

## **CURRICULUM REFORMS FOR GLOBAL COMPETITIVENESS: THE ROLE OF AGRICULTURE EDUCATION IN NIGERIA**

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### **Abstract**

This study examined the concept of vocational education in context to its aims and goals towards global competitiveness, the historical background of vocational education, challenges, and prospects of vocational education in Nigeria. Globalization has increased economic competition within and between countries and the world's regions. Economic competitiveness is commonly seen as a valid index for judging a country's level of economic prosperity. Many recent large-scale education reforms have been justified by the urgent need to increase labour productivity and promote economic development and growth through expanded and improved education. It is generally assumed that to increase economic competitiveness, citizens must acquire knowledge, skills and attitudes necessary for civic success and the knowledge-based economy. This article argues that what schools are expected to do in order to promote economic competitiveness often contradicts commonly accepted global education reform thinking. Experience in many countries indicates that increased standardization of teaching and learning, for example, may be counterproductive to the expectations of enhanced economic competitiveness. The conclusion is that rather than competition between education systems, schools and students, what is needed is networking, deeper co-operation and open sharing of ideas at all levels if the role of education in economic competitiveness is to be strengthened. The key features of education reform policies that are compatible with competitiveness are those that encourage flexibility in education systems, creativity in schools and risk-taking without fear on the part of individuals.

**Keywords:** Education, Agricultural Education, Curriculum, Global competitiveness

### **Introduction**

Human and material resource development is an essential ingredient for a nation's socio- economic developmental plans programs and policies. Vocational education actually brings about the efficiency and the development of human resource in the art and science of job creation, economic development and skill acquisition to power the socio-economic values of Nation towards its greater height. Vocational education as perceived by Bello (2011) in Agbongiasede (2017) is the kind of education or training that equips the learner with saleable or entrepreneurial skill. Subsequently it is any form of education whose primary purpose is to prepare individuals for employment in any chosen occupation. Osuala as cited in Adebayo (2012) affirmed that vocational education also advocates the development of manipulative skills for employment and that they are geared towards production. By implication, vocational education provides the recipients with the

opportunities to develop their psychomotor, cognitive and affective skills, so that they can take their rightful places in the society and assume responsibility beyond their immediate environments.

Subsequently, the National Policy on Education (FRN, 2013) asserted that vocational education is a form of education that equips individuals with skills, abilities and competencies to equip themselves economically and contribute to the development of their society. The National Policy on Education (FRN, 2013) also expressed the vision of vocational and technical education as follows; to provide trained manpower in applied science, technology and commerce particularly at sub- professional grades; to provide the technical knowledge and vocational skills necessary for agricultural, industrial, commercial and economic development, to provide people who can apply scientific knowledge to solve environment problem for the use and convenience of man and, to give an introduction to professional studies in engineering and other technologies. Others are, to give training and impart the necessary skills leading to the production of craftsmen, technicians and other skilled personnel who will be enterprising and self-reliant and, to enable our young men and women to have an intelligent understanding of the increasing complexity of technology.

Similarly, international agencies such as International Labor Organization (ILO) and United Nations Education, Scientific and Cultural Organization (UNESCO) used the combination of technical and vocational education in its definition. They viewed vocational education as the lifelong study of technologies and related sciences, and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupational employment in various sectors of economic and social life (UNESCO and ILO, 2002).

### **Historical Background of Vocational Education**

Moakasy (1994) asserted that vocational training has been an interwoven part of the African traditional education, as well as part of the inherited culture and tradition imparted by parents and master craftsmen who were experts of their own skills and vocations. This type of training is referred to as non formal education system. Before independence in 1960, the desire of the colonial government to train only artisan and middle level technicians had translated into a sizeable of number of vocational and technical schools. Government then, organized some forms of vocational technical training in some governmental departments, such as the lands and survey training school, marine training school, railway training school (Adegbile, 2002). In 1925, the British government adopted African colonies for greater investment in education in order to raise the efficiency of the people. The policy emphasized on the need for vocational and technical education and the establishment of trade centers and technical institutions. In 1931, a program for the training of technical assistants was started by the public department, which offered courses in electricity, surveying and building construction. Then, the Yaba Higher College was opened in 1934 to develop courses in engineering, agriculture and teacher training. These courses were mainly vocational and led to the award of the college diploma (Ukeje and Mkpozi, 2005 in Ikenga and Udoye 2009).

