ENTREPRENEURSHIP AND FUNCTIONAL AGRICULTURAL SCIENCE EDUCATION AS MEANS OF ACHIEVING THE VISION 20:2020 IN NIGERIA

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Abstract

This paper highlights the role of entrepreneurship and functional agricultural science education in achieving the vision 20:2020 in Nigeria. The concepts of entrepreneurship and functional agricultural science education were considered. The trend and practices in entrepreneurship education with respect to some European countries in relation to what obtains in Nigeria were discussed. The growth potentials of the country to achieve the vision 20:2020 as well as the challenges of development in Nigeria were also discussed. The paper recommends that corruption which is the bane of meaningful development in the country should be tackled with all seriousness so that an enabling environment for prospective and existing entrepreneurs could be created and at the same time have a functional vocational education programme in the country. The paper concludes that the on-going “re-branding” exercise is a step in the right direction to turn the fortunes of the country around for the better with the proviso that it is done with some sincerity of purpose or else the vision 20:2020 could be considered as a mirage.

Introduction

The number of unemployed youths in contemporary Nigeria is undoubtedly posing a serious threat to the peace and security of this nation as the atrocities of these idle but capable hands have been recorded across the length and breadth of the country. The increased number of unemployed youths in the country has been traced to the liberal and elitist form of education inherited from the British colonialists, (Sikiru, 2003).

Experts have therefore urged the Federal Government to put modalities in place to ensure that the vocational system of education introduced in the early 1980s is functional; in the same vein, Ikeoji (1999) reported that Vocational education is borne out of the need for the system to make its products useful to themselves and the society at large.

Agricultural science education, a component of vocational educational has been identified as one of the vocational courses that can ensure the acquisition of requisite work skills, attitudes and leadership qualities by the future farmers of this nation. However, this author is of the opinion that the acquired work skills and attitudes may not be enough to turn the “industrial wheels” of the economy to ensure that the products of vocational education are creators of jobs through the establishment of small and medium scale enterprises instead of job seekers in government and private establishments. This is why it becomes imperative for the Federal Government to create an enabling environment that will boost the entrepreneurial culture of this nation.

According to experts, entrepreneurialism is the foundation of any developed nation and for Nigeria to reap the full benefits of a dynamic and evolving economy, it is important to overcome the entrenched social, financial and political hurdles through entrepreneurship education. Entrepreneurs have been described as the much needed backbone of the development of modern ideas and the world.
This has to do with the magnitude and reach of their contributions which extend much beyond the world of business and economy, as they are largely credited with the growth and evolution of societies at large.

Developed nations across the world owe their current prosperity to the collective effort of intrepid entrepreneurs; this is because the scope of financial freedom and flexibility that entrepreneurialism allows is a means to simultaneous individual and national prosperity most especially when the entrepreneurs are armed with technical skills to float an enterprise of their choice. This is especially relevant in the case of contemporary Nigeria, which has the dream of becoming one of the 20 leading economies globally by the year 2020.

It is against this backdrop that this paper attempts to highlight the role of entrepreneurial and functional agricultural science education in achieving the vision 20:2020 in Nigeria.

The Concept of Entrepreneurship and Entrepreneurship Education

Entrepreneurship is gradually gaining prominence in the Nigerian society as many people still don’t understand what the concept is all about. It is simply the process of being an entrepreneur and according to Falklang and Alberti (2000), entrepreneurs are people with entrepreneurial spirit, that are likely to have knowledge and skills requirements unique and different from other people involved in business. Hisrich and Peters (2002) defined an entrepreneur as an individual who perceives needs, conceives goods and services to satisfy the needs, organizes the factors of production and then creates and markets the products.

An entrepreneur has been described as the one who starts an enterprise; the one who puts new forms of industry on their feet; the one who shoulders the risks and uncertainty of using economic resources in a novel way; and the one with the right motivation, energy and ability to build something by his or her own efforts.

