

REJUVENATING OF AGRICULTURAL EDUCATION IN AN ERA OF UNCERTAINTY AND SKILL ACQUISITION IN TERTIARY INSTITUTIONS FOR FOOD SECURITY IN DELTA STATE, NIGERIA

Dr. (Mrs.) Imobighe, Mabel Uleburin & Agbidi, Samuel Simeon

Department of Vocational Education,
Delta State University, Abraka
imobighemu@delsu.edu.ng

Abstract

This study investigates strategies to revitalize agricultural education in Delta State's tertiary institutions as a means to bolster food security amidst prevailing uncertainties. Guided by three specific objectives, the research employed a descriptive survey design. Utilizing Taro Yamane's formula, a sample size of 214 was drawn from a population of 478 participants. Data collection was facilitated through a structured questionnaire, and the analysis was conducted using mean and standard deviation statistics. Findings reveal a consensus among respondents on the various factors influencing agricultural education in higher institutions, with no statistically significant difference observed between the responses of government officials and senior lecturers. Additionally, there was agreement on the pivotal role of government initiatives in rejuvenating agricultural education at the tertiary level. The study concludes that enhancing agricultural education can significantly contribute to job creation and food security. However, it also identifies specific factors that impact the effectiveness of agricultural education in Delta State's postsecondary institutions. A key recommendation is for agricultural education lecturers to prioritize practical instruction over theoretical approaches to better equip students with relevant skills.

Keywords: Agricultural Education, Food Security, Rejuvenate, Skill Acquisition, Tertiary Institution

Introduction

The majority of jobs, either directly or indirectly, are still found in agriculture. The cultivation of food and animals, along with other related activities, is known as agriculture and is what keeps both humans and animals alive. One of the main drivers of the Nigerian and global economies is agriculture, which produces food, raw materials for industries, income for farmers, tax revenue for the government, and foreign exchange in addition to serving as a source of power and fuel, amusement, tourism, and aesthetic value (Bowo, Nurayati, & Imleesh, 2016). The Nigerian government introduced agriculture as a subject in schools (pre-vocational in primary and junior and agricultural science in senior secondary schools) in light of the many advantages of the industry. In universities, it was offered as a vocational program or as agriculture with specialized areas.

One of the occupational programs offered by universities and colleges of education that gives students the knowledge and abilities needed for productive agriculture is agricultural education (Imobighe, 2013). The application of scientific knowledge to the teaching and learning of food production through the acquisition of knowledge about crop production, livestock management, soil and water conservation, and other related products for industrial and human development is known as "training of the head and hands of learners" (Hayes & Stewart, 2016). It's a kind of work that prioritizes getting ready for and engaging in a profession for social purpose (Wheelahan, 2015). Agricultural education, in contrast to general education, is skill-oriented and prepares students for independence and job creation (Okoye & Ududo, 2015). In order to help achieve food security and actualize the goals of sustainable national development, agricultural education and training instill in students a passion for engaging in

practical agricultural activities in crop production, livestock farming, processing, marketing, and storage of farm products (Balala, 2019).

One of the most important instruments for building human resources with practical knowledge for independence in agriculture is agricultural education. In essence, agricultural education programs train students on crop production, managing animals, conserving land and water, and other agricultural topics (Nnodim & Amadi, 2018). Global agricultural industries will be shaped and developed by the experienced, skilled labor force that agriculture education typically aims to produce. The goal of agriculture education at postsecondary institutions is to create citizens who can successfully live their lives and make a significant contribution to Nigeria's economic development (Amadi & Lazarus, 2017). From the aforementioned, it is clear that practical experience is the main focus of agricultural education.

Since agricultural education prepares students to work for themselves and become independent, it provides various opportunities for employment. According to Diise, Zakaria, and Mohammed (2018), the program is skill-oriented and provides opportunities for individuals to pursue careers as teachers or trainers, engage in animal and/or crop production, fish farming, bee keeping, feed formulation, or work in agro-allied industries producing chemicals such as fertilizers, herbicides, fungicides, and pesticides. On the other hand, postsecondary education emphasizes learning for self-sufficiency.

