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# The Influence of Knowledge about Agricultural Technologies on Secondary School Students' Choice of Agriculture as Career

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***Abstract:***
*This study investigated how knowledge about Agricultural technologies influenced secondary school students' choice of Agriculture as a career. Primary data were obtained using a structured questionnaire to interview 103 students from different classes of a school using random sampling technique. Retrieved data were analyzed using frequency counts and Chi square analysis. The result showed 84.5% (87) as having knowledge about Agricultural Technologies available for use in Agricultural practice, 15.5% (16) of respondents don't know about Agricultural Technologies. The number of respondents intending to practice Agriculture as a career are 66 (89.2%) due to knowledge about Agricultural technologies and 8 (10.8%) who said they are not aware of Agricultural technologies but have reasons like love of nature, personal interest and accountability and responsibility to self as drive to practice Agriculture. The p value from Chi analysis is 0.029, this indicates a significant relationship between knowledge about Agricultural technologies and students' choice of Agriculture as a career.*

***Keywords:*** *Agricultural Technologies, Agricultural Practice.*
*Note: In this study, Agricultural practice and Agriculture as a career are implied to mean the same things.*

## 1. Introduction

Agricultural technology has been a factor contributing to increased productivity in agriculture in developing countries. The use of technology reduces drudgery, improves the quality of agricultural products, saves time and leads to improved livelihood. Improved productivity is likely to be a major source of growth and increased productivity depends on technology among other factors. The benefit of technology in agriculture includes (i) increased production, (ii) easy harvesting (iii) increased processing and (iv) availability of improved storage for agricultural products.

Man has strived to improve his way and quality of live from the beginning of time. The caveman discovered how to make and use tools, developed logical sequence for activities and evolved processes that add value to his life. (Okolie, Elom and Inyiagu,2014).

Agriculture plays a unique role in poverty reduction. With 70% of sub-Saharan Africa's and 67% of South Asia's labour force work in Agriculture (Maxwell,2001), the issue of agriculture as a tool of poverty alleviation is more than population statistics but improvement in productivity, provision of jobs through food processing, increased income through storage as well as direct farming which can be made possible and easy through the of technology.

The development and dissemination of new technology is an important factor determining the future of agriculture. The use of technology maintains or increases production and in some cases reduces cost of production. (FAO,2002)

Occupation is borne from career. Choosing a career in life should be done early enough to create a lead through course of studies in the educational sojourn. The focus of careers and career preparation has long been a major component of secondary school agricultural education programs (Bowen,2005). Agricultural education prepares both youth and adults for career choices. It helps to prepare and support individual decision making on career. The basic objectives of Agriculture at the secondary school level in Nigeria are: (i) to stimulate and sustain students interest in Agriculture, (ii) to enable students acquire basic knowledge and practical skills in Agriculture, (iii) to prepare students for further studies in Agriculture and (iv) to prepare students for occupation in Agriculture. (Ben,2011). Education is viewed as a tool for change. Education is the totality of life experience that people acquire which enables them to cope with and derive satisfaction from living in the world. It enables people to achieve social competence and optimum individual development. Globally, efforts are geared towards enhancing the educational process of students' academic achievement in secondary schools. The importance of education for national development has placed secondary schools at the center of government's effort to increase literacy level in Nigeria (Abdullahi, Mlozi and Nzalayaimisi, 2015). The secondary agricultural syllabus is meant to prepare students for advance course in Agriculture at colleges and Universities and to prepare them in career development in

Agriculture. Higher institutions are depending on the potential academic skills and knowledge of secondary school students after their completion of secondary school education. (Akomolafe and Olorunfemi-Olabisi,2011)

**2. Statement of Problem**

There is a general observation that the number of secondary school graduates taking agriculture as a career is low. (Oyemenami, 2013). The practice of Agriculture is low among youths. Agriculture is noted to be tedious and labour intensive. Students who studied Agriculture up to the secondary school mostly don't want it as a career. Agricultural practice is labour intensive save for the use of technology. The effect of drudgery and tediousness of agricultural practice is why students don't want Agriculture as a career choice.

**3. Purpose of Study**

The general purpose of this study was to determine the relationship between the knowledge of Agricultural technology and secondary school students' choice of Agriculture as a career. The study will specifically:

(1). How many of the respondents (secondary school students) choose Agricultural practice as a career?
(2). Identify the mode of practice at which students intend to practice.
(3). Identify the level of practice at which students intend to practice.
(4). Identify the relationship between students' choice to practice Agriculture and knowledge about Agricultural technology.