### **Technical Vocational Education (TVE) in Nigeria**

The primary aim of all TVE programs is the acquisition of skills and attitudes for gainful employment in a specific occupation or professional area. The need to link training in TVE to employment either self or paid employment is at the base of all the best practices and approaches observed throughout the world. One of the most significant aspects of TVE is its inclination towards the world of work and the emphasis of the curriculum on the acquisition of employable skills. TVE delivery systems are therefore; well placed to train the skilled workforces that the nation needs to create employment for the youths and emerge out of poverty ( Audu, et al, 2013). Technical vocational education is defined as that aspect of education which leads to the acquisition of skills as well as basic scientific knowledge (FRN, 2013). It is a planned program of courses and learning experiences that begins with exploration of career options, supports basic academic and life skills, and enables achievement of high academic standards, leadership, preparation for industry-defined work, and advanced and continuing education(Maclean & Wilson, 2009). According to Audu, et al, (2013) any form of education that is geared towards teaching technical skills and attitudes suitable to such skills can be regarded as TVE. Mar (2011:4) in introducing UNESCO's technical vocational education and training definition and strategy, stated that TVE is defined as a comprehensive term referring to those aspects of the educational process involving, in addition to general education. These are; the study of technologies and related sciences; as well as the acquisition of practical skills, attitudes, understanding, knowledge relating to occupations in various sectors of economic and social life.

TVE is to be understood as: an integral part of general education, and a means of preparing for occupational fields and for effective participation in the world of work; an aspect of lifelong learning and a preparation for responsible citizenship. TVE is an instrument for promoting environmentally sounds sustainable. Development (Greening TVE International Framework) and a method of facilitating poverty alleviation.

Enyekit & Enyenili (2007) states that TVE includes preparation for employment in any occupation for which specialized education is required, for which there is a societal need, which can be most appropriately done in schools. It is concerned with the whole hierarchy of occupations from those requiring relatively short periods of specialized preparations such as clerks, typists to occupations requiring specialized professionals: thus it includes the whole spectrum of labor force from semi-skilled to technicians and paraprofessionals. TVE is a vehicle upon which the skills of workforce are built.

### **Concept of Education**

Education is not only an end in itself. It is a key instrument for bringing about changes in knowledge, values and behaviours and life styles required to achieve sustainability and stability within and among countries (Bajaj & Chiv, 2009). By educating an individual means trying to give him/her some desirable knowledge, understanding, skills, interests, attitudes and critical thinking. Successful conveyance of these attributes to individual or group means developing them; Nigeria's education curriculum need to be looked into with view to improving it. According to Ayodele, Obafemi and Ebong (2013) Education is the bedrock of any development. The present state of education in Nigeria is pathetic, with secondary school level at 13% quality rate, and primary school levels are even lower than this. The literacy rate in Nigeria is presently less than the

Asia average of 90%. Japan in fact, has a 100% literacy rate, and the Nigeria's figure keeps dropping due to lack of adequate and proper funding of education (Ayodele et al.;2013). The development of abilities and skills in the citizenry has been the main factor propelling the education policies of developing countries as they are geared towards making the people comfortable and at the same time, enabling them to harness the natural resources nature has endowed them with (Egun, 2009). Special type of education like agricultural education is needed to transform the citizens into more productive ones

