 | 15 |
| Education | | |
| Informal education | 5 | 8.3 |
| Primary | 20 | 33.3 |
| Secondary | 25 | 41.7 |
| Tertiary | 10 | 16.7 |
| Farming Experiences (Years) | | |
| 0 – 1 | 3 | 5.0 |
| 2 – 3 | 8 | 12 |
| 4 – 5 | 12 | 20.0 |
| 6 – 7 | 30 | 50.0 |
| Above 7 | 7 | 11.7 |

Field Survey 2012

Production of Okra

Land preparation for okra production includes land clearing, ploughing, harrowing and heaping or ridging. The farmers use different type of tillage implements

depending on their ability. From the data gathered majority of the farmers use cutlass and hoe regularly (93.3%) while 6.7% of them use tractor alongside the crude implements. This high percentage associated with the use of crude implement is one major reason

for the subsistent level of okra production. Majority of the respondent, about 71.7% planted okra on farm land of size 0.5ha, 15 % on farm size of 0.25ha, 8.3% of them cultivated 1ha and 5% of these farmers cultivated 2ha of farm land which agrees with the resulted obtained by Olayide (1980); Ogungbile and Olukosi (1991) and Nwaiwu (2007) that majority of farmers in sub-saharan Africa are smallholders of farm size of less than 6 hectares. This reveals that most farmers engage in subsistent level of production using rudimentary capital for production. It could also be attributed to the land tenure system and also due to the problem of unavailability of storage, processing and preservation facilities, shown in Table 3.

Table 3, also revealed that some of the farmers hired labor (38.3%), and used age group (6.7%) but majority used family labor (65.0%). The total amount of labor supplied for okra production among the respondents was measured in man -days. A man- day is the amount of work that an individual

can do in a day. The total amount of labor consists of labor contributed by family, hired and age groups. There is, however, the need for introduction of modern tillage equipment (tractor and implements) within the reach of these respondents. This can be achieved by farmers organizing themselves into cooperative societies such that they can pool their resources together and hence able to afford the cost of the equipment being introduced. This effort will enhance the production of okra in the area.

Three types of okra variety were used for production in the study area. Improved okra varieties like NH47-4 representing 5% and LD88 (5%) were used and a local variety called Ayaragu (90%), this accounted for the low yield noticed in the study area. This seeds are source from previous harvest (70%), friends (13.4%), relatives (8.3%), seed stores (3.3%), market (3.3%) and research institutes (17%) shown in Table 3.

Table 3: Distribution of respondents according to farm size, method of land preparation, source of labor, source of seeds and variety planted

| Farm size (HA) | Frequency | Percentage |
|--|------------------|-------------------|
| 0.25 | 9 | 15 |
| 0.50 | 43 | 71.7 |
| 1 | 5 | 8.3 |
| 2 | 3 | 5 |
| <u>Method of Land Preparation</u> | | |
| Manual | 56 | 93.3 |
| Tractor | 4 | 6.7 |
| <u>Source of Labor</u> | | |
| Family labor | 33 | 55.0 |
| Hired labor | 23 | 38.0 |
| Age group | 4 | 6.7 |
| <u>Source of seeds</u> | | |
| Previous harvest | 42 | 70.0 |
| Seed stores | 2 | 3.3 |
| Market | 2 | 3.3 |
| Friends | 8 | 13.4 |
| Relatives | 5 | 8.3 |
| Research and allied institutions | 1 | 1.7 |
| <u>Variety Planted</u> | | |
| Ayaragu | 54 | 90.0 |
| NH ₄₇₋₄ | 3 | 5.0 |
| LD88 | 3 | 5.0 |

Field Survey 2012

Respondents in the study area enjoys various sources of credit facilities but majority obtain credit facilities from relatives (48.3%) and friends (26.7%), shown in Table 4, the implication of this, is that production will continue to be at a subsistent level, and hence their access to improved technologies involved in production, processing and preservation of okra will be reduced. Extension services needs to be improved upon since they provide advisory services to the farmers on how to increase their productivity, from the

study, majority of the respondents do not have access to extension services, and only 15% of the respondents had access to extension services while 85% do not. The implication of this is that production of okra will always remain stagnant and will not be improved, since improved methods and practices taught by extension will not get to the farmers in the study area.

