
**FOOD SECURITY AND UNIVERSITY AGRICULTURAL STUDENTS
INVOLVEMENT IN FOOD PRODUCTION AFTER GRADUATION**

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ABSTRACT

Food security and its relationship to sustainable agricultural and rural development have increasingly become matters of concern for developing countries and for the international community. While there are many complex factors that influence sustainable development and food security, it is clear that education in agriculture plays an important role. Hence, this study examined the factors that determine the involvement of final year agriculture students in agricultural production after graduation. Two hundred respondents were randomly selected and were analyzed using descriptive statistics and chi-square test. The results revealed that 21.6% of the respondents had good knowledge about food security, 54.6% had average knowledge, 13.4% had doubtful knowledge about food security and 10.3% had poor knowledge about food security. 50.1% believed that Nigeria is not food secure. 68.04% of the respondents plan to be gainfully self-employed in agriculture after graduation. This finding has implication for reducing high rate of unemployment and continual rise in food insecurity. Therefore, it is recommended to agricultural development planners to provide start off funds, input subsidies and land for the fresh graduates to start their farm. It was also revealed that capital, interest, knowledge, Government policy on import and academic pursuit were the major factors that altered the involvement of potential agricultural graduates in agricultural production.

KEYWORDS: Agriculture, Food Security, Production, Student, University.

INTRODUCTION

The social and economic stability of any nation is largely dependent on the ability of that nation to ensure that at all times, its people have been both physical and economic access to food that is adequate both quantitatively and qualitatively.

Nigeria on a country has a land area of 98.3 million hectares, 74million hectares is good for farming but less than half of this land is being explored. The population involved in farming is about 60-70%. Crop, livestock and fish have

potentials for providing food and nutrition. Yet there is threat of hunger and poverty, 70% of the population live on less than 100 (U.S Dollars 0.7) per day.

Small holder farmers constitute about 80% of all farm holdings, their production system is inefficient, and there is regular shortfall in national domestic production. Therefore food import is a common feature. Agriculture is a key sector that can affect majority of Nigerians so not only small holder farmer should be involved in the production. Agricultural students should also participate in food production to ensure food security in Nigeria. Although some countries can ensure food security through importation, the most desirable form of food security is self-sufficiency through food production Kikafunda (1994).

The concept of food security has evolved during the last 3 decades to include not only food availability, but also economic access to food and the biological absorption of food in the body. Adequate per capital availability of food is a function of balance between food production on

one hand, and growth in population and purchasing power, on the other, urbanization enhance the consumption of animal producers and thereby have and the demand for food.

Achieving food security in its totality continues to be a challenge not only for the developing nations, but also for the developed world. The difference lies in the magnitude of the problem in terms of severity and proportion of the population affected. In developed nations, the problem is alleviated by providing targeted food security interventions, including food and in the form of direct food relief, food stamps or indirectly through subsidized food production.

With few exceptions, the institutional relationships between agricultural teaching and research and extension services are inadequate. In many countries, this is the result of the deliberate separation of education, research and extension into different ministries and agencies and a lack of functional mechanisms to link them together to solve common problems. Agricultural research is usually conducted at government research stations and laboratories, the majority of

which are not linked with universities. Research activities are often carried out as part of postgraduate programmes of higher agricultural education, but they are seldom directly related to national research priorities and programmes.

Unfortunately, the training of human resources in agriculture is often not a high priority in the development plans of countries. As a result, curricula and teaching programmes are not particularly relevant to the production needs and employment demands of the agricultural sector. The situation has become more serious in recent years due to the economic crises in the public sector in many developing countries. In the past, the public sector absorbed nearly all agriculture graduates. This is no longer the case, and agriculture graduates are finding it increasingly difficult to find employment. Governments can no longer afford to hire every graduate, and education in agriculture has not kept up with the increasingly sophisticated labor demands of the private sector. These and other factors, such as environmental degradation, rapid changes in technical knowledge and the increasing

marginalization of rural areas, all call for changes in the current systems of education in agriculture in many developing countries.