### **The Concept of National Competitiveness/Theoretical Framework**

Global competitiveness arose as a result of a phenomenal development referred to as globalization or what Lagarde (2012) termed "the new world of interconnections". This development compels a new way of living, of communicating and of interacting. To Lagarde, it is a great paradox of our age for on the one hand, the world gets bigger, with so many people and places sharing the fruits of knowledge and prosperity; and on the other hand, the world gets smaller with so many people and places crossing paths and sharing destinies. She concludes the description by saying that the world is more "closely-knit" than ever before and that "we are all dependent on one another more than ever before". Competitiveness is seen as the set of institutions, policies and factors that determine the level of productivity of an economy which in turn sets the level of prosperity that the country can earn. Growing body of empirical literature shows that differences in productivity are the main determinants of cross-country prosperity levels (World Economic Forum, 2015). How to increase productivity remains a key question that needs to be answered in any economy. Porter (1990) disclosed that a nation's competitiveness depends on the capacity of its industry to innovate and upgrade. He equally summarized the meaning of productivity thus: 'The prime determinant of a nation's long run standard of living, the root cause of national per capita income, major determinant of employee wages and return to capital investment'. To sustain productivity, an economy must upgrade itself by raising product quality, adding desirable features, improving product technology, boosting production efficiency, developing necessary capability to compete in more sophisticated industry systems where productivity is generally high, developing compatibility to compete in entirely new sophisticated industries (porter, 1990).

This paper hinges on Porter's Diamond Model. The key determinants of national competitiveness are captured by Porter (1990) thus, the nation's position in factors of production, such as skilled labour or infrastructure, necessary to compete in a given industry and the nature of home-market demand for the industry's goods and services. The presence or absence in the nation of supplier industries and other related industries that are internationally competitive as well as the conditions in the nation governing how companies are created organized and managed as well as the nature of domestic rivalry.

These determinants, according to Porter (1990) create the national environment in which companies are born and learn how to compete. A look at these key determinants reveals that agricultural education graduates can significantly influence the trend of these national competitive drivers. First, agricultural education graduates are among the skilled labour of the nation that determines the productive capacity of the nation. They are seen in virtually all the sectors of the economy. Second, through their trainings, agricultural education graduates are among the think-tanks in various organizations that map out strategies to enhance the demand of Nigerian

made agricultural brands (goods and services). Third, a good number of the indigenous small and medium scale organizations that are directly or indirectly involved in one form of international marketing or the other are owned and managed by Agricultural education graduates. Finally, the agricultural education graduates are key decision-makers and participants in several governmental legal formulations on business operations, though they may not be lawyers.

### **The Global Competitiveness Index**

Global Competitiveness Index (GCI) is an annual assessment of drivers of productivity. Report of 2015 – 2018 is the 36th edition in the series. This study based its explanation and definition on the updated methodology to GCI calculations since 2007. The GCI combines 114 indicators that capture concepts that are relevant in productivity discuss. However, they are grouped into 12 pillars: institution, infrastructure, macroeconomic environment, health and primary education, higher education and training, goods and market efficiency, labour market efficiency, financial market development, technology readiness, market Size, Business Sophistication, Innovation( WEF, 2014). Just as countries are generally grouped as third world, second world and first world nations, the GCR sees countries as factor driven, efficiency driven and or innovation driven. The lower table captures the income thresholds for countries at different stages of development in addition to the weights.

### **Agricultural Education for Global Competitiveness**

Agricultural education is the teaching of agriculture, natural resources, and land management through hands on experience and guidance to prepare students for entry level jobs of to further education to prepare them for advanced agricultural jobs (Wikipedia, 2015). Agricultural education has been an essential factor in the success of agricultural development in Nigeria. It is that part of the total educational process that provides knowledge, develops skills, and inculcates the attitude necessary for entry and progress in an agri-business. It gets people into jobs that are requiring specialized training in agriculture

