
Food Production Variables and Food Security in Akwa Ibom State

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ABSTRACT

This study investigates the influence of food production variables on food security in Akwa Ibom State of Nigeria. To guide the study, five specific objectives and five null hypotheses were formulated. Survey design was adopted for the study. The population of the study comprised 300 commercial farmers while 100 respondents were selected as sample size using simple random sampling technique. The researcher developed instrument entitled Food Production Variables and Food Security Questionnaire (FPVFSQ) was used to generate data for the study, t-test and Multiple Regression Analysis was used to analyzed the data obtained. The findings of the study revealed that, there is significant influence of food availability, accessibility, affordability and suitability on food security in Akwa Ibom State. The study therefore recommended Agricultural educators adopting practical oriented, teaching strategies that would ensure food availability, accessibility, affordability and suitability leading to food security. Agricultural Educators encouraging hand-on-experience to ensure youth skills acquisition for food production among others.

KEYWORDS: Food Production Variables, Food Security and Akwa Ibom State

Introduction

Food ranks first in the hierarchy of man's need in any society. It is the nucleus in which every individual survival anchors. One eats food to live and to have required energy to do work and contribute to the economy. One can do without adequate shelter, enough clothing but no one can do without food. Hence, it is always asserted that food is a frontline basic need of human beings (Daniel, 2008). Food, therefore, is a basic necessity of life. No living organism can survive for a long time without food. In this connection, obtaining adequate food is of concern for every individual, community, nation or state. Therefore, by implication, every community or nation must work hard to produce and or obtain adequate food for her citizens. Without adequate food for the population, there could be social problems and its attendant consequences such as riots, armed robbery, kidnaping, restiveness, militancy, insurgency, malnutrition and other health related problems (Akpan, 2010). It is against this background that the people of Akwa Ibom State have been producing food to cater for her growing population until about twenty-years ago when there began to be a decline in food production owing to various reasons ranging from decline in soil fertility as a result of oil exploration and exploitation and poverty due to lost of employment from the agricultural sector. Other factors include increased in population and the loss of farm lands to living estates, erosion, insufficient capital and low education of rural farmers among others.

However, of recent the issue of food availability, accessibility, affordability, suitability and security have become one of the important and most discussed issues in the Nigerian state. This is so, because of the rising food prices as well as warnings on impending food scarcity all over the world (Adisa, 2008 and Whiteman, 2008). Thus, it is not just the production or supply of food but food security. Food security is not just merely availability of food stuff to feed the populace, it is not increase in the production of food items alone. It is the ability of a nation to produce enough food and maintain adequate reserves from which it can feed its present and future generations at affordable prices (Daniel, 2008). In the same vein, Momoh (2008), maintained that food security exists when all people at all times have access to safe nutritious food to maintain a healthy and active life. Therefore, in this connection, the two explanations indicate that adequate production of safe nutritious food that is not only available for the present generation but also adequately reserved for the future generation at the affordable prices constitutes food security. Upon this concept, the issue of re-empowering of the Akwa Ibom farmers for increase food production becomes imperative (Akpan, 2010).

However, since the beginning of oil boom era of the 1970s there has been decline in agriculture, giving rise for the Federal Government to import food to meet the food demand of her populace. Hence, billions of naira have been spent to procure food to feed the growing population of Nigeria (Ode, 2010).

According to the report of Food and Agriculture Organization (FAO) of the United Nations (2016), there is food inadequacy in many nations of the world. The report also indicated that 880 million people worldwide were undernourished between 2000 and 2015. In most recent years, for which figures are available, the number of poorly-fed people have increased. An orange awareness ribbon is used to raise awareness of poor nutrition in the world. Usually it is a measure of condition majorly in children under 10 years of age. This definition refers to the amount of food available in that country (Web.World Bank.Org 2007). The most common justification for food insecurity is economic poverty in the society. Economic poverty has been known to contribute immensely to food security status among the people (Dalakar 2006). Food scarcity status therefore, of people in Akwa Ibom State of Nigeria seem to be influenced by variables of food availability, accessibility, affordability and suitability. This is because the bulk of food production is at peasantry level through subsistence agricultural practices by farmers in the rural location of the state (Williams, 2015).