The definitions above indicate that entrepreneurs have a kind of behaviour that encompasses initiative taking; organizing and reorganizing of social and economic mechanisms to turn resources and situations to practical accounts and the acceptance of risk. Thus, entrepreneurship which is the process of being an entrepreneur is more than the mere creation of business or an enterprise. It is a dynamic process of vision, change and creation. It requires an application of energy and passion towards the creation and implementation of new ideas and creative solutions (Linskey and Yonekura, 2002). Hisrich and Peters (2002) defined entrepreneurship as the process of creating something new with value by devoting the necessary time and effort, assuming the accompanying financial, psychological and social risks and receiving the resulting rewards of monetary and personal satisfaction and independence.

Kuratko (2008) stated that entrepreneurship consists of generating business ideas, identifying investment opportunities, making decisions towards exploiting the opportunities, formulating organizational objectives, conducting market research and surveys, establishing and starting the business enterprise, distributing and promoting the organizations products and services, organizing the human and material resources for the attainment of the enterprise objectives bearing risks and uncertainties and innovations.

Entrepreneurship education on the other hand is the process of providing individuals with the ability to recognize business opportunities and the insight, self-esteem, knowledge and skills to act on them (Colin and Jack, 2004). It is all about transforming an idea into reality, and one of the crucial factors for encouraging entrepreneurial attitudes is to develop entrepreneurship education (Kourilsky and Walstad, 1998). This is based on the fact that many aspects of entrepreneurship can be taught and
since the initiative exists in every individual in its latent states, it needs to be activated therefore through entrepreneurship education. Hills (1998) defined entrepreneurship education as a form of education that enables teachers to be creative and innovative to satisfy the need for entrepreneurial novelty and the need to be competent and multi-functional managers.

Studies have shown that in the developed economies of the world and the fast developing ones otherwise known as the latter comer countries like Singapore, China, South-Korea, Indonesia, Thailand, etc, the rate of economic development, expansion and industrialization is attributable to a large extent to the emergence of an entrepreneurial class in these countries. Hence it becomes imperative for the Nigerian government to create the awareness of entrepreneurship in the populace through entrepreneurship education as a means of achieving the vision of becoming one of the 20 leading economies globally by the year 2020.

The Concept of Functional Agricultural Science Education

Meaning and scope of Agricultural Science Education. Agricultural Science education could be defined as a process of imparting knowledge, skills and attitudes in agriculture to the learners at any level. Obibuaku (1983) in Osinem (2008) defined agricultural science education as education and training given in agriculture from primary school through secondary and special schools to the university. Agricultural education is therefore an important school programme that is offered at all levels of education ranging from home to the school and the community; implying that it can be formal, informal and non-formal (Osinem, 2008).

A functional agricultural science education, therefore provides learners with sound academic knowledge and skills as well as ample opportunity to apply this knowledge through classroom activities, school farms, project participation and supervised agricultural experiences. It emphasizes skill development in all aspects of agribusiness such as planning, management, safety, finances and leadership. It also furnishes learners with the necessary communication and interpersonal skills as well as knowledge of technical agriculture to would be teachers at all levels. It equips learners to be self-employed or work in agricultural extension services, agro-industries and as agricultural educators (Osinem, 2008).

The scope of agricultural education covers the areas of teaching, research, public service and leadership outreach programmes that are designed to prepare students for self or public employment in various occupations such as crop production, animal husbandry, agribusiness, agricultural mechanization, natural resource management, horticulture and landscaping.

Objectives of Agricultural Education

According to Osinem, (2008) the objectives of functional agricultural science education are to prepare learners for successful careers in agriculture by providing them the experiences that will enable them to:

- Demonstrate desirable work ethics and habits.
- Apply the basic agricultural competencies and background knowledge in agriculture and related occupations.
- Analyze entrepreneurial skills needed by individuals preparing to enter agriculture and related occupations.
- Acquire leadership and participatory skills necessary for the development of productive citizens in our democratic society.
- Gain effective social and interpersonal communication skills.
⇒ Be aware of career opportunities in agriculture and set career objectives.
⇒ Acquire job-seeking, employability and job-retention skills.
⇒ Recognize how new technologies impact agriculture and how agriculture impacts the environment.
⇒ Recognize the interaction of agriculture with government and economic systems at the local, state, national and international levels.

