

## **Agricultural Education and Sustainable Development: The Nigerian Experience**

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### **Abstract**

*This paper examines the nexus between agricultural education and sustainable development in Nigeria. Agricultural education is continually poised to play major roles in the achievement of national food security and sustainability via the development of human resources required for agricultural productivity. In spite of this recognition, education and training institutions have not been able to adequately equip agriculturists and farmers with tools to produce adequate food, generate income and employment and reduce poverty for sustainable national development. Nevertheless, it has been argued that agricultural education in developing nations is still faced with many challenges which have prevented it from adequately addressing the issue of sustainable development. The paper concludes that no nation can develop without well-educated people and a strong agricultural base which provides food security for sustainable development. The role of agricultural education in the provision of improved, relevant and effective teaching, research and outreach as well as the achievement of food security requires a critical mass of dedicated well-trained human beings. It was recommended that there is need for a radical change in both curriculum content and delivery; employing modern methods in teaching which seek to develop in the individual appreciation and love for work through knowledge and skill acquisition based on attitudinal change and orientation. There should be focus on developmental plans to revive the agriculture sector given the high volatility in the oil sector and recent economic recession in the country, and the government of Nigeria through its apex bank should reform and align its financial sector to increase their lending to agriculture through low demands for collateral by banks; high capacity to develop appropriate credit instruments for agriculture and low interest rates.*

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**Keywords:** *Agricultural education, sustainable development, gross domestic product, agricultural policy.*

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### **1.0 Introduction**

The level of developmental trajectory of any nation depends on her quantum of agricultural development. No nation can survive let alone develop without the capacity to feed her populace (Odey, Effiong & Nwafor, 2017). Hence, food security is paramount for any nation in need of sustainable economic growth and development. This is because any nation that is economically and political unstable cannot meet the basic food need for its

population both on quality and quantity. This brings to bear the need for applicable skills, knowledge and attitude acquired through agricultural education for the enhancement of food production.

The acquisition of required skills and the development of mental, physical and social abilities as well as the competencies as equipment for human being to live and contribute to the developmental of the society, is one of the national goals of education at all levels (Otu, Elok, Unyime & Asikpo, 2018).

Sustainable development according to the Brundtland Report (1987) can be defined as meeting the needs of the present generation without compromising the needs of the future generations. From this definition, sustainable development entails development that would better the lives of the people now and in the near future. Agricultural education on the other hand, is defined as a subject of vocational education which is an occupational related training aimed at exposing, inculcating and developing knowledge, practical skills, competencies and attitudes. It provides the right type of skills and knowledge that will make individuals function effectively in any profession or job, and in agricultural related job or career (Ogundipe, 2009; Suleiman, 2011; Egun & Egun, 2015).

Agricultural education as an integral part of vocational education can be described as education for sustainable development. A look at Nigeria per capita GDP and the various components of the agricultural sector shows that agriculture provides about a half and engages two-third of the labour force. The status of agriculture education in Nigeria is grossly ineffective as a lot of vocational agricultural students and graduates are unable to accomplish simple practical farming activities given the required facilities.

Despite the contributions of agricultural education in the growth and modernization of agricultural production, it has abysmally failed to sustain the developmental stride of the nation and hence food security and sufficiency cannot be envisaged in the near future. This is based on the premise that the government has not equipped agriculturists and farmers with the needed tools to produce adequate food for both consumption and employment generation and hence promote sustainable development.

Hence, this paper examines the role of agricultural education in terms of its contributions to the sustainable development of the country. The challenges of agricultural education and the needed change for sustainable development of the nation were alsodiscussed.

## 2.0 The challenges of agricultural education

The need for self-sufficiency in food production is one of the priorities of the national government, which agricultural education can be utilized to achieve. In school system, agricultural education is constrained by the following issues:

**Lack of qualified teachers:** There is inadequacy of teachers both in quality and quantity, hence weakening the strength and capacity of the educational system. The implementation of any school curriculum is hinge on the competency of teachers mostly in the area of agriculture.

**Inadequate facilities for teaching and learning:** The facilities for teaching and learning of agricultural education in schools are inadequate. The teaching and learning of agricultural education requires a lot of equipment and resources such as laboratories, land and machineries etc. and most of these facilities are inadequate. The inadequacy of these facilities hinders students' exposure to field work and practical.

**Lukewarm attitude of students towards agriculture:** Agriculture to some students is a neglected career for those who could not do well in other areas of human endeavour, and hence agriculture is conceptualized as unlucrative venture ascribed only to the illiterates and old people in villages.

