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Sustainable Skill Acquisition in Agriculture as a Panacea for Economic Growth and Achieving Zero Hunger in Nigeria

Onwukwe Blessing Chinasa*, Assoc. Prof. J.A. Ukonze & Dr. A.O. Okadi
University of Nigeria, Nsukka, Faculty of Vocational and Technical Education, Department of Agricultural Education, **Nigeria**
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Abstract

This paper describes how sustainable skill acquisition in agriculture can help buffer solution to the problem of economic growth and achieving zero hunger in Nigeria. This paper is a review work on sustainable skill acquisition in agriculture and has discussed the sustainability, skill acquisition, economic growth, factors militating sustainable skill acquisition in agriculture and panacea towards economic growth and achieving zero hunger. Based on the benefits of sustainable skill acquisition in agriculture, coupled with the goals, aims and objective of agricultural education in Nigeria, it was recommended among others that; government at all level should endeavour to improve agricultural education skill acquisition centres in all part of the country; effort should be made to maximize the type of skills to be acquired by putting in place quality, competent and proficient teachers in the use of sustainable agricultural skills; funding is an integral part of any program should be made available by the government in synergy with other stakeholders.

Keywords: Agriculture, Sustainable Skill Acquisition, Economic Growth, Zero Hunger.

1. Introduction

It is quite clear that proper growth and development of an individual could be highly linked with the type of food or products been consumed by such person. Thus, the systematic raising of useful plants and livestock under the management of man remains the jugular vein of human development. The cultivation of crops and the raising of livestock for sustenance or economic gain are achieved through agriculture. This means that agriculture is the science or occupation concerned with cultivating land, raising crops, and feeding, breeding, and raising livestock; farming. From the perspective of Ige & Fasasi (2009), agriculture is the deliberate effort made by man in modifying a portion of earth's surface through the farming or planting and rearing of animals. Agriculture from the assertion of Megan (2020) is seen as all activities associated with animal rearing, aquaculture, forestry, dairy products, growing of crop, marketing and exportation are all associated to agricultural products. Thus, agriculture could be referred to as the production, processing, promotion and distribution of agricultural products. Agriculture is very important to man and the society at large as it remains the source of livelihood, poverty reduction, creating business and employment opportunities and

also sources of raw materials. The importance of agriculture, according to Korter & Ipinyom (2016) was capture from the aspect of national development as a means of creating wealth and income generation for farmers by exposing them to international trading such as exportation of products. Thus, agriculture plays a significant role to both human and economic development of a nation.

In recent times, agriculture has also made significant contribution in Nigeria's economy despite the dwindling nature of oil pump price exportation. Regardless of this drift, agricultural sector contributes 30.77 percent of the total GDP in 2020 indicating an increase by almost four percentage point compared to the same period of 2019 which was 26.25 percent (Simona, 2021). The agricultural sector contributed over 60 percent to the nations GDP, 70 percent of export, 95 percent of food needs, and employed 70 percent of the population (FAO in Jeliliov & Bahago, 2017). This suggests that agriculture is crucial or important and could be referred to as the backbone of a nation's economy.

Based on the aforementioned laudable importance of agriculture to man and national development, it would not be futile or baseless to state that agriculture aids in sustaining and stabilizing the economy by building a dynamic, strong and self-reliant nation. Increasing demands for agricultural products equally puts a lot of pressure on the industry and by extension on the sources of manpower required for moving the industry forward. Hence, the production and development of this manpower rest on inculcation of agricultural principles and objectives to its learners. Therefore, it is not startling that agriculture is been taught and learnt from tertiary institution down to secondary and primary school level in most countries of the world.