Most university graduates in Nigeria are unemployed and facts show that 71% from Nigerian universities in the last six years (2000-2006) are yet to find jobs. Agricultural graduates can participate in agriculture in a predominantly agrarian economy to reduce the unemployment and food security issues. In view of the foregoing, the following questions guided the design and conduct of the research:

1. What is the level of knowledge of final year agricultural students about food security?
2. Do final year agricultural students perceive food security to be a serious challenge and problem that needs to be solved?
3. What are the factors that determine the involvement of final year agricultural students in food production after graduation?

Objectives of the Study

The main objective of this study was to examine the involvement of final year agricultural students in food production after graduation and the specific objectives were to:

1. assess the general knowledge of the graduating students about food security;
2. find the relationship between final year agricultural students' knowledge about food security and their willingness to participate in agriculture after graduation and,
3. identify the major constraints to final year agricultural students involvement in food production after graduation.

METHODOLOGY

Area of Study

The study was conducted in four Nigerian Universities: University of Ilorin, Kwara State University of Ibadan, Oyo State, University of Agriculture, Abeokuta, Ogun State and Ladoko Akintola University of Technology, Ogbomosho, Oyo State.

However, each of these universities offer agricultural science as a course and has a faculty of agriculture.

Therefore, these Universities were purposively selected for the study fifty students were randomly selected from each of these universities giving a total of two hundred participants.

Data Collection and Analysis

Primary and Secondary data were used for this study. The primary data were collected with the aid of properly structured questionnaires administered to final year agricultural students. Data were collected over a period of two weeks. The secondary data were sourced from textbook, journals, Magazines and other literature materials.

The results presented in this chapter are based on the One hundred and Ninety four (N=194) data that were found useful among the two hundred administered. These were collected from the final year students in the four universities to determine their willingness to participate in food

production after graduation and the key factors that hinder their participation. All the respondents was studying full time in the various universities.

Descriptive statistical methods such as mean, mode, frequency distribution and standard deviation were used to determine the socio-economic characteristics, level of knowledge and the major factors that discourage the students from getting involved in food production. The chi square test was also used to test the relationship between knowledge on food security and the willingness of the students to participate in agriculture after graduation.

The Pearson chi-squared test is used when you have two or more independent samples with data consisting of frequencies to discrete categories, Pearson chi-squares entails the comparability of the observed and expected frequencies in two way tables known as contingency table. More so, a measure of the discrepancy existing between

observed and expected frequencies supplied by the statistics chi-squares .It is also to test the independence or association between two or more criteria or classification comparing the observed frequencies to expected frequencies. The computation of chi-squared test is normally done on contingency tables which represent the frequencies of class.

The statistical chi-square is given by;

$$\chi^2 = \sum_{i=1}^r \sum_{j=1}^c \frac{(o_{ij} - e_{ij})^2}{e_{ij}} \sim \chi^2_{(r-1)(c-1)}$$

If $\chi^2 = 0$, observed and expected frequencies agree exactly. While if $\chi^2 > 0$, they do not agree exactly with the larger value of χ^2 i.e. the greater the discrepancy between observed and expected frequencies (Freud 1994).

Chi-Square Test Can Be Used For The Following

1. To examine the difference between proportions of two independent populations.
2. To test for independence.

3. To determine the goodness of fit of probability distribution.

Pearson’s Chi-Square Statistic for Testing Independence

This is written below:

$$\chi^2 = \sum_{i=1}^r \sum_{j=1}^c \frac{(o_{ij} - e_{ij})^2}{e_{ij}} \sim \chi^2_{(r-1)(c-1)}$$

Where o_{ij} is the observed value arising from the i th row and j th column.

e_{ij} is the expected number of cases categorized in the i th row and j th column.

