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# CONTRIBUTION OF VEGETABLE PRODUCTION TO FOOD SECURITY IN URUAN LOCAL GOVERNMENT AREA, AKWA IBOM STATE, NIGERIA

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**ABSTRACT**

The study assessed the contribution of vegetable production to food security in Uruan Local Government Area, Akwa Ibom State, Nigeria. Specifically, the objectives of the study were to identify the socio-economic characteristics of respondents and to identify the major vegetable crops grown by farmers for livelihood diversification in the study area. Sample sizes of 121 respondents were selected through multi-stage sampling procedure from selected agricultural zones in Uruan LGA. Data collected were analyze using descriptive statistics. Results of the study revealed that female farmers (88.3%) participated in vegetable production, while (11.7%) of the participants were males. Majority of the farmers aged 51-60 years (63.3%) were involved in vegetable production while a small proportion aged 20-30 years (2.5%) were also involved; 55% of the farmers had no formal education implying that their educational level were relatively low. In identifying vegetable crops grown by farmers for livelihood diversifications, waterleaf ranked 1st ($\bar{X}$ = 3.61) followed by fluted pumpkin ($\bar{X}$ = 3.59) while cucumber ranked 9th ($\bar{X}$ = 2.44). Results of the hypothesis revealed that sex, marital status, farm size and system of land ownership were 11.519, 9.664, 44.072 and 44.817 respectively and were significant at 1%, 5% and 10% respectively. The study concluded that socio-economic characteristics of farmers are significantly related to vegetable production. The study therefore recommended that land tenure policy should be reviewed to enhance land ownership, human capital development should be prioritized, agricultural co-operatives should be formed, also, extension services should be provided to farmers.

**KEY WORDS:** Vegetable, food security, contribution, Uruan.

## INTRODUCTION

The socio-economic well-being of any society requires the optimal utilization of available resources to produce food for the generality of the people thereby ensuring food security. (Effiong, Ndifon and Oyeye, 2012). This was the case of Nigeria in the 1970's-90's as an agrarian nation but with the oil boom came a paradigm shift from agriculture to oil exploration. (Effiong, Ndifon and Odunuga, 2012). The global increase in population particularly in Nigeria has brought about increased demand for safe, healthy and nutritious vegetables for consumption. Nigeria has failed to meet her demand for vegetables resulting in importation of over 105,000 metric tonnes of tomato pastes valued at N16 billion between 2009-2010 (FAO, 2015). The low quality of food people consume in diets has resulted in hidden hunger phenomena that causes debilitating diseases such as diabetes, cancer, ataxia, scurvy, cardio vascular disease (CVD) amongst others (WHO, 2014).

Vegetable consumption in diets augments nutritive values of staple foods like rice, beans, yam and maize due to its rich assortment of vitamins, minerals, proteins, sugar and oils thereby controlling the incidence of hidden hunger (Nwalieji, 2006, Muanya, 2003, Umeha, 2002, Hughes, 1995). For this reason, World Health Organization (WHO) recommended daily intake of 400-800g/day of vegetables worldwide. However, in Nigeria daily intake of vegetables range from 200-450g/day. This is because of the current economic recession, consumers are more interested in the quantity of food they consume and not the quality and this leads us to the principle of RED in Nutritional Extension that asserts that R – Rest, E – Exercise and D- Diet are the panacea for fighting hidden hunger menace in Nigeria (WHO, 2000; Effiong, Effiong and Udo, 2015; Akpabio, 2005). The Economist Intelligence Unit (EIU) has published its 2015 Global food Security index, Nigeria is ranked 91st with the average of 31.7% index. The food security index for Akwa Ibom and Uran Local Government Area is 20.5% and 15.9% respectively (Effiong et al, 2015; EIU, 2015). These therefore shows that there is food insecurity in Nigeria which has resulted to hidden hunger. Hidden hunger is a malnutrition situation whereby the food consumed is not able to meet up the body's nutrient requirement in terms of proteins,

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vitamins, minerals and sugar/oil contents needed for growth and development (WHO, 2014).