The process of facilitating learning or the acquisition of agricultural knowledge and skills is termed agricultural education. This means that agricultural education involves the teaching and learning of all the activities involve in the process of farming, planting and rearing of animals, even its exportation for economic viability. Meijerink & Roza (2007) defines agricultural education as the teaching of agriculture, natural resources, and land management. Agricultural Education is designed to lay a solid foundation for vocational agriculture that is proposed to train individuals to acquire relevant occupation skills that will make them to be productive farmers. As provided in the National Curriculum for senior secondary school by Nigeria Educational Research and Development Council (NERDC, 2014), the aims and objectives of agricultural education includes the following; thus, to develop

1. agricultural competencies needed by individuals engaged in or preparing to engage in production agriculture;
2. an understanding of and appreciation for career opportunities in agriculture and preparation needed to enter and progress in agricultural occupations;
3. an ability to secure satisfactory placement and to advance in an agricultural occupation through a program of continuing education;
4. those abilities in human relations which are essential in occupation; and to develop the abilities needed to exercise and follow effective leadership in fulfilling occupational, social and civil responsibilities.

Notwithstanding these aims and objectives of agricultural education towards its learners, Nigerian citizens still experience hunger and there is dearth in the economic growth. Hence, the need for the present study, sustainable skill acquisition in agriculture as a panacea for economic growth and achieving zero hunger in Nigeria.

2. Conceptual Framework

Concept of Sustainable Skill Acquisition

Learning of approach in an attempt to solve a problem could be done repeatedly. This is to ensure that the learner has grasped the required strategies in achieving such task. For optimum performance of any task, good skill is highly needed. Thus, the learned ability to perform an action with determined results with good execution often within a given amount of time, energy, or both is referred to as skill. Meciej (2021) view skill as the ability to do a particular task well. To this end, a skilful individual is one who has acquired much competency in performing a particular task. The acquisition of the desired experiences by the students depends on how effective the teacher is able to present the learning experiences to them (Farauta, & Amuche, 2013). Skill acquisition from the view of Zinab (2020) is a planned program designed to provide opportunities and refine its learner on the aspect of competency and proficiency in their current and future occupation. Conceptually, in this article, skill acquisition would be seen as a type of learning in which repetition results in enduring changes in an individual's capability to perform a specific task. With enough repetition, performance of the task eventually may become automatic, with little need for conscious oversight. Agriculture as the backbone for national development in healthy living of the citizens and economic buoyancy, agricultural skill acquisition is very paramount.

It is of no doubt that Nigeria is one of many food-deficient countries in Africa, and its alarming hunger statistics are tied with high levels of conflict that have plagued the region. Amelia (2020) revealed that hunger has correlation with poverty in Nigeria since one-third of children under five are stunted; and of the 17 million people living in North east regions affected by Boko Haram, 11 million are in severe need of humanitarian aid, food, water and shelter. Undiyaundeye & Otu (2015) also opined that the pursuit of white-collar jobs by most Nigeria graduates have brought the extent of skill acquisition into a declined state particularly in the area of cultivation of food and rearing of animals as it’s been regarded as an occupation for the illiterates. Thus, the need for citizens of the country to acquire more skills especially in the field of agriculture. On the other hand, in the process of planting and rearing of livestock some activities that could be harmful to the environment and its inhabitants are normally experienced. Some of which are; climate change, deforestation, biodiversity loss, dead zones, genetic engineering, irrigation problems, pollutants, soil degradation, and waste. Therefore, it is pertinent that skill acquisition in the field of agricultural education in Nigeria should be channelled towards sustainable pursuit of skill which would serve as panacea for economic growth and actualizing zero hunger.

To sustain could be seen as been able to maintain, uphold or defend at a certain level. This implies meeting our own needs in such a way that the capability of generations yet unborn to meet their own needs is not reduced. Sustainability supports economic growth and

achieving zero hunger by ensuring environmental growth, healthcare, efficient use of energy and water (Ibrahim, 2014). Therefore, it is important to not just acquire skills in agriculture but to have skills that would be able to meet our needs and we can still maintain a clean environment free from pollution. However, sustainable skill acquisition could also help to boost economic growth in the nation.