All post-secondary educational settings, including but not limited to universities, polytechnics, colleges of education, and monotechnics, are referred to as tertiary institutions. According to Famade, Orniyate, and Adebola (2015), tertiary institutions are places where students receive their education following their secondary education. These include universities, colleges of education, polytechnics, monotechnics, and institutions that offer correspondence courses. The goals of tertiary education (especially agricultural education) should include, but are not limited to, fostering sustainable development, enhancing intellectual capacity of individuals to comprehend and value their local and external environments, assisting in the development of higher level relevant manpower training, and helping individuals acquire the physical and intellectual skills necessary to become independent and valuable members of society.

The idea of 'skill acquisition' has drawn more attention and recognition as a reliable strategy for advancing both the person and, inevitably, the country. But in order to fully comprehend the phrase, it is imperative that you first understand what is meant by the terms 'skill' and 'acquisition'. Howland (2013) defines talent as the capacity to do a task with predetermined outcomes, frequently in a set amount of time, energy, or both. According to Green (2011), 'skill' is the particular and necessary competency needed based on training and experience to produce a favorable outcome for an activity with the greatest degree of certainty and the least amount of time or energy expended. "Acquisition" is defined by Howland (2013) as the process of obtaining or taking ownership of something. Thus, it is possible to infer from the distinct definitions of the terms "skill" and "acquisition" that "skill acquisition" refers to gaining the specialized knowledge and experience needed to complete a certain task.

A new worldview that guarantees the survival, continuous advancement, and upkeep of the human community as reliant on the health and viability of earth's life support systems gives rise to the idea of sustainable national development. Sustainability, then, is a paradigm that aims to preserve the planet's life support systems in order to guarantee the survival of people and other species (Awan, 2020). According to Hoover and Harder (2015), the process of strategically altering institutions and social systems for continuity is known as sustainable development. Sustainable national development, as a model, strives for a balance between economic growth, quality of life, and environmental preservation in the context of a nation's growing population and resource consumption, without pushing that consumption over the earth's carrying capacity (Gazzola & Querci, 2017). The paradigm of development shifted from consumption to

sustainable development as a result of the worsening global issues of resource depletion, environmental damage, financial and economic crises, and rising consumption (Mensah, 2019). New approaches to development, such as green growth influenced by specific actions, were also recognized. A country's ability to develop is aided by achieving food security.

Transformation, steady advancement, industrialization, methodical and technological advancement, the emergence of nuclear energy, the electrical and biological revolutions, and new insights into the nature of the universe and humankind are all associated with development. A nation is a sizable group of people who have a common constitution, government, language, culture, and history (Stevenson, Balling & Kann-Rasmussen, 2017). Nigeria is a country that shares tenets and regulations that must be followed. The ultimate goal of national development must be to improve people's lives over time and provide them with the advantages of self-sufficiency and domestic resource mobilization, small-scale industry development, a change in the structure of rural production, and the acquisition of scientific and technological skills (Vestergaard, Murphy, Morsing & Langevang, 2020). These goals must be carefully considered, planned for, and realized through targeted policies and programs, demonstrating that developments are about achieving self-reliance in every sphere of national life. A nation is considered developed when its citizens are forced to acquire specific skills that will allow them to advance civilization. This explains the disparity between undeveloped and industrialized countries. A number of variables contribute to the growth of a country, but agricultural education and training are essential in enabling researchers, educators (i.e., teachers), extension agents, and farmers to make meaningful contributions. In a similar vein, food supply and agricultural education and training are directly related (Hermans, Klerkx & Roep, 2015). This is due to the fact that graduates of the full agricultural education and training program have a responsibility to address issues related to sustainable food production and to offer people opportunities and services.

The nation's agriculture education graduates and the government both play essential roles in ensuring the program's success and promoting food security. When everyone has physical, social, and economic access to enough, safe, and nutritious food that satisfies their dietary needs and food choices for an active and healthy life, there is food security (Pérez-Escamilla, 2017). The availability and accessibility of food are the two factors that make up food security (Upton, Cissé & Barrett, 2016).

The state's farmers want to guarantee a steady supply of food, but a number of obstacles, including inadequate capital, floods and erosion, and, most importantly, a lack of knowledge and expertise from agricultural education and training, are lowering their productivity (Akinyetun, 2018). Despite the fact that farmers have taken many steps to increase food production in the state, under nutrition and food insecurity continue to be major issues. According to Mani, Abdullahi, Ibrahim & Yusuf (2019), food insecurity is a major issue in Delta State, and the state's goals of attaining food security and promoting national development are seriously threatened by a subpar agricultural education programme. In developing nations, where population growth is often accompanied by an increase in the frequency and intensity of natural disasters like floods, droughts, extreme temperature fluctuations, or rainfall, achieving food security is of utmost importance, even though it is desirable regardless of political systems and socioeconomic conditions (Turner et al., 2018).