## METHODOLOGY

The study was conducted in Uruan Local Government Area in Uyo agro-ecological zone of Akwa Ibom State, a coastal state in the South-South agro-ecological zone of Nigeria called the Niger Delta Region. Uruan occupies a landmass area of approximately 449km$^2$ with an estimated population of over 118,300 people (NPC, 2006). It is made up of 57 villages with many creeks, rivers and streams emptying into the Atlantic Ocean and this makes the area rich in fishes, crabs, shrimps, lobsters, oyster and periwinkles amongst others. The people are largely fishermen, farmers, traders, canoe builders and carpenters since the area lies in the rainforest belt and it is rich in timber and non-timber products (NTP's).

A multi-stage sampling technique was used to select the respondents. At first stage, purposive sampling technique was used to select Uruan as a block from Uyo Agricultural Zone. This was influenced by the prevalence of vegetable farmers in the block. The second stage was the purposive selection of 11 cells from the block namely; Ekim Enen, Ndon Ebom, Adadia, Esuk Odu, Ikot Inyang Esuk, Ekpene Ibia, Ituk Mbang, Ekpene Ukim, Use Uruan, Issiet Ekim and Ikot Akan. This was due to the intensive all year round cultivation of vegetables in the cells. In the third stage, 11 respondents were randomly selected from each of the selected cells. This produced a sample size of 121 respondents. However, 120 questionnaires were retrieve from the respondents and used for the study. Primary data collection was done with the aid of an interview schedule and a structured questionnaire, while secondary data were obtained from relevant literatures and publications. Descriptive and inferential statistics were used to analyze data collected for the study. These included frequency, percentage, mean and rank. Hypothesis of this study was analyzed using chi-square test.

## RESULTS AND DISCUSSION

### Socio-economic characteristics of respondents:

Table 1 shows the socio-economic characteristics of respondents in the study area. From the table, 88.3% of the respondents were females, while 11.7% were males. This is in line with the findings of Charles and Bassey (2004) who asserted that vegetable production is dominated by women and hence the name "Women's Asset or Crop". Farmers within 51-60 years old (63.3%) were the largest age group that participated in vegetable production. The result showed that most of the respondents were adult vegetable farmers. This findings corroborates with the studies of (Yenusi and Oguntade, 2014; Effiong, Effiong and Udoh, 2015) who reported that majority (73.2%) of women vegetable farmers in Osun State, Nigeria were within the age of 41-60 years.

The educational level of the respondents showed that 55% had no formal education implying that most farmers did not go to school while 11.7% attended tertiary institutions and 9.2% had FSLC. Mamen and Paxson (2000) opined that good educational level is concomitant with higher income, innovation adoption and information accessibility and utilization for increased vegetable production.

The study also showed that 40% had 1-2 hectares of farm land, while 10.8% had 7 hectares and above; 30% owned land by leasehold while 19.2% was by communal/free gifts, 60.8% were Christians while 25% were traditionalist. Furthermore, 42.5% earned N60,000-N80,000 per annum while 22.5% earned N150,000 and above per annum from vegetable production, implying that it is a profitable business enterprise. This finding is in line with (Obuobie, 2006; Njoku and Adesope 2007; Ekong, 2010) who suggested that vegetable production, results in livelihood diversification, increased income and job creation.

Table 2 shows vegetable crops grown by farmers for livelihood diversification in the study area. The result shows that waterleaf was intensively cultivated and ranked 1$^{st}$ ($\bar{X}$ = 3.61), followed by fluted pumpkin ($\bar{X}$ = 3.59), pepper ranked third ($\bar{X}$ = 3.20) while cucumber ranked 9$^{th}$ ($\bar{X}$ = 2.44) indicating low cultivation. This finding corroborates that of Igwe, Fortune and Gloria (2014) in whose study, fluted pumpkin (*Telfeiria*), waterleaf, and okra were the most cultivated vegetable crops by farmers in Abia State for livelihood diversification. Also, basil plant and scent leaf were ranked 8$^{th}$ ($\bar{X}$ = 2.76) and 7$^{th}$ ($\bar{X}$ = 2.98) respectively, showing low level of cultivation among farmers in the study area.