The major aim of agricultural education for all citizens and particularly for the youth in schools is to expose them to various occupations in agriculture and prepare them for the different opportunities in agriculture. This calls for vocational course content aimed at the development of skills and competencies in agricultural practices (Egun, 2009). Most developing countries depend on agriculture to provide employment, foreign exchange, food and raw materials for the industry, but lag behind in introducing educational courses on sustainable agriculture, the effect of which made them remain dependants on other countries. Ayodele et al. (2013) noted that in Nigeria agriculture is the dominant economic activity, and that roughly 75% of the land is arable out of which about 40% is cultivated. Although the agricultural sector has strong potentials, it is faced with a lot of challenges which impede substantial growth of the sector. Some of the key challenges that face the sector include low productivity, non-competitiveness, weak domestic policies and inadequate funding. These challenges can be adequately addressed through a sound agricultural education. Ibrahim (2014) reported that if all the agricultural education needs of the Nigerian citizens were to be adequately met, the nation's economy would be strengthened because their productivity would be increased because there is a direct relationship between individual resource productivity and nation building in the developmental

processes. The improvement in productivity of each worker or farmer leads to improvement in earnings of investors as well as more financial capital for management, and more revenue for government. Improvement in productivity is the most important factor in attaining growth in the economy and this is more so for agriculture which provides means of livelihood for over 65.0 per cent of the populace through subsistence production which is a predominant feature of agricultural production in Nigeria (Ukeje, 2000). Growth Enhancement Support Scheme (GESS) an initiative of the Federal Ministry of Agriculture in 2011 but started operation in 2012; is aimed at developing the productivity of Nigerian farmers. The success of the scheme will require enhancement of farmers' education especially in information and communication technology (ICT). This brings the future of the agricultural education closer; that is looking at what the role of agricultural education should be by the year 2020.

The required education beyond 2020 should lead to development of analytical skills, exposure to export marketing, total quality standards and comparative advantages. It should also facilitate confidence in ensuring sustainability with high productivity and quality of the produce while meeting international standards. Countries that have invested heavily in science and vocational education are now described as industrialized or developed and are self-sufficient in term of food production (Ezekiel-hart, 2011). The "e-wallet" (a component of GESS) meaning electronic wallet is an initiation by the present government whereby farmers purchase fertilizer electronically through their handsets. This means that for the program to be perfected and sustained, agricultural education must be enriched in terms of content to be able to transform Nigerian farmers into becoming ICT complaints, to be able to participate in ecommerce or internet business as found in other part of the world. According to Ezekiel-hart (2011), curriculum issues, the teacher quality and getting Information and Communication Technology (ICT) to drive the system are among the myriad of policy issues that Nigeria has not effectively tackled. Rapid changes in telecommunications technology and the globalization of trade and labour market are added challenges which the nation must contend with to be relevant in the 21st century. It is not only realizing the Vision that matters but sustainability and maintenance of the achievements; therefore Nigeria must be able to improve the agricultural education to sustain the achievements.

### **Improving Agricultural Education to enhance Global Competitiveness in Nigeria**

Also, seeing that our economy is besieged with an array of problems hindering it from being aligned to global competitiveness, what role has the Agricultural education s got to play? And what institutional and policy frameworks should the nation put in place? These strategies are recommended:

1. As products of a practical-oriented educational institution, agricultural education graduates are encouraged to be entrepreneurs, seeking to enlarge the scope of operation beyond the soil of Nigeria by internationalizing their businesses. This is a factor that has kept the first ten highly competitive economies (Switzerland, Singapore, United States, Germany, Netherlands, Japan, Hong Kong SAR, Finland, Sweden and United Kingdom) at the forefront.