Table 4: Distribution of respondents according to source of credit facilities and access to extension facilities

| Source of Credit | Frequency | Percentage |
|---------------------------|-----------|------------|
| Relatives | 29 | 48.3 |
| Friends | 16 | 26.7 |
| Cooperative society | 8 | 13.4 |
| Microfinance Banks | 5 | 8.3 |
| Commercial Banks | 2 | 3.3 |
| Extension Services | | |
| No | 51 | 85.0 |
| Yes | 9 | 15.0 |

Field Survey 2012

The maintenance of the crop planted was carried out to increase productivity; most of the respondents do not use fertilizer (81.7%) due to non-availability of fertilizer and its exorbitant cost which is out of the reach of majority of them while only 11% made use of fertilizer. Weeding was carried out manually (78.3%) while respondents who could afford chemicals were just 21.7%, and weeding was done 2 to 3 time before harvesting to avoid competition for nutrients by the weeds, pest and disease infestations and also to avoid low yield.

Insecticide was used to kill the insect (91.7%), which destroy the flora buds of okra; some of these insects include the cricket, *Brachytrupes membranaceus Drury*, the bollworm, *Earias biplaga* w/k, and the beetle, *Anomala denuda* Arrow, while 8.3% do not use insecticide thereby reducing their yield. The common insecticide used by the respondent is cyperforce.

Harvesting of Okra

Okra is harvested once every four day and the method used for harvest is manual. There were no facilities for mechanized method of harvesting in the study area. Due to this, the whole process leads to drudgery and thus calls for design and production of appropriate technologies for harvesting okra. The average quantity of okra harvested was 327.21kg. Table 5 shows that 50.0% of the farmer harvested between 1 to 200kg of okra, 20.0% harvested between 20 to 400kg, 21.7% harvested between 401 to 600kg of okra, 5.0% harvested between 601 to 800kg of okra and while 3.3% harvested between 801 to 1000kg of okra. This is an indication of the small-scale level of production of okra in the study area.

Table 5: Distribution of respondents according to quantity of okra harvested

| Quantity of Okra harvested (kg) | Frequency | Percentage (%) | Cumulative percentage (%) |
|---------------------------------|-----------|----------------|---------------------------|
| 1 – 200 | 30 | 50.0 | 50.0 |
| 201 – 400 | 12 | 20.0 | 70.0 |
| 401 – 600 | 13 | 21.7 | 91.7 |
| 601 – 800 | 3 | 5.0 | 96.7 |
| 801 – 1000 | 2 | 3.3 | 100 |

Field Survey 2012

Table 6, shows that 37 respondents made not more than ₦5000.00, 10 respondents made between ₦5001.00 and ₦10,000.00, 8 respondents made between ₦10,001.00 and ₦15,000.00, 4 respondents

made between ₦ 15,001.00 and ₦20,000.00 and 1 respondent made above ₦20,001.00. The average amount of money made from okra in the study area was ₦11,617.50.

Table 6: Distribution of respondents according to income realized from sales of okra

| Amount | Frequency | Percentage (%) | Cumulative percentage (%) |
|---------------|-----------|----------------|---------------------------|
| 1 – 5000 | 37 | 61.7 | 61.7 |
| 5001 – 10000 | 10 | 16.7 | 74.4 |
| 10001 – 15000 | 8 | 13.3 | 91.7 |
| 15001 – 20000 | 4 | 6.7 | 98.4 |
| Above 20000 | 1 | 1.6 | 100 |

Field Survey 2012

Processing of Okra

Table 7, reveals that 73.3% of the respondents used only slicing method for processing okra, 16.7% used slicing and crushing method and 10% used slicing and grating methods. This is an indication that manual and semi-modern processing methods are still being used for both fresh and dried okra. The tools used for processing fresh okra are knife, grater, and mortar and

pestle/grinding stone respectively. There were no facilities for mechanized processing. This also called for the design and production of intermediate technologies for processing okra. Fresh okra are preserve by putting them in a basket for not more than 1 week while sliced okra are sun dried for three days and stored in basket, bags or clay pots for future use.