**Table 1: Socio-economic characteristic of respondents**

| Variable | | Frequency | Percentage |
|---|---|---|---|
| **Sex** | Male | 14 | 11.7 |
| | Female | 106 | 88.3 |
| | **Total** | **120** | **100** |
| **Age** | 20-30 | 3 | 2.5 |
| | 31-40 | 11 | 9.2 |
| | 41-50 | 30 | 25.0 |
| | 51-60 | 76 | 63.3 |
| | **Total** | **120** | **100** |
| **Marital status** | Married | 51 | 42.5 |
| | Divorced | 25 | 20.8 |
| | Widow | 35 | 29.2 |
| | Single | 9 | 7.5 |

| | | | |
|---|---|---|---|
| | **Total** | **120** | **100** |
| **Education Level** | No formal education | 66 | 55.0 |
| | FSLC | 11 | 9.2 |
| | SSCE | 29 | 24.2 |
| | Tertiary institution | 14 | 11.7 |
| | **Total** | **120** | **100** |
| **Household size** | 2-4 | 53 | 44.2 |
| | 5-10 | 35 | 29.2 |
| | 11-15 | 23 | 19.2 |
| | 16 and above | 9 | 7.5 |
| | **Total** | **120** | **100** |
| **Religion** | Christianity | 73 | 60.8 |
| | Islamic | 17 | 14.2 |
| | Traditional | 30 | 25.0 |
| | **Total** | **120** | **100** |
| **Major Occupation** | Civil servant | 24 | 20.0 |
| | Trading | 39 | 32.5 |
| | Farming | 57 | 47.5 |
| | **Total** | **120** | **100** |
| **Farm size** | 1-2 | 48 | 40.0 |
| | 3-4 | 35 | 29.2 |
| | 5-6 | 24 | 20.0 |
| | 7 and above | 13 | 10.8 |
| | **Total** | **120** | **100** |

**Table 1b**

| | | | |
|---|---|---|---|
| **Membership to organization** | Men/women religious society | 50 | 41.7 |
| | Young farmers club | 10 | 8.3 |
| | Agric.co-operative society | 24 | 20.0 |
| | Age grade society/club | 36 | 30.0 |
| | **Total** | **120** | **100** |
| Land ownership | Inheritance | 26 | 21.7 |
| | By leasehold | 36 | 30.0 |
| | By purchase | 35 | 29.2 |
| | Communal/free gift | 23 | 19.2 |
| | **Total** | **120** | **100** |
| Frequency of extension | Fortnightly | 31 | 25.8 |
| | Monthly | 24 | 20.0 |
| | Quarterly | 6 | 5.0 |
| | Annually | 59 | 49.2 |
| | **Total** | **120** | **100** |
| Income per annum | ₦60000-₦80000 | 51 | 42.5 |
| | ₦90000-₦110200 | 23 | 19.2 |
| | ₦120000-₦140000 | 19 | 15.8 |
| | ₦150000 and above | 27 | 22.5 |
| | **Total** | **120** | **100** |
| Types of Farming | Livestock rearing | 20 | 16.7 |
| | Aquaculture | 17 | 14.2 |
| | Mixed farming | 39 | 32.5 |
| | Vegetable farming | 44 | 36.7 |

| | | | |
|---|---|---|---|
| | **Total** | **120** | **100** |
| Vegetable farm | Fluted pumpkin | 45 | 37.5 |
| | Waterleaf | 57 | 47.5 |
| | Okra | 8 | 6.7 |
| | Pepper | 10 | 8.3 |
| | **Total** | **120** | **100** |
| Farming experience | <10 | 27 | 22.5 |
| | 11-20 | 49 | 40.8 |
| | 21-30 | 35 | 29.2 |
| | 31 and above | 9 | 7.5 |
| | **Total** | **120** | **100** |