The estimated values can be obtained using;

$$e_{ij} = \frac{(n_{i.} \cdot n_{.j})}{N}$$

Where $n_{i.} = \sum n_{ij}$

$$n_{.j} = \sum n_{ij}$$

$$N = \sum \sum n_{ij}$$

The hypothesis of independence is stated as;

$$H_0: \pi_{ij} = \pi_{i.} \pi_{.j}$$

$$H_1: \pi_{ij} \neq \pi_{i.} \pi_{.j}$$

That is;

H₀: The two categorical variables are independent.

H₁: The categorical variables are related.

Decision Rule: Reject H_0 if $\chi^2_{cal} > \chi^2_{tab}$,

otherwise do not reject H_0 and conclusion is made appropriately (Agresti and Wackerly 1977).

NOTE: The level of significance α to be used throughout this project work is 0.05

RESULTS AND DISCUSSION

The socio economic characteristics of respondents analyzed include the sex, age, programme, religion, marital status and religion of the respondents.

Table 1: Socio-Economic Characteristics of the Respondents

Characteristics		Frequency	Percentage
Sex			
	Male	111	57.2
	Female	83	42.8
	Total	194	100
Age			
	16-20	11	5.7
	21-24	132	68
	25-29	46	23.7
	30-35	4	2.1
	Total	193	99.5
	No Response	1	0.5
	Total	194	100
Marital status			
	Married	14	7.2
	Single	180	92.8
	Total	194	100
Education			
	Diploma	6	3.1
	OND	12	6.2
	NCE	3	1.5
	O Level	164	84.5
	B.Tech	9	4.6
	Total	194	100
Religion			
	Christianity	102	52.5
	Islam	91	46.9
	Traditional	1	0.5
	Total	194	100
Ethnic/Tribe			
	Hausa	31	16
	Igbo	36	18.6
	Yoruba	122	62.8
	Edo	3	1.5
	Ebira	2	1
	Total	194	100

Source: Field Survey, 2011.

As shown in table 1, 57.2% of the beneficiaries were males and 42.8% females. The sex of an individual can influence the type of work and quality carried out by the individual. The results obtained showed that there are more males among final year students in faculties of agriculture. This is most likely to be due to the fact that men may prefer agriculture related profession than females.

The age distribution ranged from 16 years to 35 years with the modal class being 21-24 with a percentage of 68.4% as represented in table.1 the least age class being 5.7% indicating that most of these students are still in their youthful years and still have a high level of potential efficiency to participate in agriculture if they are willing.

Majority of the participants were single with a percentage of 92.8 and the married population just 7.2 % this implies that most students don't get married until after graduation and have little responsibility to take care of.

The pre university education status showed that 3.1% had diploma, 6.2% had OND, 1.55 had NCE, 4.6% had B. tech and the majority of the respondents which is 84.5% had only Ordinary level W.A.E.C results. 52.55% of the participants were Christians, 46.9% were Muslims and there was just one recorded traditional worshiper leading to 0.5% of the population.

Knowledge about food security

The frequency of distribution of the knowledge of the respondents was shown in table 2.

Table 2: Rate of Knowledge of the Respondents

		Frequency Percent		Valid Percent	Cumulative Percent
Valid	Poor	20	10.3	10.3	10.3
	Doubtful	26	13.4	13.4	23.7
	Average	106	54.6	54.6	78.4
	Good	42	21.6	21.6	100.0
	Total	194	100.0	100.0	

Source: Field Survey, 2011.

Table 2 shows that only 21.6% of the respondents had good knowledge about food security, 54.6% had average knowledge, 13.4% had doubtful knowledge about food security and 10.3% had poor knowledge about food security. This could be as a result

of inadequate information about food security from the universities to the students.

Perception about Food Security

The frequency distribution of the perception of food security by the respondents is shown on table 3.