Concept of Economic Growth

Economic growth simply means the process of increase in the area of the production, distribution and trade, as well as consumption of goods and services by different agents. Economic growth could also be seen as comparing one period of time to another of how much more the economy of an individual, institution, organizations or a country produces than it did before. United Nations Development Program (UNDP, 2011) asserted that high growth rate which is often accompanied by rising inflation or growth rate is referred to as economic growth. According to Hudson (2020) economic growth is defined as an increase in a nation's production of goods and services. This means that a country increases the gross domestic product (GDP) per person. In this study, economic growth would be seen as the growth of the economic output of a country. In the same vein, Adewole (2012) refers to economic growth as the increase in monetary terms of the goods and services produced per head of the population over a period of time.

Human resources, physical capital, natural resources and technology can influence economic growth of a nation (Shiitu & Adenike, 2018). Odetola & Etumnu (2013) maintained that agriculture has been the mainstay of the economy since independence and despite several bottlenecks; it remains a resilient sustainers of the populace. This is because food production can increase both domestic and export rate. Economic growth in agriculture could be experienced from income generated from sales of farm produce and returns from economic activities related to production; or indirectly from increased capacity to partake in any form of economic activity through improved diet.

Factors Militating Sustainable Skill Acquisition in Agriculture

Analysing the factors limiting sustainable skill acquisition of Agricultural in Nigeria could help refocus the contribution of agricultural sector to the development of Nigeria's economy. Based on this analysis, previous researchers in the field of agricultural education (Njura, Kaberia, & Taaliu, 2019; Diise, Zakaria, Mohammed, 2018; Kirui, Kozicka, 2018) opined that most teachers who teach Agricultural science in many secondary schools are trained in agriculture without any background in education or post- graduate training in education. The major aim of Agricultural education for the learners is to expose them to various occupations in agriculture and prepare them for such occupations. Ibrahim (2014) outlined some factor that could militate against sustainable skill acquisition which includes; lack of proper curriculum development, poor method of instruction demonstration, lack of teachers' motivation, poor policy implementation and inadequate fund.

1. Lack of proper curriculum development: In the development of the agricultural sector in Nigeria, the relevance of agricultural education curricular cannot be ignored. Agricultural education has not been given an appropriate place in Nigeria school

curriculum. This is because proper activities on agricultural practical have not been met. Thus, there is a breakdown in the link between what is taught, agricultural labour market and the needs of the farmers. Hence, Ibrahim (2014) observed that the education of agricultural graduates is not commercial sector's need oriented.

2. Inadequacy of good quality teachers: the quality of education in any society depends on the quality of the teacher; hence, teachers' quality has a strong bearing on societal survival (Idrisa, Hassana, Ya'acoba, Gillb & Awalc, 2012). Therefore, any nation that has the mandate of ensuring sustainable skill acquisition of their citizen specifically as it relates to agriculture must not be in lack of quality teachers who are competent and proficient in the field of agricultural education. However, there is no corresponding rebuilt of agricultural skills by Agricultural Educators to meet with the rapid rate of changing world of production today as well as rapid changes in both scientific and technical knowledge.
3. Poor method of instruction: Instructional approach in education could be demonstration, project, questioning, fieldtrip, discussion, assignment and lecture method (Ugwuanyi, Nduji, Elejere & Omeke, 2020).
4. Poor teacher's motivation: Motivation could come inform of incentive, supply of teaching materials, educational resources, infrastructural facilities and organizational structure of agricultural learning. When these motivational packages are in short supply it reduces the teachers' zeal or passion to deliver properly, the required skill needed of the learners (Mary & Jarret, 2016).
5. Lack of consistent educational policies: Inconsistent educational policies in Nigeria today could be attributed to poor standard of education championed by those in government. According to Osokoya (2011), educational policy is the statement of intentions of the government and the envisaged means of achieving those aspects of the national objectives that rely on the use of education as a tool.
6. Inadequate fund: There is no adequate fund for the provision of conducive and enabling environment to facilitate the effective teaching and learning process as well as research (Darling-Hammond, Flook, Cook-Harvey, Barron & Osher, 2019). This could be said to be one of the major factors limiting sustainable skill acquisition in agriculture because once apparatus is not readily available, acquisition of skill would be done anyhow.