Food availability has to do with having food in adequate quantity for consumption by individuals and families (Cormik, 2019). Food accessibility involves individuals and families having access to available food at all times while food affordability entails individuals and families possessing purchasing power to acquire the needed food stuff (Jennifer, 2005). Food suitability has to do with having quality food with necessary nutritional value to sustain body metabolism. Food security involved having available food in adequate quantity and quality with all necessary nutritional values to sustain body metabolism. Food security involved having available food in adequate quantity and quality with all necessary nutritional values to sustain body metabolism of individuals and families. Food production variables therefore consist of having food available, accessible affordable and Suitable to individuals and families (Usanga, 2003).

Food security describes the situation of having reliable food availability, accessibility, affordability, suitability and sustainability. In relation to this study, food security is achieved when all the citizens at all times have sustainable food supply, physical and economic access

to sufficient food at affordable cost and moderate price at the reach of common person and families with high quality level of nutrient in take at sustainable level. This study therefore investigates the influence of food production variables on food security. (Williams, 2005).

Statement of the Problem

There has been decrease in food production in Akwa Ibom State due to low soil fertility occasioned by erosion and leaching. Moreover, a lot of agricultural land has been utilized for real estate thereby greatly reducing the quantity and quality of food produced in the state. The emergence of Coronal Virus (COVID 19) pandemic further put pressure on food production and distribution in the state thereby encouraging food importation to meet the food demand of the populace.

Indigenous food production seems to fall short of meeting food demand of the ever increasing population of Akwa Ibom people. The researcher wish to observed that some rural and low income earners in the state go to bed hungry due to unavailability, inaccessibility, unaffordability and unsuitable food situation prevalence in state. To reduce the pains of hunger, there is the need reengineering agricultural production for increased food production. It is therefore, the problem of this study to investigate the influence of food production variables on food security in Akwa Ibom State.

Purpose of the Study

This study determined the influence of food production variables on food security in Akwa Ibom state. Specifically, the study determined the influence of

1. Food availability on food security in Akwa Ibom State.
2. Food accessibility on food security in Akwa Ibom State.
3. Food affordability on food security in Akwa Ibom State.
4. Food suitability on food security in Akwa Ibom State and also;
5. Determined the joint influence of food availability, accessibility, affordability, and suitability on food security in Akwa Ibom State.

Hypotheses

The following hypotheses were formulated and stated at 0.05 alpha level.

- H0₁:** There is no significant influence of food availability on food security in Akwa Ibom State
- H0₂:** There is no significant influence of food accessibility on food security in Akwa Ibom State
- H0₃:** There is no significant influence of food affordability on food security in Akwa Ibom State
- H0₄:** There is no significant influence of food suitability on food security in Akwa Ibom State
- H0₅:** There is no joint significant influence of food availability, accessibility, affordability, and suitability on food security in Akwa Ibom State

Research Methods

The research method considered area of the study, Design of the study, population, sample, and sampling technique, instrumentation, instrument validation, reliability of the instrument, and data analysis technique. The area of the study is the rural communities in the 31 Local government Area of Akwa Ibom State. The rural communities are those communities located 10 kilometers away from local government’s administrative headquarters. The inhabitants are primarily engaged in farming which is mostly subsistence, for the family. They experience the problem of imbalanced meals and irregular timing of eating the meals. Economically, they are not strong to afford the essentials of life when needed. A survey design was used for the study. The design assists the researchers to generate data from a sample of the farmers, population from the Akwa Ibom State Agricultural Development Project (AKADEP) Zones within the rural communities in the 31 Local Government Area of Akwa Ibom State.

The population for the study comprised all the farmers in the AKADEP zones involved in active food production in Akwa Ibom State. 300 AKADEP commercial farmers constitute the population for the study. A sample of 100 respondents were selected through simple random sampling technique. Ten farmers were randomly selected from each zone. Ten zones were drawn from the state giving a sample size of 100 respondents.