**Inadequate incentives and motivation:** There is gross lack of motivation and incentives to agriculture educators, and hence lead to low morale on the part of the teachers. The low morality discourages teachers from putting their best in the job and imparts the requisite skills, attitude, ideas and knowledge in their studies due to lack of job satisfaction.

**School agricultural science curriculum and agricultural education:** For every educational programme, there is a package commonly known as curriculum usually offered to learners under the guidance of the school. Agriculture as a composite discipline should form the core of the curriculum in both primary and secondary schools. The Nigerian educational curriculum should be vocation oriented to reflect skills and knowledge acquisition for production. The National Agricultural Policy should be harmonized in the curriculum contents of schools in the country.

**Lack of agricultural policy:** There is absence of a well-defined agricultural policy in operation, as agricultural programmes initiated are dependent on the government in power and mostly politicized. Agricultural policies which are action plans designed to achieve a sustainable agricultural production to meet projected targets are left in the hands of Ministry of Agricultural, a practice that needs to be discouraged (Effiong, Odey & Nwafor, 2019).

**Low-level and application of information technology:** There is low knowledge of the application of information technology in agriculture production. Many institutions of learning still do not have access to modern agriculture related technologies due to lack of financial resources for the purchase of hardware, software, internet facilities to poor supply of electricity and telephone system to power the machine (Chikanga, 2003; Ajayi and Fapojuwo, 2013).

## 2.1 Suggested remedies to the challenges of agricultural education

**Employment of qualified teachers:** Qualified teachers should be employed to boost the educational system. In-service training and development of teachers and agricultural extension workers should be constantly carried out to encourage and improve their performance.

**Improvement in teaching methods:** Agricultural education and training institutions need re-engineering of the teaching methods. Aside the conventional formal teaching pedagogy, some learning activities should be included into their programmes such as greater emphasis on student-conducted field surveys, practical field work, training via village and farm outreach activities as case studies and problem-solving exercises oriented to local rural development needs (Ajayi&Fapojuwo, 2013).

**Constant revision of agricultural education curricula:** A consistent programme of curriculum development and adaptation of methods and materials to suit current realities are required in many institutions. This revision should be done anticipatorily incorporating the various stakeholders in agricultural education and training thereby harnessing their inputs. There is need for a paradigm shift in the curricula so as to incorporate both private sector and self-employment categories of the society.

**Harmonization of agricultural policy:** For agricultural education and training institutions to contribute to a long term sustainable development, they should periodically harmonise agricultural policies and programmes in tandem with the curriculum contents of the national agricultural policy framework.

**Provision of adequate incentives and motivation:** Teachers and agricultural extension workers should be highly motivated through the provision of incentives such as adequate funding and supply of modern agricultural equipment. However, the reliance on government alone for funding and provision of incentives for education is been found to be inadequate and unsustainable. Hence, in order to maintain sustainable agricultural development,

universities and colleges of agriculture in Nigeria should try other ways of motivating teachers to enhance performance.

### 2.3 Agricultural education and sustainable development

Agricultural education is the type of education that involves the process of acquiring practical skills and competencies that helps individuals in developing the dexterities which would be ultimately transferred to job opportunity in the society. Agriculture can be regarded as the business of production, storage, distribution and marketing of crops, animals and their products. The agricultural sector in Nigeria is made of crop production, livestock, forestry and fishery with crop production contributing about ₦376.35 million between 1981 and 1990 with ₦76.05million from livestock and ₦15.98 million contributed by forestry and 11.84

YEAR	GDP (N'Billion)	AGRICULTURE(N'Billion)	AGRICULTURE (% of GDP)	INDUSTRY (% of GDP)	SERVICE (% of GDP)
1981-1985	825.5	125.58	15.21	32.40	52.39
1986-1990	1,691.08	354.64	20.97	33.07	45.96
1991-1995	7,422.93	1,838.09	24.76	32.79	42.44
1996-2000	24,684.61	6,558.40	26.57	29.74	43.69
2001-2005	72,359.23	21,820.46	30.16	24.61	45.23
2006-2010	199,713.56	50,839.94	25.46	23.32	51.22
2011-2015	397,975.47	84,325.96	21.19	25.05	53.76
2016-2019	487,148.45	104,751.50	21.50	24.10	54.40