Table 7: Distribution of respondents according to method of processing

| Processing Method | Frequency | Percentage (%) | Cumulative percentage (%) |
|----------------------|-----------|----------------|---------------------------|
| Slicing | 44 | 73.3 | 73.3 |
| Slicing and crushing | 10 | 16.7 | 90.0 |
| Slicing and grating | 6 | 10.0 | 100 |

Field Survey 2012

Marketing of Okra

Marketing is the sum total of activities involved in a market. Marketing includes selling, advertising and packaging (John, 1999). Marketing plays a vital role in the production process because a well organized and efficient market structure ensures profitable return to seller, at a reasonable price to consumers .

Production of okra being a perishable crop is affected by its marketing (Kemble *et al.*, 1995). Channels of marketing in the study area include farm gate, local market, and sales at the farm gate and local market. Table 8 shows that 10 of the respondents sell their produce at the farm gate, 45 of them sell at the local market while 5 of them sell both at the farm gate and local market.

Table 8: Distribution of respondents according to marketing channels of okra

| Marketing Channel | Frequency | Percentage (%) | Cumulative percentage (%) |
|----------------------------|-----------|----------------|---------------------------|
| Farm gate | 10 | 16.7 | 16.7 |
| Local market | 45 | 75.0 | 91.7 |
| Farm gate and local market | 5 | 8.3 | 100 |

Field Survey 2012

Utilization of Okra

Table 9 shows that farmers use both dried and fresh okra for food in the study area. From the study, it was revealed that 60.0% of the respondent used okra

fresh, while 33.3% used it dried and 6.7% used it both as fresh and dried. Fifty-five of the respondents preferred the taste of fresh okra while 5 preferred the taste of dried okra.

Table 9: Distribution of respondents according to type of utilization of okra

| Type of Utilization | Frequency | Percentage (%) | Cumulative percentage (%) |
|------------------------|-----------|----------------|---------------------------|
| Fresh | 36 | 60.0 | 60.0 |
| Dried | 20 | 33.3 | 93.3 |
| Fresh and Dried | 4 | 6.7 | 100 |
| Preferred Taste | | | |
| Fresh | 55 | 91.7 | 91.7 |
| Dried | 5 | 8.3 | 100 |

Field Survey 2012

Constraints to Okra Production

Nine items were listed in order to determine relevant variables that acted as constraints to okra production in the study area. According to the respondents in Table 10, 71.7% indicated fluctuation of prices, 43.5% bad roads, 37.0% far distance of market, 26.1%

indicated lack of information about available markets and prices, 26.1% indicated lack of storage facilities, 8.7% stated small-scale of production, 6.5% problem of middlemen, 4.3% lack of standard measure and 2.2% stated high cost of production. Most of the respondents, however, indicated more than one production constraints, thereby confirming the findings

of Emokaro and Erhabor (2006), that farmers are faced with more than one constraint in the production process. Effort must be made to address these

constraints, especially the fluctuation in prices and bad roads, considering the positive effect these would have on increased okra production in the study area.