**4. Research Questions**

(1).What is the effect of knowledge about Agricultural technology on secondary school students' choice of Agricultural practice as a career?
(2).What is the mode of practice at which students intend to practice?
(3).What is the level of practice at which students intend to practice?
(4).What is the relationship between students' choice to practice Agriculture and knowledge about Agricultural technologies?

**5. Research Method**

The research design used for this study was quantitative research design, frequency count and Chi Square.
The West African Agricultural Productivity Program (WAAPP) in collaboration with Nigerian Stored Products Research Institute (NSPRI) Ilorin adopted two (2) secondary schools in Ilorin Kwara state. These two secondary schools enjoy the use of NSPRI's post-harvest technologies. One of the schools was randomly selected for this study. The consent of the school authority and students was sought before administering a structured questionnaire.

**6. Sample**

The total population for this study was one hundred and three (103) comprising of senior and junior secondary school students. The respondents were randomly selected and data collected using interview schedule.

**7. Procedure**

The interview schedule had twenty (20) questions. The instrument was validated by two (2) expert socio-scientists and corrections made were affected. The researcher was assisted by an assistant researcher to question respondents.

**8. Analysis**

The data collected was subject to statistical analysis.

**9. Findings and Discussion**

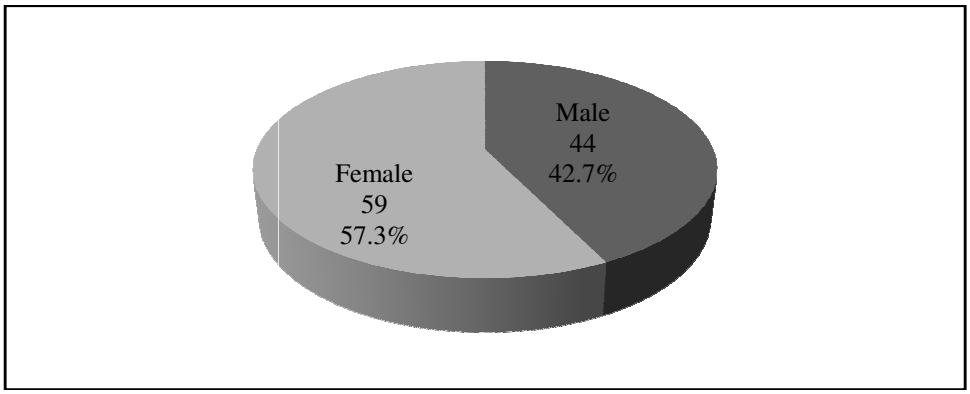


*Figure 1: Gender of the respondents*

Figure 1 above shows the gender distribution of respondents.57.3% were girls while the remaining 42.7% were boys.

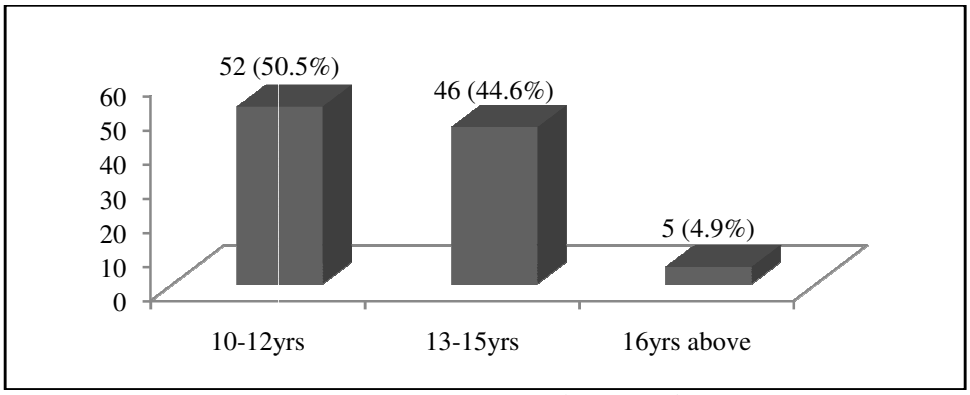


*Figure 2: Age categories of the respondents*

The figure above shows the age categories of the respondents. Age ranged from 10-17 with mean age of 12.95 years.