Because farmers' efforts are insufficient, it is vital to look for further support from the government and educational institutions offering agricultural programs in order to influence policies and other areas for increased food security and productivity (Imobighe, 2022). In order to improve food production and achieve food security, the state will benefit greatly from a revitalized agricultural education program that will help end issues such as poverty, unemployment, cultism, youth restlessness, kidnapping, human trafficking, armed robbery, corruption, ritual killings, organized cybercrimes, and more. Rejuvenating anything entails

giving it new life, revitalizing it, or infusing it with freshness and energy. Rejuvenating agricultural education entails giving it fresh vitality and strengths and increasing its appeal to people and institutions, which will promote job creation and national growth. Therefore, the goal of this study is to identify strategies for reviving agricultural education in Delta State, Nigeria's postsecondary institutions in order to promote skill development and food security in an uncertain time. In particular, the research aimed to investigate:

- i. factors affecting agricultural education in higher institutions for skill acquisition and food security in Delta State;
- ii. roles of government in rejuvenating agricultural education for sustainable skill acquisition and food security in Delta State; and
- iii. roles of tertiary institutions in rejuvenating agricultural education for sustainable skill acquisition and food security in Delta State.

Research Questions

The following research questions were raised to guide the study

1. What are the factors affecting agricultural education in higher institutions for skill acquisition and food security in Delta State?
2. What are the roles of government in rejuvenating agricultural education for skill acquisition and food security in Delta State?
3. What are the roles of tertiary institutions in rejuvenating agricultural education for skill acquisition and food security in Delta State?

Methodology

This study adopted a descriptive survey research. The population for the study was 478, while the sample of the study was 214 made up of 35 lecturers of Agricultural Education from tertiary institutions in the state (University of Delta, Agbor, Dennis Osadebe University, Asaba, Delta State University, Abraka, College of Education, Mosogar and College of Education, Warri) and 179 officers in the Ministry of Agriculture at the state and local government areas who were contacted to participate in the study. A 32-item structured questionnaire instrument called "Rejuvenating Agricultural Education and Training in Tertiary Institution Questionnaire" (RAETTIQ) was developed and used for data collection. The collected data by the researchers and two research assistants were analysed using mean to answer the research questions and t-test statistics for the null hypotheses. In taking decision on the items, a mean value of 2.50-5.00 was considered as Agreed while 2.49 and below was considered as Disagreed. A hypothesis of no significant difference was upheld where the p-value was greater than 0.05 but not upheld when it was less than 0.05.

Results

Research Question 1

What are the factors affecting agricultural education in higher institutions for skill acquisition and food security in Delta State? Result is illustrated in Table 1

Table 1: Mean and SD Analysis of response of factors affecting Agricultural Education

s/n	Item	\bar{x}_1	SD ₁	\bar{x}_2	SD ₂	Sig.	Remark
1	Quest for better jobs by competent agricultural educators	2.61	1.08	3.15	0.60	0.04	Sig.
2	Inadequate funding of agricultural education programme	2.98	0.85	3.22	0.52	0.28	Not Sig.
3	Inadequacy of agricultural laboratory facilities	3.09	0.90	3.70	0.43	0.05	Sig.
4	Agricultural education teachers incompetency	3.10	0.89	3.78	0.35	0.02	Sig.
5	Poor teaching techniques by teachers	3.01	0.86	3.27	0.71	0.13	Not Sig.

Result from table 1 revealed that all the items had their mean scores ranging from 2.61-3.78. This therefore indicates that all the 5 items affect agricultural education in tertiary institutions in Delta State. Also, significant difference exist between the mean ratings of items 1,3 and 4; while no significant difference exists in items 2 and 5 respectively. Therefore, it can be concluded that a significant difference exists in the manner lecturers and government official perceive factors affecting agricultural education in the state tertiary institutions.