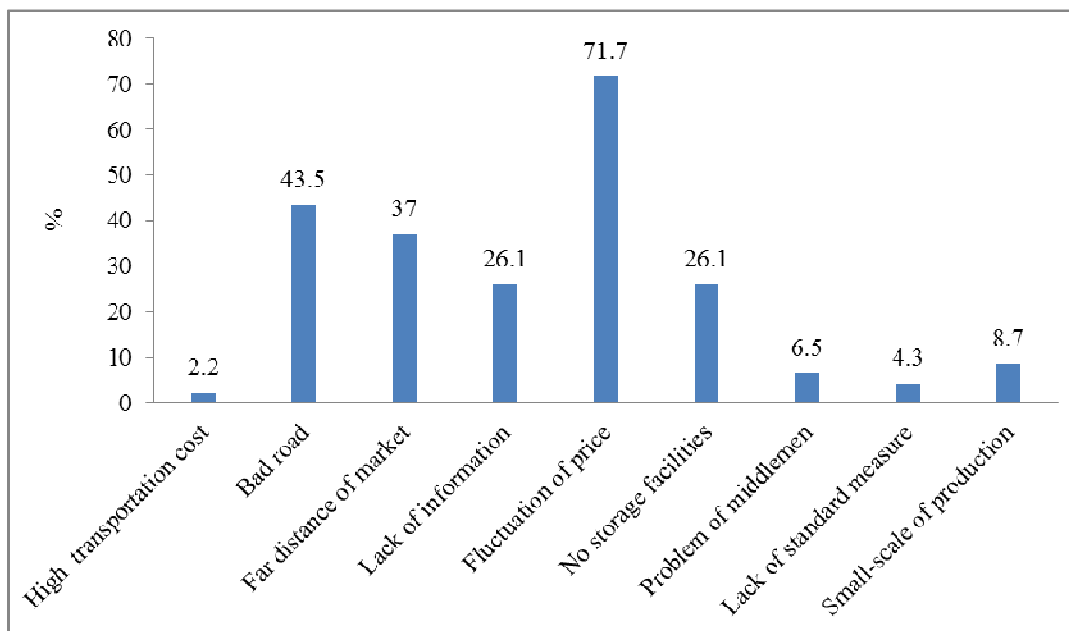


Figure 1: Constraints encountered when disposing produce
Field survey 2012

CONCLUSION

The Study was carried out to assess okra production, processing, marketing, utilization and constraints in Ayaragu in Ivo Local Government Area of Ebonyi State using descriptive statistics. It was discovered that majority of the farmers are in their productive age, are literate, are into small-scale production with majority cropping a land area of 0.5ha indicating a subsistent level of production. Processing was found to be at the traditional level. Marketing of the produced was carried out at the farm gate and the local markets, majority of the farmers made use and preferred fresh okra fruit while few preferred it dried. Major constraints faced by farmers in the area are fluctuation of prices and bad roads which if properly addressed can go a long way to enhanced productivity.

REFERENCES

- Adeboye, OC and Oputa, CO, (1996): Effect of galex on growth and fruit nutrient composition of okra (*Abelmoschus esculentus*). Ife Journal of Agriculture, 18(1&2), 1 – 9.
- Adewumi, MO and Omotesho, OA, (2002): AN analysis of production objective of small rural farming household in Kwara State, Nigeria. J. Rural Development 25(winter). Pp 201 – 211.
- Asian Vegetable Research Development Centre for Africa (AVRDC) (2004): 11th Regional Training course on vegetable crop production and

Research. Tanzama 4th July – 4th November, 2004.

- Babatunde, RO, Omotesho, OA and Sholotan, OS, (2007): Socio-economic Characteristics and Food security status of farming household in Kwara State, North – Central Nigeria. Pakistan Journal of Nutrition Vol. 6, No. 1, p.16.
- Bakhru, HK, (2003): Foods that heal. The Natural way to good health. Orient paperbacks, Delhi, pp82 – 90.
- Bamire, AS and Oke, JT, (2003): Profitability of vegetable farming under rainy and dry season production in Southwestern Nigeria. Journal of vegetable crop Prod.; 9:11 – 18
- Burkil, HM, (1997): The useful plant of West African 2nd edition. Vol. 4, Families M-R, Royal Botanic Garden. Kew United Kingdom pp. 969pp
- Central Bank of Nigeria (CBN) (2004): Annual Report and Statistical Bulletin, Vol. 6, No. 12, December 2004.
- Central Bank of Nigeria (CBN) (1996): Annual Report and Statement of Account, Nigeria.
- Christo, EI and Onuh, MO, (2005): Influence of plant spacing on the growth and yield of Okra (*Abelmoschus esculentus* (L) Moench. Proceedings of the 39th conference of the Agricultural Society of Nigeria (ASN) held at Benin, 9th- 13th October, PP 51-53.
- Edet, GE and Etim, NA, (2007): Gender Role in fluted Pumpkin (*Telferia Occidentalis*) production in Akwa Ibom State. Proceeding of the 41st Annual Conference of the Agricultural society of Nigeria