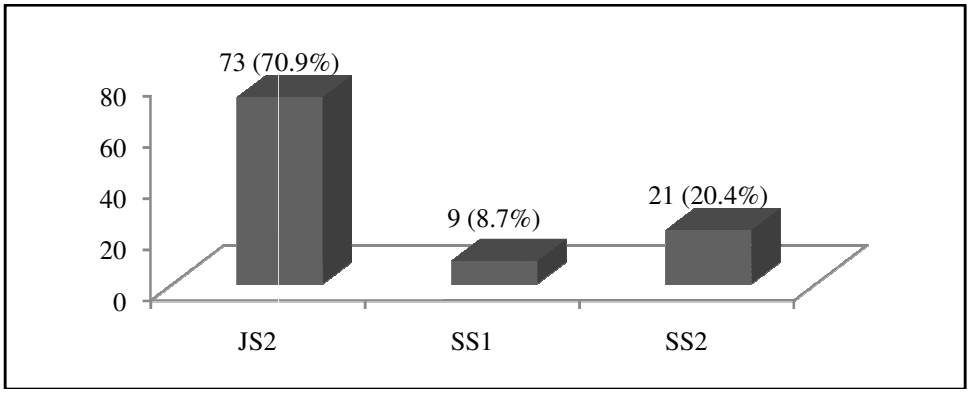


*Figure 3: Classes of the respondents*

Figure 3 shows the classes of the respondents. 70.9% were in junior secondary school two (2), 8.7% were in senior secondary one (1) and 20.4% were in senior secondary two (2). All the respondents offer Agriculture as a subject.

*9.1. Research Question 1: How Many of the Respondents (Secondary School Students) Choose Agricultural Practice as a Career?*

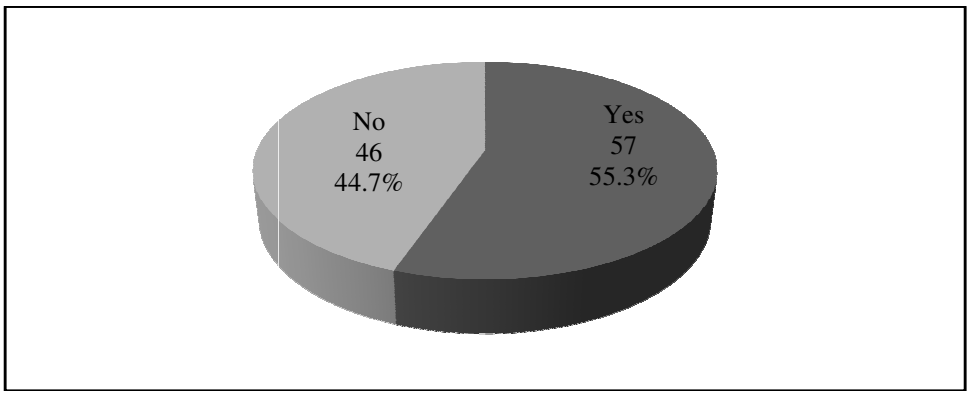


*Figure 4: Practicing agriculture in respect to knowledge about Agricultural Technologies.*

In figure 4 above, 44.7% of respondents do not want to practice Agriculture as a career in spite of exposure to and knowledge about Agricultural technologies. They attributed their lack of interest to issues ranging from low prestige of Agriculture as a career, Agricultural practice been peculiar to the poor and illiterate, effect of climate change, poor funding, low profitability, unfavourable government policies and lack of motivation and encouragement.

| Factors | Frequency | Percentage |
|---|---|---|
| Low prestige of agriculture as a career | 11 | 10.4% |
| Peculiarity to the poor and illiterates | 20 | 18.9% |
| Effect of climate change | 10 | 9.4% |
| Poor funding | 10 | 9.4% |
| Low profitability | 17 | 16.0% |
| Unfavourable government policies | 26 | 24.5% |
| Lack of motivation and encouragement | 12 | 11.4% |
| Total | 106 | 100.0 |

*Table 1: Factors responsible for students not choosing Agricultural practice as a career*
*Source: Statistical Analysis 2016.*

The other respondents who amounted to 55.3% desire to practice Agriculture as a career. And they attributed their interest to exposure to and knowledge about Agricultural technologies. The students stated the following as attributes of Agricultural technologies that make the agricultural practice interest them.

(1) They make agricultural practice easy.
(2) They make agricultural practice more profitable.
(3) The use of agricultural technologies increases productivity.

| Attributes of Agricultural Technologies | Frequency | Percentage |
|---|---|---|
| They make agricultural practice easy. | 20 | 25.3 |
| They make agricultural practice more profitable. | 25 | 31.6 |
| The use of agricultural technologies increases productivity. | 34 | 43.1 |
| Total | 79 | 100 |

*Table 2: Percentage Distribution of Attribute of Agricultural Technologies as stated by the Students*
*Source: Data Analysis 2015.*

The above table shows the frequency and percentage distribution of the attributes of agricultural technologies stated by the students.