The researchers-developed, instrument named- Food Production Variables and Food Security Questionnaire (FPVFSQ) was used in generating data for the study. Section A of the instrument deals with farmers, Biodata. Section B, C, D, and E sought information on the variables (food availability, accessibility, affordability, suitability) and food security in Akwa Ibom State. The instrument was validated by five experts in the Department of Agriculture Education, Faculty of Education, University of Uyo, Uyo. Inputs from these experts were incorporated into the final draft of the instrument. A split-half procedure was used for establishing the reliability of the instrument. A group of 50 respondents not included in the study were used for reliability test. The instrument were administered and split halved. The reliability coefficient was established using Pearson Product Moment Correlation (PPMC) which yielded reliability coefficient of $r=0.92$ $P<0.05$. The coefficient value was considered high enough to make the instrument suitable for data generation the study. Data generate from the study were analyzed using t-test statistics in testing null hypotheses 1-4 while multiple Regression Analysis was used in testing hypothesis 5.

Result and Discussion of Findings

The result of the findings were discussed based on statistical evidence.

Table 1: Influence of Food Availability on food security

Variable	\bar{X}	S^2	Df	t-cal.	t-crit.	Decision
Food Availability	57.40	8.54	98	2.10	1.67	*
Food Security	48.50	5.24				

N=100; * = Significant at $P<0.05$ Alpha level.

Data presented in table 1 revealed that the calculated t-value of 2.10 was greater than the critical t-value of 1.67 at df 98 and 0.05 alpha level. Therefore, the null hypothesis stating that there is no significant influence of food availability on food security was rejected. This implies that there is significant influence food availability on food security in Akwa Ibom State.

Table 2: Influence of Food Accessibility on Food Security

Variable	\bar{X}	S ²	Df	t-cal.	t-crit.	Decision
Food accessibility	48.60	5.24	98	2.31	1.67	*
Food security	55.50	6.21				

N=100; *=significant at P<0.05 alpha level.

Table 2 showed that the calculated t-value of 2.31 was greater than the critical t-value of 1.67 at df of 98 and 0.05 alpha level. Therefore, the null hypothesis stating that there is no significant influence of food accessibility of food security in Akwa Ibom State was rejected. This implies that there is significant influence of food accessibility on food security in Akwa Ibom State.

Table 3: Influence of Food Affordability on Food Security

Variable	\bar{X}	S ²	Df	t-cal.	t-crit.	Decision
Food Availability	57.40	8.54	98	2.05	1.67	*
Food Security	55.50	6.21				

N=100; *=significant at P<0.05 alpha level.

Data presented in table 3 revealed that the calculated t-value of 2.05 was greater than critical t-value of 1.67 at df of 98 and 0.05 alpha level. Therefore, the null hypothesis stating that there is no significant influence of food affordability on food security was rejected. This implies that there is significant influence of food affordability on food security in Akwa Ibom State.

Table 4: Influence of Food Suitability on Food security

Variable	\bar{X}	S ²	Df	t-cal.	t-crit.	Decision
Food Availability	56.21	8.21	98	2.24	1.67	*
Food security	55.50	6.21				

N=100; *=significant at P<0.05 alpha level.

Table 4 indicated that the calculated t-value of 2.24 was greater than the critical t-value of 1.67 at df of 98 and 0.05 alpha level. There the null hypothesis stating that there is no significant influence of food suitability on food security was rejected. This implied that there is significant influence of food suitability on food security in Akwa Ibom State.

Table 5: Multiple Regression Analysis of Food Production Variables and Food Security

Source Variation	Df	Sum of Square	Mean of Square	F-ratio	F-value
Food Availability	1	2184.13	2184.13		
Within Group	97	28343.61	59.11	22.96	3.89*
Total	98	30527.61			
Regression Coefficient R		= 0.6382			
Regression Coefficient R ²		= 0.7073			
Standard Error		= 4.3350			

N=100; df 98; * = at P<0.05 alpha level.

Data presented in table 5 revealed that the regression coefficient value of $R=0.6382$ indicating that there was significant influence of food variable (Food availability, accessibility, affordability and suitability) on food security.