- (ASU) held at Zaira, 22nd – 26th October, pp 612 – 615.
- Eke, KA, Essien, BA and Ogbu, JU, (2008): Determination of Optimum Planting Time of okra (*Abelmoschus esculantus*) cultivars in the derived Savannah. Proceedings of the 42nd Annual Conference of Agricultural Society of Nigeria (ASN). October 19th to 23rd at Ebonyi State University. Pp 242 – 245.
- Emokaro, CO and Erhabor, PO, (2006). A comparative analysis of input use and profitability among cassava farmers in the three agro-ecological zones of Edo State, Nigeria. *Journal of Sustainable Tropical Agricultural Research* 19:15-22.
- Emokaro, CO; PA, Ekunwe and A Osifo, (2007): Profitability and Production constraints in dry season amaranth production in Edo South, Nigeria. *Journal of Food, Agriculture and Environment* Vol. 5(3&4): PP281-283.
- Farinde, AJ; OK Owlarafe, and OI Ogungbemi, (2001): An Overview of Production, processing, marketing, and utilization of okra in Egbedore Local Government Area of Osun State, Nigeria. *Agricultural Engineering International. The CIGR E Journal*. Vol. IX. July, 2007.
- Katung, MD and Kashina, BD, (2005): Time of partial Defoliation and GAS Effect on Growth Indices and yield of okra (*Abelmoschus esculantus* (L) Moench). Proceeding Of the 39th Annual Conference of the Agricultural Society of Nigeria (ASN) held at Benin, 9th-13th October, PP 210-213.
- Kemble, J.M., E.J. Sikora, G.W. Zehnder and M.G. Patterson (1995): Guide to commercial okra production. File: IIE/ANR – 959. Guide to Commercial okra production. htm.
- John F, (1999): Introduction to marketing. International Thompson on Business press. P5.
- Markose, BL and Peter, KV, (1990): Okra, review of research on vegetable and tuber crops. Technical Bulletin, 16. Kerala Agricultural University Press, Mannuthy Kerala, pp. 109
- National Population Commission (NPC) (2006): Population census of the Federal Republic of Nigeria Analytical Report at the National Level, National Population Commission, Abuja.
- National Research Council (NRC) (2006): Lost Crops of Africa: Volume 11: Vegetable, National Academic Press.
- Nwaiwu, IU, (2007): Comparative Analysis of the use of External and Internal farm inputs for sustainable cassava production in Imo State. An unpublished M.Sc thesis submitted to the Postgraduate School, Federal University of Technology, Owerri, Imo State, Nigeria.
- Ogungbile, AO and JO Olukosi, (1991): An overview of the problems of the Resource for Farmers in Nigeria Agriculture. In Olukosi *et al* (eds) *Appropriate Agricultural Technologies for Resource Poor farmers*. National Farm Systems Network 1991. pp 21 – 35.
- Olayide, SO, (1980): Characteristic and Significance of small Farmers in Nigeria, problem and Prospects. In *Integrated Rural Development Card*, University of Ibadan.
- Schippers, RR (2000): Africa Indigenous Vegetable an overview of the cultivated species. National Resources Institute (NRI), University of Greenwich, London, United Kingdom, 214 pp.
- Siemonsma, JS, (1982): The cultivation of Okra (*Abelmoschus SPP*), tropical fruit-vegetable (with special reference to the Ivory Coast) D.H.O., thesis, wageningen Agricultural, Wageningen, the Netherland. 297pp
- Udoh, DJ,Ndon, BA, Asuquo, PE and Ndaeyo, NU, (2005): Crop production techniques for the tropics. Concept publisher, Lagos, Nigeria.PP 223-247.
- Varmudy, V, (2011): Marketing Survey needed to boost okra exports. Department of economic Vive Kananda College, Puttur Karnataka.

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