**Source:** Field survey, 2017.

**Table 2: Vegetable crops grown by farmers for livelihood diversification in Uruan LGA, Akwa Ibom State**

| vegetables grown | Botanical Names | VGE 4 | SE 3 | LE 2 | NE 1 | CUM | MEAN | RANK |
|---|---|---|---|---|---|---|---|---|
| Waterleaf | *Talinum fruticosum* | 78(312) | 38(114) | 4(8) | - | 434 | 3.61 | 1st |
| Fluted pumpkin | *Telfairia occidentalis* | 78(312) | 38(108) | 5(10) | 1(1) | 431 | 3.59 | 2nd |
| Pepper | *Capsicum* | 36(144) | 74(222) | 9(18) | 1(1) | 385 | 3.20 | 3rd |
| Okra | *Abelmoschus esculentus* | 41(164) | 57(171) | 19(38) | 3(3) | 376 | 3.13 | 4th |
| Bitter leaf | *Venonia spp* | 43(173) | 53(159) | 19(38) | 5(5) | 374 | 3.11 | 5th |
| Lettuce (Afang) | *Lactuca sativa* | 32(128) | 62(186) | 21(42) | 5(5) | 361 | 3.00 | 6th |
| Scentleaf (Ntong) | *Ocimum gratissimum* | 30(120) | 64(192) | 20(40) | 6(6) | 358 | 2.98 | 7th |
| Basil plant | *Ocimum basilicum* | 23(92) | 55(165) | 33(66) | 9(9) | 332 | 2.76 | 8th |
| Cucumber | *Cucumis sativus* | 28(112) | 36(108) | 17(34) | 39(39) | 293 | 2.44 | 9th |

**Source:** Field survey, 2017.

VGE = Very great extent, SE= to some extent, LE = to a little extent , NE = no extent; CUM = Cumulative frequency
Values in parentheses are frequencies.
4, 3, 2, 1: are Likert Values.

**Decision rule:** Mean value > 2.50 indicates intensive cultivation while mean value ≤ 2.50 indicates low contribution.

**TEST OF HYPOTHESIS**

Ho: There is no significant relationship among selected socio-economic characteristics of respondents and vegetable production in the study area.

**Table 3: Hypothesis testing of the relationship among socio economic variables of farmers in Uruan LGA and vegetable production.**

| Variables | Vegetable production |
|---|---|
| Sex | 11.519*** |
| Age | 57.854 |
| Educational level | 10.721 |
| Marital status | 9.664** |
| Household size | 37.262 |
| Farming experience | 61.682 |
| Farm size | 44.072* |
| System of land ownership | 14.817* |
| Income per annum | 72.558 |

**Source:** Field survey, 2017.

Values in the table are the chi-square values. *, **, *** represents significant level at 10%, 5% and 1%.

The results of the hypothesis in Table 3 shows that sex, marital status, farm size and system of land ownership had mean of $\bar{X}$ =11.519, $\bar{X}$ =9.664, $\bar{X}$ =44.072 and $\bar{X}$ =14.817 respectively and were significant at 1%, 5% and 10% respectively.

The result in the table showed that sex of the farmers, marital status, farm size and system of land ownership are positively related to vegetable production for food security in the study are. This is in agreement with the findings of Effiong *et al.,* (2015) who opined that sex of the farmers, marital status, farm size and land ownership by farmers are some of the determining factors of food sufficiency in Akwa Ibom State, Nigeria.

The null hypothesis was therefore rejected and the alternative hypothesis accepted stating that, there is a significant relationship between selected socio-economic characteristics of respondents and vegetable production in the study area.

## CONCLUSION

The findings of the study have shown that vegetable production has significant relationships with socio-economic characteristics of the farmers. The study also reveals that vegetable production is women's asset or crop because it is mostly produced by women in homesteads. The study also showed that vegetable crops mostly cultivated for livelihood diversifications are; waterleaf, fluted pumpkin and pepper. Also, more arable and productive lands should be made available for vegetable production.

## RECOMMENDATIONS

Based on the findings of this study the following policy recommendations are proffered:

1. More opportunities for farm training for youth and enterprise development training particularly in value added activities such as vegetable processing and packaging should be made available. This will facilitates and encourage youth involvement in vegetable production and processing for livelihood and food security.
2. The Land Tenure System Act of 1978 should be reviewed to allow women and youths easy access to arable land for vegetable production.
3. Human capital development/building should be prioritized so that more farmers can be trained and formally educated.
4. Extension services should be provided to farmer/populace for innovation dissemination and enlightenments on the rich potentials of vegetables to fight against hidden hunger menace in Nigeria.
5. The formation of agricultural co-operative, men/women societies and age grade clubs should be encouraged to enable farmers gain access to credit facilities and agro-inputs and to protect members from unfair exploitation and marginalization.
6. Socio-economic empowerment of women farmers should be advocated.
7. Government should provide more arable/productive land for vegetable production to enhance food security in Nigeria.