Table 3: Perception about Food Security by the Respondents

What do you think food security means?		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Keeping watch over food	10	5.2	5.2	5.2
	Ensuring people have access to food at all time	81	41.8	41.8	46.9
	Food safety	100	51.5	51.5	98.5
	Absence of Famine	3	1.5	1.5	100.0
	Total	194	100.0	100.0	

Source: Field Survey, 2011

From table 3, all the respondents have different views about the concept of food security, 41.8% of the total respondent believe food security involves ensuring people have access to food at all time.

However, 1.5% believe food security means the absence of famine.

Table 4 shows the factors that hinders the finer year agricultural students from going into agricultural production.

Table 4: Factors that Hinders the Final Year Agricultural Students from Going into Food Production

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Capital	125	64.4	67.2	67.2
	Interest	35	18.0	18.8	86.0
	Limited knowledge about agriculture.	21	10.8	11.3	97.3
	Academic Pursuit	3	1.5	1.6	98.9
	Government Policy on Import	2	1.0	1.1	100.0
	Total	186	95.9	100.0	
Missing	No Response	8	4.1		
Total		194	100.0		

The factor with the highest frequency is capital with a frequency of 64.4 %, interest, 18.0%, academic pursuit, 1.5%, limited knowledge, 10.8% and government policy on import 1.5 %.

Hypothesis Resting on Dependency of Participation in Agriculture on Knowledge of Food Security.

H₀: the willingness of students to participate in agriculture after graduation is dependent on their knowledge about food security.

H₁: the willingness of students to participate in agriculture after graduation is independent on their knowledge about food security.

Table 6: Contingency Table for the Association between Knowledge about Food Security and Willingness to Participate in Agriculture

Observed Contingency Table				Expected Contingency Table			
10	0	0	10	7.02	0.80	2.18	10
49	13	17	79	55.47	63.30	17.23	132.53
73	2	21	96	67.40	76.60	20.94	164.94
0	0	3	3	21.06	0.24	0.65	21.95
132	15	41	188	150.95	140.94	40.62	329.42

$$\chi^2 = \sum_{i=1}^r \sum_{j=1}^c \frac{(o_{ij} - e_{ij})^2}{e_{ij}} \sim \chi_{(r-1)(c-1)}^2$$

Degree of freedom. = (r-1)(c-1) = (4-1)(3-1)
df=6

$\chi_{cal}^2 = 5.562$ and $\chi_{6, 0.05}^2 = 12.59$ from table

DECISION RULE: Reject H_0 if $\chi_{cal}^2 > \chi_{tab}^2$,
otherwise do not reject H_0 .

DECISION: Since $\chi_{calc}^2 (5.562) < \chi_{6, 0.05}^2$
(12.59), we accept H_0 .

CONCLUSION: willingness of final year agricultural graduates to participate in agriculture is dependent on their knowledge about food security.

CONCLUSION AND

RECOMMENDATIONS

The study examined food security and the involvement of final year students in agriculture after graduation. Despite the fact that there is a high number of agricultural graduates being produced by the Nigerian universities every year, for some reason or the other most of them do not end up participating in food production and this is as a result of non-availability of start off funds, academic pursuit, non-availability of land, lack of interest in agriculture, government policy on importation and lack of knowledge about practical agriculture.

It is suggested that further research should be conducted to investigate the potential interest of graduating students from other faculties in the Nigerian universities in agricultural production and marketing after graduation.

In order to improve on the involvement of final year agricultural students in agriculture, the potential graduates should be encouraged by assisting them to have better access to the necessary inputs of production such as land, labour, herbicides and implements.

The students interested in agricultural production should be identified during the National Youth Service year so sufficient preparation will be made to meet their agricultural inputs need after completing

their National Youth Service.

As a result of inadequate knowledge about food security, seminars and lectures on food security and the current situation in Nigeria should be held in the various Nigerian universities so as to disseminate knowledge on the level of demand and supply of food produce in the country.

Agricultural students should realize that the era of acquiring education mainly for the sake of seeking white collar job in public and private sectors of the economy is over. As such they should be made to develop self-esteem and pride in agriculture as a viable income generating venture and not look down on it as it is currently done by the educated youths.

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