The above objectives are achievable if the modalities are put in place by the government. Thus if the stated objectives are achieved, the spill over effects which amongst others include national food security and self-employment of the graduates through entrepreneurial skills would no doubt go a long way to help the nation achieve the dream of becoming one of the 20 leading economies globally by the year 2020.

World Trends and Practices in Entrepreneurial Education and Training

There is a global consciousness towards the promotion of entrepreneurial spirit in education delivery. This is because the ever growing pool of unemployed school graduates which currently is a source of concern globally has made global entrepreneurial framework a desideratum. (Nwadiani, 2010). This becomes imperative not necessarily because the job market is over saturated but largely because of the lack of entrepreneurial spirit amongst school graduates at all levels. Though there is no framework at the national level for the development of entrepreneurship education and training in many countries, some are beginning to make appreciable progress as observed by the European Commission (2006) as follows:

**Greece:** In this country, entrepreneurship is not made part of the school curricula though some efforts are currently under way in the area of vocational education. Thus much remains to be done in this regard and hence the low impact presently.

**France:** Here entrepreneurship is also not part of the curriculum. Initiatives are taken, together with business associations to promote the awareness of entrepreneurship among secondary school students. Some progress has been recorded generally but is considered uneven as implementation takes place especially at local levels while initiatives are rather fragmented.

**Czech Republic:** Entrepreneurship education is currently being introduced in the school curriculum in this country by introducing a new system of General Educational Programmes (GEPs). In total approximately 300 GEPs are expected to be introduced for use in secondary education. The preparation for entrepreneurship and mastering the crucial skills to become an entrepreneur is a vital part of these new GEPs, which describe the entrepreneurial activity as one of the key competencies. Also, projects like students’ training firms which are offered are the present focus by business schools to promote entrepreneurial education in this country.

**United Kingdom:** In England and Wales, enterprise education is integrated as a compulsory element of pupils’ work related learning in key stage 4 (age 14 — 16). In England specifically, the government funded pilot projects to be developed in secondary schools and then disseminated good practices to encourage educational institutions. From this experience the Department of Education drafted national guidance on enterprise learning and made available to teachers in all secondary schools for teaching
and learning. Consequent upon this strategy, enterprise is today part of the statutory work-related learning in all secondary schools in England.

In Scotland, every pupil from P1 through to S6 has an entitlement to enterprise activities on an annual basis and in addition, pupils in S5 and S6 have an entitlement to case studies based on local or Scottish business.

Slovenia: Here entrepreneurship is a key component of the country’s development strategies. From 2000-2006, the country offered through different government resources the programme for the promotion of entrepreneurship and creativity of youths, in which every year 4000 young people aged from 12 – 30 participated (approx. 30 percent of the participants in secondary education). Then in 2006, a new strategy for introducing entrepreneurship and creativity into the regular school system 2007 – 2013 was adopted and it would involve all levels of education. An overall goal is to offer in any school entrepreneurial education and to introduce business competitions into the official school system as well as to provide training for teachers.

In Nigeria, the Federal Government is currently targeting universities for spinning off entrepreneurial spirit and culture in the country by setting up a presidential committee on the introduction and implementation of entrepreneurship education in all tertiary institutions with the strategies of:

- Curriculum review.
- Promotion of the development and sustenance of entrepreneurship centres.
- Promotion of science, technology and innovation by providing incentives for students and lecturers.
- Sensitization, advocacy and mobilization of support for entrepreneurship education.
- Programe focus.
- Funding, (Akpomi, 2008)

Though the strategies enumerated above appear lofty in achieving the spinning off of the entrepreneurial spirit and culture in Nigeria, it appears the primary and secondary levels of education are omitted in the programme. This is considered an aberration as the programme at these levels would have served as the foundation for the successful implementation at the tertiary level.