## REFERENCES


Akpabio, I., 2005. Human Agriculture: Social Themes in Agricultural Development. Abeam Publishing Company, Uyo, Akwa Ibom State. Pp. 42-47.

Charles, J. and Bassey, C., 2004. Women and Household Food Security: A Study of Vegetable Farming in Calabar Urban. Nigerian Southeast Journal of Agricultural Economics and Extension. Vol. 6 1 and 2.

Effiong, J. B., Effiong, G. B. and Udo, U. A., 2015. Socio-economic Determinants of Production of Pro-Vitamin A Cassava Varieties by Farmers in Etim Ekpo Local Government Area, Akwa Ibom State, Nigerian Global Journal of Pure and Applied Science, Vol. 21.. pp. 106-100.

Effiong, J. B., Ndifon, H. M. and Odunuga, O. A., 2012.Determinants of Social Change among Rural Farmers in Nigeria. International Journal of Agricultural and Development Economics, (IJADE), 2(2): 97-98.

Effiong, J. B., Ndifon, H. M. and Oyeye, C. C., 2012.Functions of Youth Organizations in Agricultural and Community Development. Journal of Contemporary Development Studies (NJCDS) 1(2): 38-42.

EIU 2015 Economist Intelligence Unit Summit on global food security index. http//foodsecurityindex.eiu.com.index.

Ekong, E. E., 2010. Rural Sociology: An Introduction and Analysis of Rural Nigeria. Uyo: Dove Educational Publication Nigeria. Pp. 358-380.

FAO 2015 Food and Agriculture Organization Summit. Rome, Italy pp 31-34.

Hughes, D., 1995. African Gardens and Orchards Growing Vegetables and Fruits. Alphabet Publishers, Owerrri, Imo State, Nigeria. Pp. 9-10.

Igwe, K., Fortune, A., Gloria, N., 2014. Social Economic Complications of Home Gardening in the Livelihood of Farm Households in Abia State, Nigeria. MOUAU Press, Umuahia, Abia State, Nigeria. Pp. 6-10.

Mamen, K. and Paxson, C., 2000. Women's Work and Economic Development. The Journal of Economic Perspective, 14 (4), 141 – 164.

Muanya, C., 2004. Pineapple as a Panacea for Yuletide Ailment. Thursday Guardian, October, 16, P.61.

National Population Commission NPC 2006. Nigeria's National Census, Abuja, Nigeria. Pp. 52-55.

Njoku, E. C. and Adesope, C. O., 2007. Livelihood Diversity Strategies of Rural Women in Imo State. The Nigerian Journal of Agricultural Extension, 10, 117-123.

Nwalieji, H. U., 2006. Evaluation of Fadama Phase One Vegetable Production Project of the Anambra State Agricultural Development Programme. M.Sc. Thesis Project Submitted to the Department of Agricultural Extension, University of Nigeria, Nsukka. Pp. 5-6.

Obuobie, E., Keraita, B., Danso, G., Amoah, P., Cofie, O., 2006. Urban Vegetable Production in Ghana. Characteristics and Risk. IWMI-RUAF-CPWF, Accra, Ghana. Pp. 1-7.

Umeha, C., 2002. The Imperatives of Nutrition for Pregnant Mothers and Growing Children. The Guardian Newspapers, p.30.

WHO, 2000. World Health Organization Report. Geneva, Switzerland. Pp. 17-20.

WHO, 2014. International Conference on Nutrition. “Better Nutrition, Better Livers”. Rome, Italy. Pp. 80-88.

Yenusi, O.T. and Oguntade, M. I., 2014.Training Needs of Women Vegetable Farmers in Akinyele Local Government Area of Oyo State, Nigeria. Tropical Agricultural Research and Extension, 17(1), 38-44.