Panacea towards Economic Growth and Achieving Zero Hunger

The number of people living below poverty line in Sub-Saharan Africa (SSA) is over 180 million, and is expected to exceed 300 million people by the year 2020/2021 (Asibor, 2020). In addition, the per capita food production has continued to decline. Also, according to global hunger index as ranked in 2020, Nigeria was at 98th out of 107 countries that was investigated on this (Global Huger Index [GHI], 2020). Nigeria recorded a heart falling score of 29.2 which indicates that the country is seriously in hunger. Aoife (2021) pointed out that the solution to hunger is both simple and complex. Simple in the sense that the actual interventions themselves is simple and many of which are steps that can be taken are easy. In the same light, complex solution implies making that change happen in a lasting and

sustainable manner, and finding the right combination of solutions for each individual community. Some of these solutions include;

Climate Smart Agriculture

We know that climate change perpetuates global hunger, with more frequent and longer-lasting periods of extreme temperatures, flood events, and dry spells. Climate Smart Agriculture (CSA) a broad term that encompasses a number of practices that allows farmers to adapt and become more resilient to a less-predictable climate (Anuga, Gordon, Boon & Surugu, 2019). These practices include diversifying crop varieties, conservation agriculture practices, and low-water sack gardens.

Responding to Forced Migration

Forced migration, brought on by conflict, is a key cause of hunger. The action caused many affected persons to leave their place to surgeon in other man's place. They are normally known as the refugees and internally displaced persons (IDPs). This group of persons are some of the most vulnerable groups when it comes to hunger, as are their host communities. Much of the work to stop conflict needs to take place on a government and policy level (Branca, McCarthy, Lipper & Jolejole, 2011). Concern can help through programs that facilitate new ways to generate income. Thus, the need to acquire sustainable skills in the area of agriculture in an attempt to ensure economic growth and zero hunger.

Fostering Gender Equality

Gender equality is another key solution to global hunger, in two key areas: agriculture and maternal and child health. Women make up approximately half of the agricultural workforce in many of the countries where concern works, and data from the Food and Agriculture Organization suggest that giving female farmers equal access to resources as their male counterparts could increase production on their farms by 20-30% (Food and Agriculture Organization, 2018). This could in turn reduce the number of hungry people in the world by up to 150 million.

Reducing Food Waste

Currently, one-third of all food produced (over 1.3 billion tons) is wasted and producing this wasted food could wastes other natural resources**.** Ending food waste would be a radical shift, but it's one that you can be a part of by simply reducing your own food waste. It's especially important in countries like the United States (which contribute more to climate change but feel the effects less than more vulnerable countries) to take these steps towards climate justice (Dryzek, Norgaard & Schlosberg, 2011). You can also ask your representatives to commit to reducing food waste on a policy level.

Disaster Risk Reduction

Investing in disaster risk reduction in vulnerable communities could help mitigate potential losses in the wake of man-made or climate disasters for those who need it most. Most of the people with whom we work are involved in subsistence agriculture. For many, it's never enough, and the prospect of losing what they do grow is the very definition of

disaster. Simple techniques to protect and diversify crops can be very effective. Protecting the homestead and livestock is important too, losing vital shelter and assets can quickly lead to hunger (Bettencourt, Tilman, Narciso, Carvalho& Henriques, 2015).

Supporting Hygiene and Sanitation

Sometimes, people (especially children) appear to be eating enough. But if they live in an area with insufficient sanitation or poor hygiene practices, they may be susceptible to diarrhea or other waterborne illnesses that prevent them from absorbing those nutrients. Making sure that drinking and washing water are uncontaminated can save a life in more ways than one (Sharma & Bhattacharya, 2017).