Research Question 2

What are the roles of government in rejuvenating agricultural education for skill acquisition and food security in Delta State? Result is presented in Table 2

Table 2: Mean and SD Analysis of response of Two Groups on Government Roles in Rejuvenating Agricultural Education for Food Security

s/n	Item	\bar{x}_1	SD ₁	\bar{x}_2	SD ₂	Sig.	Remark
1	Increase teachers motivation in tertiary institutions	3.11	0.64	3.06	0.32	0.04	Sig.
2	In-service training of teachers of agricultural education through scholarship	3.50	0.64	3.82	0.35	0.04	Sig.
3	Provision of agricultural facilities in schools	3.15	0.68	3.22	0.64	0.57	Not Sig.
4	Provision of farm inputs like improved seeds, fertilizers, animals	3.40	0.76	3.24	0.62	0.74	Not Sig.
5	Establish agro-industries to absorb graduates from agricultural education	3.16	0.78	3.51	0.50	0.09	Not Sig.

Table 2 revealed that two of the items 1 and 2 has their mean between 3.06 to 3.82 which showed that the items are government roles in rejuvenating agricultural education in tertiary institutions in Delta State; implying that they are significant differences. Also, items 3, 4 and 5 with a mean between 3.15 to 3.51 revealed a no significant differences in the response of lecturers and government officials.

Research Question 3

What are the roles of tertiary institutions in rejuvenating agricultural education for skill acquisition and food security in Delta State? Result is illustrated in Table 3

Table 3: Mean and SD Analysis of response on the Roles of Tertiary Institutions in Rejuvenating Agricultural Education

s/n	Item	\bar{x}_1	SD ₁	\bar{x}_2	SD ₂	Sig.	Remark
1	Provision of adequate finance to conduct practical agriculture	3.14	0.91	3.84	0.37	0.02	Sig.
2	Promote positive attitude of learners towards practical	3.10	0.92	3.74	0.45	0.05	Sig
3	Lay more emphasis on practical rather than theory in the teaching process	3.08	1.09	3.89	0.32	0.02	Sig.
4	Provision of incentives to students that perform creditably in practical agriculture	2.99	0.86	3.25	0.54	0.28	Not Sig
5	Encourage the usage of participatory method in teaching	3.25	0.89	3.58	0.61	0.13	Not Sig.

Table 3 revealed that three of the items (1,2 and 3) had their mean score ranging from 3.08 to 3.89, which implies that the three items were considered the roles of tertiary institutions in rejuvenating the course under review in the state, hence, they are significant while two of the items (4 and 5) had their mean between 2.99 to 3.58, which reflect a no significant disposition.

Discussion

The findings of the study in Table is supported by Asogwa, Onu and Egbo (2013) who found out that some instructional materials are among the factors affecting agricultural education in tertiary institutions. The findings of research question one depicted that there is statistically significant difference in the mean response of government officials and lecturers on the factors affecting agricultural education in tertiary institutions. It was an indication that government officials and lecturers do not vary in most of their opinions on the factors affecting agricultural education.

The findings on research question 2 showed that the respondents agreed that the roles of government in rejuvenating agricultural education in institutions as well as proper funding of schools are government roles in rejuvenating agricultural education in the state. These findings are supported by the work of Williams (2019), who found out that factors such as increase in incentives, in-service training of teachers of agricultural education through scholarships, amongst others as well as proper funding of schools are government roles in rejuvenating agricultural education. The indication here is that government officials and lecturers did not significantly vary in their opinions on government roles in rejuvenating agricultural education in tertiary institutions in the state.

Findings in Table 3, it showed that the respondents agreed to the role of tertiary institutions in rejuvenating agricultural education for sustainable skill acquisition and food security with more emphasis on practical rather than theory in teaching agriculture and adequate finance to carry out practical agriculture. This finding was in line with the findings of Oyediran, Omoare, Dick and Shobowale (2016) who said that agricultural education enables students to acquire basic knowledge and skills for self-reliant. The indication here is that government officials and lecturers did not significantly vary in their opinions on the roles of institutions in rejuvenating agricultural education in the state.

Conclusion

Based on the findings of this study, it was concluded that Agricultural Education can create jobs thereby leading to food security. However, there are number of certain factors that affect agricultural education in tertiary institutions in Delta State. The skills to be acquired are very

many but some are more essential. Some factors that the study identified however inhibit skill development in tertiary institutions. Finally, the study identified role of government and tertiary institutions in rejuvenating agricultural education in tertiary institutions in Delta State.

Recommendation

Based on the findings of the study, the following recommendations were made:

1. Lecturers of Agricultural Education should be placing more emphasis on practical rather than theory in teaching agriculture.
2. Government through Ministry of Agriculture should provide machines and equipment to attract students to Agricultural Education.

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