2. The Buhari's Administration is encouraged to continue with the fight against corruption, but in a very transparent manner as corruption has remained a cankerworm to the global competitiveness rating of the nation over the years.
3. Again, poor infrastructural facilities (road, power, health, etc) and poor access to finance should be tackled. Thanks to the present effort of the Federal Government and some state Governors. However, more is still expected as research has shown that more than 70% of our local roads, where the raw materials needed for industrial productivity are sourced, have remained largely in poor condition (Ogwo&Agu, 2015).
4. A reform in agricultural education is the engine room of economic development and productivity should see Information and Communication Technology (ICT) as a base for every area of specialization. While demonstrating the position of technology in the business external environment, Agu (2015) proposed a new model known as "TEPLEDIC" which puts technology at the hub of every business. Being technologically conscious is a sure way to innovativeness which is the climax of global competitiveness.
5. Agricultural education s, entrepreneurs and the government are encouraged to benefit from the large market size of Nigeria to improve productivity. To do this effectively, link between the Agricultural education s and (Industrial Clusters, Mechanic Villages and Electronic/Electrical & Automobile Markets, etc) is advocated. Linking town and gown in this respect will ensure the researches, findings and inventions of the Agricultural education s are harnessed and brought to the public through this innovative partnership, while practical engineering and electronics assignments can be carried out by students
6. The government is encouraged to implement legislations that will enhance the status, image and reputation of agricultural education and agricultural education graduates in the labour market and other institutions. This will elevate their morale to increase their productivity as they are the majority in the productive sector of the economy which counts most in global competitiveness ranking.
7. To ensure a favourable global competitiveness ranking by the end of 2020, the Nigerian government and indeed all stakeholders in the economy should assist in fighting and saying no to corruption, injustice and hatred as well as other vices that tend to undermine the spirit of unity that will lead to sound global competitiveness. This requires sound institutions such as the judiciary, the parliamentarians ( law makers at the state and federal levels), INEC, the Police force, the military, EFCC, ICPC, CBN, NSE, customs, immigration, FRSC, Nigerian Ports Authority, Power Holding Company etc that will uphold global best practices. The soundness of these institutions will affect positively the actualization of best results in the rest of the pillars. Incorporating the principles and standards of agricultural education in these institutions will help to achieve this.
8. Nigeria must step up its efforts to re-accelerate economic competitiveness through enhanced productivity. And this would be possible when agricultural education and vocational graduates live up to the mandate of

their education because the link between global competitiveness and quality of Agricultural education graduates in an economy is obvious.

Agricultural education curriculum developers should start thinking of redesigning both the process and the content that drives the education in line with sustainability of the vision's achievements. Integrating aspects of sustainability can be realized with well thought adjustment in the educational process. The following adjustments in education are what Nigeria need beyond year 2020 which were observed and reported by Wals and Bawden(2000): - Adjustment from consumptive learning to discovery learning. - Adjustment from teacher-centred to learner-centred arrangements. - Adjustment from individual learning to collaborative learning. - Adjustment from theory dominated learning to praxis-oriented learning. - Adjustment from sheer knowledge accumulation to problematic issue orientation. - Adjustment from content-oriented learning to self-regulative learning. - Adjustment from institutional staff-based learning to learning with and from outsiders. - Adjustment from low level cognitive learning to higher level cognitive learning. - Adjustment from emphasizing only cognitive objectives to also emphasizing affective and skillrelated objectives. Nigeria's visionary achievements in the national development plan can be sustained beyond 2020 if the education of the farmers and other citizens is well adjusted to meet the challenges of time. No society can rise above the level of its education, therefore, it is obvious that the higher the level of education of the nation the higher the level of its productivity. In Nigeria where 70% of the population is engaged in farming, provision of quality and sustainable agricultural education can transform the nation in general. Issues of funding must be looked into since all are aware of the nature of agricultural education which is vocational hence, the need for adequate funding for it to consolidate on the achievements. Investing in agricultural education becomes necessary with the current uncertainties in global oil prices, not only the price, but also the reserve which will dry in not far future unlike agriculture which is more permanent in nature.

### **Conclusion**

Agricultural Education is the most essential factor for development especially in Nigeria where majority of the citizens are engaged in farming. This makes the agricultural education for sustainability a necessity. A timely reform is therefore imperative. Shown is the importance of agricultural education in developmental processes. Its relevance in achieving the vision of the nation was highlighted as well as what it should be beyond the year 2020.

### **Recommendations**

To ensure that Agricultural Education plays its roles in the process of enhancing global competitiveness in Nigeria, beyond the year 2020, the following recommendations are proffered: - Increase funding of agricultural education because it is vocational in nature and thus requires special kind of funding. - Reviving extension services at all levels to be sure of reaching the majority of farmers who reside in the rural and urban areas. - Government and the organized financial institutions should consider playing better roles than before in granting loans for farming purposes and export promotion. - Curriculum content of agricultural education should be enriched to meet the current global need. - Education should be made easier and affordable not only to farmers alone but to all the citizens

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