Controlling Infestations and Crop Infections

Crops are not only threatened by drought and flood and they may also be decimated by pest or fungus invasions. Over 13 million people could go hungry as a result. In these extreme cases, aerial spray is the only way to effectively curb swarms, but other agricultural practices can confront smaller-scale invasions or even deadly funguses that can decimate crops (France-Presse, 2015). Again, disaster preparedness goes a long way here, too, as cash grants and new seeds and supplies can offset lost crops and inevitable spikes in food prices (Food and Agriculture Organization, 2018).

Enhancing Crops with Biofortification

With limited resources (including land, labor, and finances), the poorest farmers tend to focus on growing a limited number of crops, such as maize, rice, pearl millet, beans, and sweet potatoes. This also means that they often lose out on food rich in micronutrients like Vitamin A and iron. This can lead to significant micronutrient deficiencies that can leave lifelong impacts on young children. Though concern works with farming communities and households to diversify their crop production, we also promote the use of biofortified crops, including iron-enriched beans, iron-enriched pearl millet, and orange-fleshed, Vitamin A-rich sweet potatoes (White & Buttriss, 2019). All of the biofortified crops that concern promotes are the result of conventional breeding in the countries where they are being promoted (Bouis & Saltzman, 2017). These crops allow families to greatly increase their intake of those critical micronutrients in the short-term, and can be saved by farmers for subsequent replanting without loss of the biofortified traits.

Improving Food Storage Systems

What if you have plenty of food, but lack the storage solutions to make it last? This is another problem that, when solved, can make a big difference in closing the hunger gap. Sometimes this requires big interventions, like building or rehabilitating grain stores. Other times, this is a change that can happen at the household level. One innovation concern has introduced into women's groups around the world are solar dryers, which serve as one solution (Udomkun, et.al, 2020). Sun-drying vegetables, a traditional practice, preserve micronutrients and prolong shelf lives. Solar dryers, which operate by exposure to sunlight

are eco-friendly devices that accelerate this process, while also reducing contamination and minimizing nutrient loss (Tiwari & Jain, 2016).

3. Conclusion

Based on the above discussion, we can conclude that based on the level of economic development and hunger in Nigeria, sustainable skill acquisition in the area of agricultural education is needful. Having discussed factors militating sustainable skill acquisition in agricultural education, we can infer that most of these factors are not left out in Nigeria society. This implies that majority of citizens in Nigeria who intend to enrol into skill acquisition in agricultural education suffer from such factors. Our discussion on panacea on economic growth and achieving zero hunger showed that there is a solution actually. But it wholly depends on the government with the aid of concerned stakeholders to ensure that such is achieved.

4. Recommendation

Though there is drop in economic growth which have led to decline in actualizing zero hunger in the country, a lot can be done to reverse and salvage the situation. They include the following:

1. Government at all level should endeavour to improve agricultural education skill acquisition centres in all part of the country. This would help ensure that such skill is uniformly acquired among the intended learners.
2. Effort should be made to maximize the type of skills to be acquired by putting in place quality, competent and proficient teachers in the use of sustainable agricultural skills. This would ensure that learners grasp the skills that would not jeopardise the present and future environment.
3. Funding is an integral part of any program. Therefore, government in synergy with other stakeholders should ensure that sustainable skill acquisition is properly funded. Skill acquisition apparatus, agricultural lab, constant power supply and many more should be made available to certify that agricultural education has enhance from classroom theory to practical which would be of benefit to the intended learners.
4. The motivation of skill acquisition instructors should be paramount. This would help inspire them in doing the needful without withholding any source of information that would be beneficial to the learner. Hence, empowering citizens on being innovative with their initiative in making ends meet.
5. Government should be consistent with policies been made despite change in governance. This would ensure that policies are been uphold to the fullest and the actual purpose of such policy is achieved. Thus, sustainable skill acquisition in agricultural education of learners would be achieved so as to solve the issue of economic growth and hunger in Nigeria.

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