*9.2. Research Question 2: What Is the Mode of Agricultural Practice the Students Intend to Practice?*

| Mode of Practice | Frequency | Percentage |
|---|---|---|
| Primary occupation | 13 | 24.1 |
| Secondary occupation | 41 | 75.9 |
| Total | 54 | 100.0 |

*Table 3: Mode at which students intend to practice agriculture as a career*
*Source: Statistical Analysis 2016*

From the table above, 24.1% of the 54 student who want to practice agriculture because of agricultural technologies want it as primary occupation while 75.9% want to make agriculture their secondary occupation.

*9.3. Research Question 3: At What Level of Practice Do the Students Want to Practice?*

| Scale of Practice | Frequency | Percentage |
|---|---|---|
| Small scale | 29 | 53.7 |
| Large scale | 25 | 46.3 |
| Total | 54 | 100.0 |

*Table 4: Scale of practice at which students intend to practice*
*Source: Data Analysis 2015.*

It can be deduced from table 4 that 53.7% of the 54 students that indicated interest in Agricultural practice as a career want to practice at small scale while 46.3% want to practice at large scale.

*9.4. Research Question 4: What Is the Relationship between Students' Choice to Practice Agriculture and Knowledge about Agricultural Technology?*

| | | Knowledge about Agricultural Technology | | Total | Chi Square Value | df | p value |
|---|---|---|---|---|---|---|---|
| | | Yes | No | | | | |
| Intension to practice Agriculture | Yes | 66 (89.2%) | 8 (10.8%) | 74 (100.0%) | | | |
| | No | 21 (72.4%) | 8 (27.6%) | 29 (100.0%) | 4.761 | 1 | 0.029 |
| Total | | 87 (84.5%) | 16 (15.5%) | 103 (100.0%) | | | |

*Table 5: Chi square analysis showing the relationship between students' choice to practice Agriculture and knowledge of Agricultural Technology. Source: Data Analysis 2015*

From the table above, 74 of the students intend to practice Agriculture as a career, this number is a majority. This finding can be compared to the finding of Apantaku 2004, which found that students do not want to and will not practice Agriculture as a career because of drudgery involved in Nigerian Agriculture. But in this study, 66 (89.2%) attribute their intention to practice Agriculture to the knowledge that there are Agricultural Technologies to use. While, 8 (10.8%) of the 74 students intend to practice Agriculture as a career but due to varying reasons which they stated as personal interest (50%), love of nature (12.5%), accountability and responsibility to self (12.5%) and ease of combining Agricultural practice with other jobs (25%).

The total number of students who indicated that they will not practice Agriculture as a career are 29, out of which 21 (72.4%) indicated that they know that there are Agricultural technologies to use and would still not practice Agriculture as a career. The remaining 8 (27.6%) indicated they were not so aware of Agricultural technologies to use for agricultural practice and that they do not know if there are technologies to use in the whole process of agricultural practice.

From Chi square analysis the p value is 0.029, this indicates a significant relationship between students' intension to practice Agriculture and their knowledge about Agricultural Technology to use. The indication from this analysis is that 87 of the 103 respondents which amount to 84.5% know that there are Agricultural technologies to use in practicing Agriculture while 16 (15.5%) of the 103students do not have the knowledge about Agricultural technology to use in agricultural practice.

**10. Conclusion**

This study therefore shows that knowledge about Agricultural technology plays a significant role in building students interest in Agricultural practice as a career choice. The relevance of Agricultural technology is germane in students' choice of Agriculture as a career.

More awareness of available technologies should be created at secondary school level to create more interest in the study of Agriculture which may in turn increase interest to practice agriculture as a career

Finally, the government should include provision of some Agricultural technologies to secondary schools as part of their educational support policies.

**11. Recommendation**

Based on the findings of this study, the following recommendations were made: As a result of the seemingly relevance of Agricultural technology as prediction of secondary school students' choice of Agriculture as a career, schools should purchase simple and cheap Agricultural Technologies for students' use on school farms. As this will improve exposure and students' participation during practical section and thereby build the interest of Agricultural practice in the students.

Secondly, the government should provide funds for the schools to purchase more Agricultural technologies to add to the schools' already purchased ones. This will allow exposure to a wide range of Agricultural technologies which will readily build students interest in the practice of Agriculture.

The government can also encourage the research institutes to create awareness about their technologies by funding the provision of such technologies to secondary schools.

In view of the above findings, Agricultural technologies should not be a rarity in secondary schools. Their use for Agricultural practical section in schools should be included in the school curriculum.

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