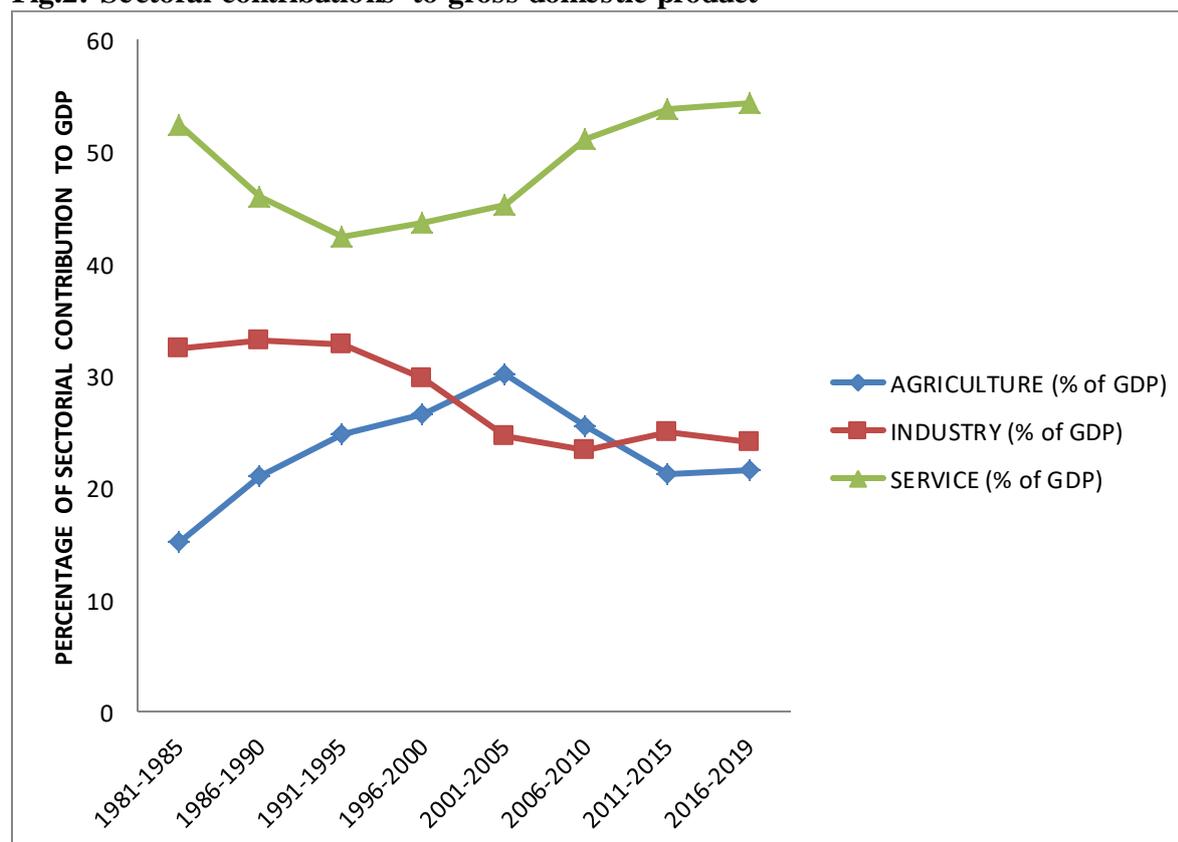
**Table 1: Agriculture and sustainable development**

**Source: CBN Statistical Bulletin, 2019**

million from fishery. Of the total agricultural output of ₦81,056.89 billion between 1991 and 2010, crop production alone harnessed ₦72,142.16 billion while livestock brought into the economy about ₦6,424.26 billion with ₦8,770.18 billion and ₦1,613.19 billion from forestry and fishery, respectively (Central Bank Nigeria CBN, 2019). The contributions from these sub-sectors between 2011 and 2019 were ₦166, 904.86 billion, ₦15.095.87 billion, ₦1, 993.86 billion, and ₦5, 082.87 billion from crop production, livestock, forestry and fishery, respectively.

Crop production enables individuals and households to secure job opportunities that will benefit both the society and the individuals. It was on this premise that Iweh (2008) opined that for the world economy to achieve civilization and technological progress, the development of the citizens through the process of acquiring relevant skills and competence must be stressed and vigorously pursued, as development is the sustained positive improvement of a place or community through man's creative potentials. This he noted constitutes the required skills which are needed for national economic sustainability and it is the essence of agricultural education programme.

**Fig.2: Sectoral contributions to gross domestic product**



Source: Central Bank of Nigeria, 2019

The nexus between agricultural and sustainable development can be examined via the contribution of agriculture to the Gross Domestic Product (GDP) of the country. The ratio of agriculture to GDP has been abysmally low compared to other sectors such as industry and service. Agriculture to GDP ratio was 15.21 percent between 1981 and 1985 but rose marginally to 30.16 percent between 2001 and 2005, and plummeted to 21.50 percent between 2016 and 2019 as shown in table 1. However, the industrial and service sectors contributed 32.4 and 52.39 percent respectively between 1981 and 1985. The industrial and service sectors fall to 24.61 percent and 45.23 percent respectively between 2001 and 2005 (table 1). The industrial sector was 24.10% of GDP between 2016 and 2019 while the service sector reached its highest peak of 54.40 percent on the average between 2016 and 2019 (CBN, 2019).