The five hypotheses tested highlighted the following findings.

1. There is significant influence of food availability on food security in Akwa Ibom State.
2. There is significant influence of food accessibility on food security in Akwa Ibom State.
3. There is significant influence of food affordability on food security in Akwa Ibom State.
4. There is significant influence of food suitability on food security in Akwa Ibom State.
5. There is significant joint influence of food availability, accessibility, affordability, and suitability on food security in Akwa Ibom State.

Discussion of the Findings

The findings of this study reveal that there is food availability in Akwa Ibom State. These findings agree with the earlier studies by Williams (2005). Which found out that the situation of food scarcity, in Akwa Ibom State.

Food Availability and Food Security in Akwa Ibom State

The finds of this study reveals that there is significant influence of food availability variables on food security in Akwa Ibom State. The findings of this study agree with the earlier studies by Williams (2005) that food availability directly affects the quality, quantity and suitability of food consumption of a given society. The situation of food security in Akwa Ibom State is seriously influence by food importation into the state at very high cost leading to few families being able to obtain food to meet the family food supply could be predicated on food scarcity due to low food production and therefore poor food consumption. The resultant effect of course, is starvation, hunger and malnutrition.

Food Accessibility and Food Security in Akwa Ibom State

The study indicates that there is significant influence of food accessibility on food security in Akwa Ibom State. The problem of food inaccessibility could be associated with lack of money to pay for large quantity of food, lack of money to meet food budget leading of homes leading to borrowing and the spending of the family income on food and in some instances buying on credit. This finding is support by the findings of Cormik (2019) who noted that consumption and savings depended on the individual family income, and the income levels in the city or town in which they family lived. Many families in Akwa Ibom State do not have easy access to qualify food due to low income and general economic poverty. The result, of course, is the poor nutritional status of the populace.

Food Affordability and Food Security in Akwa Ibom State

The result of this study reveals that there is significant influence of food affordability on food security in Akwa Ibom State. Food affordability influences the nutritional status of the people through lack of adequate food supply that enhanced healthy feeding programmes, lack of planning for balance diet, poor choice of food, lack of food supplements including essential vitamins and minerals. Though food may be available in the markets but the affordability

becomes a problem due to high cost of the food items. The current world food crisis is a clear indicator that food items are not affordable to low-income families and by extension, children who are easily affected by food crisis situation (Williams 2005).

Food Suitable and Food Security in Akwa Ibom State

The findings of the study shows that there is significant influence of food suitability on food security in Akwa Ibom State. Food suitability relate with nutritional status of the people in terms of food supply, types of food, family food choice, utilization of traditional food and compromising of the family prestige. This finding is in agreement with the findings of Jennifer's observation (2005) that food value has significant influence on citizen's nutritional status. Suitable food therefore informed the process of eating of quality and adequate quantity of food. Food suitability plays an important role of supplying essential nutrients for growth of the citizens. Food suitability also relates with high quality and sufficient quantity of healthy food intake, balanced diet that is void of nutrient deficiencies, skipping meals and the usage of water as food supplement. The findings also agreed with the studies of Cormik (2019) which indicated that serious nutrient shortage in human diet for an extended period due to food inadequacy, would lead to low nutritional status. The ultimate result will be malnutrition due to low nutritional intake, (Web. World Bank Org. (2007)). It could therefore be held that if citizens in Akwa Ibom State are not fed with suitable food items they may not have enhanced nutritional status.

Join Food Production Variables and Food Security in Akwa Ibom State

The study indicates that there is significant joint influence of food availability, accessibility, affordability and suitability on food security in Akwa Ibom State. These findings are supported by findings of Adisa, (2008) and Whiteman (2008) that the recent issue of food availability, accessibility, affordability, suitability and security have become one of the most outstanding problem facing the nation due to inability of the nation to produce enough food to meet the food demand of the citizens.

The researcher wishes to observed that the families were being fed with food stuff containing low nutrients leading to insufficient intake of balance diet that also lead to retarded growth of the citizens and mental development of individuals. There is therefore food insecurity in Akwa Ibom State occasioned by food unavailability, unaccessibility, unaffordability and unsuitability.

Implications of the Study to the Citizens in Akwa Ibom State

The study has implications for citizen's growth and development in Akwa Ibom State. If the citizens are fed with balanced diet, then they are bound to have raised nutritional status which will manifest in good health, good brain development for proper work performance and high achievements. The recommendations made in this study will promote citizens health care through nutritional procedure. It will also assist instructors in agricultural based food and nutrition to present instructional delivery that is relevant to the health and well-being of the citizens particularly youths. The study will also have implications for curriculum planners and designers as they would incorporate information provided in this study to restructure the current Agricultural Science, and Nutrition Curricula to include essential elements for good health and raised standard of living. It is hoped that, information provided will enhance a healthy society through food security.

Conclusions

Nigeria's food problem is not a recent development. It became a problem since the early 1970s when most farmers abandoned agriculture for oil money. Every year the federal government spends billions on the importation of food to the country. Akwa Ibom State is hereby used as an index of study, hence what is found in Akwa Ibom State is possibly applicable to every part of Nigeria. Food and its security sustains the economy. The providers of this food (rural farmers) are ignored and not encouraged. They provide this food under a very difficult and tortuous condition as a result of the traditional methods cultivation. There are farms scattered all over the country but the ability to feed the teeming population is not there. The real farmers (the peasants) do not have or have little attention from government. From all perspectives, if the issues raised here are considered. Food problems in Nigeria would be highly reduced. Nigeria would be a food export nation thereby ensuring food security.

Recommendations

Based on the findings of the study, the following recommendations are made;

- (1) Agriculture Educators should always adopt teaching strategies which are practical oriented towards food production, aimed at ensuring food security in Akwa Ibom State.
- (2) Agriculture educators should also encourage hand-on-experiences in agriculture at all levels, as a means of providing skills among youths for food production and improved nutritional status of the citizens.
- (3) Government of Akwa Ibom State should consider poverty alleviation through massive food production and also put in place functional micro-financing programme to support up-coming farmers.

REFERENCES

- Adisa, T. (2008). *Hunger Imminent in Nigerian Tribune*, April 16, pp. 1-4.
- Akpan, D. (2008). Revamping and Sustaining Nigeria Economy: A sector by sector approach in *Journal of the National Association for Science, Humanities and Education Research*, 1(6) July.
- Akpan, D.A (2010). Re-empowering Ibibio rural women for increase food production in the 21st Century. *International Journal of Research in agricultural Education and Related Discipline*, 5:(2).1-11
- Cormik, S. (2019). Hunger and Crime. *London Proceedings of National Academy of Science*: 5:2 p.183.
- Dalakar, M. S. (2006). *Starvation and Deprivation: Thorgorgen Effect*. New Yoek. Diamon Publishers Co.
- Daniel, B. P. (2008). The Challenge of Food Security and the Sustainability of Nigeria Economy in *Journal of the National Association for Science, Humanities and Education Research*, 1 (6) July.
- Food and Agricultural Organization (FAO) (2016). *World food Status and Health of the Underprovided*. Geneva. World Food Organization Publication.
- Jennifer, M. L. (2005). Nutritional supplement and children health in a case study of pre-school children in Cape Town. *Journal of South African Food and Agriculture Research*, Cape Town Nelson Publishers 4:2 p.58.
- Momoh, S. (2008) *World food crisis puts Nigeria under pressure*. Business day, March 6, pp.1-7.
- Ode, J. (2010). *Rich but poor*. Newswatch, October, Lagos.
- Usanga, M. E. (2003). *Fundamentals of Food Technology in Nigeria* Oweri. Nelson Publishers.
- Web. World Bank.Org. Nutritional Management. Retrieved (2007). *World Bank Food Security Report*.
- Whiteman, K. (2008). *The World Turned Upside down*: Business day, April 17, p. 56.
- Williams, P.S. (2005). Effect of Vocational Agriculture Teaching Models on Students' Performances in Poultry Production. Awka. *International Journal of Educational Research and Development* 1:1 pp 107