From the above analysis, it can be deduced that the agricultural sector which encompasses agricultural education has not contributed meaningfully to the gross domestic product for sustainable development of the nation.

### 3.0 Conclusion and Recommendations

Agricultural education is continually poised to play major roles in the achievement of national food security and sustainability. This is premised on the fact that no nation can develop without well-educated people and a strong agricultural base which provides food security for sustainable development. The role of agricultural education in the provision of improved, relevant and effective teaching, research and outreach as well as the achievement of food security requires a critical mass of dedicated well-trained human beings. Education has changed in the past to adjust to the needs of society, the evolution must continue and change is needed to address the needs of the 21st century. There is need for a radical change in both

curriculum content and delivery; employing modern methods in teaching which seek to develop in the individual appreciation and love for work through knowledge and skill acquisition based on attitudinal change and business orientation. Change in attitude towards farming and competence in agricultural acts can only emanate in the societal young recruit, through school effectiveness resulting from the tutelage of competent instructors, use of adequate instructional materials procured on good funding. There should be focus on development plan to revive the agriculture sector given the high volatility in the oil sector and recent economic recession in the land. Development efforts should be concentrated on the agricultural sector which will unleash positive development dividends for the nation. To unlock the nation's agricultural potentials, the government of Nigeria through its apex bank should reform and align its financial sector to increase their lending to agriculture through low demands for collateral by banks; high capacity to develop appropriate credit instruments for agriculture and low interest rates. There should be consistent agricultural policy that will integrate the rural populace, those in school, especially as some of them are expected to take to farming after leaving school; practising farmers and business men and women in the industrial sector who will be involved in adding value to agro-products through agro-based industries. The educational process must be adequately planned because as education policies change, the processes of achieving stated goals or objectives of education changes. The curriculum for teacher education need to be re-evaluated to be in line with modern trend of economic developments in Agriculture; least teachers continue to perpetuate obsolete offerings; as knowledge and society are dynamic, changing to the dictates of time.

## REFERENCES

- Ajayi, M. & Fapojuwo, O. (2013). Agricultural education and training as panacea for sustainable food security in the developing countries. *2013 International Conference on Sustainable Environment and Agriculture*, 57(12), 62-66.
- Brundtland Report (1987). *Towards sustainable development in our common future*. Oxford University Press, Oxford United Nations World Commission on Environment and Development, 43-66.
- CBN (2019). Central Bank of Nigeria Statistical Bulletin. Abuja.
- Chikanga, M. (2003). New developments in the field of didactics to enhance excellence in education and training. Paper presented at the CIEA seminar on role of agricultural education and training within New Partnership for Africa Development (NEPAD) September 22 – October 3. College of Agriculture, Elsenburg, South Africa.
- Egun, A. & Egun, N. K. (2015). Re-engineering agricultural education for sustainable development in Nigeria. *International Research Journal of Curriculum and Pedagogy* 1(1), 002-005.
- Effiong, C. E., Odey, F. I. & Nwafor, J. U. (2019). Globalization, foreign direct investment and industrial sector performance nexus in Nigeria. *International Journal of Social Sciences and Management Research*, 5 (2), 58-70.
- Iweh, J. P. (2008). School variable and implementation of business teacher education programme in tertiary institution in AkwaIbom State. Unpublished M.Sc thesis, University of Uyo, Uyo.
- Nwankpa, N.N. (2017). Sustainable agricultural development in Nigeria: A way out of hunger and poverty. *European Journal of Sustainable Development*, 6(4), 175-184.
- Odey, F. I., Effiong, C. E. & Nwafor, J. U. (2017). Savings-investment and economic growth nexus in Nigeria. *International Journal of Development and Economic Sustainability*, 5(7), 1-14.

- Ogundipe, M. H. (2009). Repositioning agricultural education for employment generation to combat economic meltdown in Nigeria. A paper presented at the 2nd National Conference of School of Vocational and Technical Education, College of Education, Ikere-Ekiti, Ekiti State, Nigeria.
- Otu, E. S., Etok, E. &Asikpo, B. E. (2018). Agricultural education for sustainable future development. *Journal of Agricultural Development*, 3 (2), 1-9.
- Suleiman AD (2011). Issues and challenges of agricultural production as a vocation in Nigeria. *Okene Vocational Education Journal (OVEJ)* 1(1), 26-38.