Vision 20:2020 and Growth Potential’s of Nigeria

The vision 20:2020 is for Nigeria to become one of the 20 leading economies in the world by the year 2020. To become a leading economy in the world especially in the bracket of the first twenty simply implies that the nation is economically and industrially developed. This is a noble objective which needs some pragmatic approach to its achievement. From available facts, there is no doubt that Nigeria is endowed with both the human and natural resources to attain the status of an economically developed and industrialized nation. This is because Nigeria is a labour surplus nation with an estimated population of over 140 million people which is the largest in Africa and with the enormous human resources the country can be transformed from its present developing status to a developed nation if only some basic work and entrepreneurial skills are imparted through a functional vocational and entrepreneurship education right from the primary school level.
Nigeria is presently the 7th country in the hierarchy of the Organization for Petroleum Exporting Countries (OPEC) a cartel known for its exports of crude oil to the international market; Nigeria’s daily export of crude oil in 2005 was estimated to be more than 2 million barrels, realizing an average annual oil revenue of more than ten billion dollars (Soba, 2006). Thus, with huge oil revenue every year, the country can increase its domestic savings in order to achieve the desired level of capital formation for developmental purposes.

Besides, Nigeria’s enormous gas resources have even surpassed the country’s oil resources, and currently she is the 6th highest gas producing nation in the world (Soludo, 2007). With these potentials many light and heavy industries could be established using these resources as their major raw materials or inputs. Moreover, the country can boast of over 34 solid mineral resources essential for industrialization such as Coal, Tin, Gypsum, Bauxite, Columbite, Gold, Limestone as well as Uranium which is an essential input in the development of nuclear energy (Soludo, 2007).

Furthermore, Nigeria’s agricultural potentials are enormous. The country has favourable climatic conditions and a total landmass of 932,770km² which is highly fertile for various agricultural enterprises and over 60% of the Arabic land is not under cultivation. Thus various food and cash crops could be grown in all parts of the country. With these agricultural endowments the nation can afford to achieve food security and also develop her latent potentials in agro-allied industries which are precursors to achieving the vision 20:2020.

The Place of Entrepreneurship in National Development

Whatever be the form of economic and political set-up a country, entrepreneurship is considered essential for national development; this is because entrepreneurs have been found to play vital roles in national development. This is in consonance with the assertion of Jhinghan (2008) that entrepreneurship is an indispensable ingredient in economic development over a period of time and that the entrepreneur is the kingpin of any business enterprise because without him the wheels of industry cannot move in any economy. The entrepreneur is able to achieve the above feat because he is energetic, resourceful, alert to new opportunities, he has the ability to adjust to changing conditions and always willing to assume the risks in change and expansion, he introduces technological changes that enable him to improve the quality of his product from time to time and he is always prepared to expand the scale of his operations if the need arises by reinvesting his profits.

This may account for the findings of the Global Economic Monitor (G.E.M., n.d) an annual research programme by the Ewing Marion Kauffman Centre for Entrepreneurial Leadership based in the Babson College, USA which established through its annual research reports that there is a strong link between the level of entrepreneurship in a country and national economic development. The agency's research shows a correlation between the prevalence of new firms and projected Gross Domestic Product (GDP) and the correlation between the Total Entrepreneurial Activity (TEA) and projected GDP.

The findings of this annual survey are confirmed by developments in East Asia as Eight Countries in this sub-region described as High Performing Asian Countries (HPAEs) have been severally studied since their "miraculous" economic growth feats from the 1960s. The countries are the "4 Tigers" of Asia namely Hong Kong, Singapore, Taiwan and South Korea along with Japan, Malaysia, Indonesia and Thailand which have demonstrated similar trends in their economic growth characteristics. The World Bank (1993) notes:

In large measures the HPAEs achieved high growth by getting the basics right. Private domestic investment and rapidly growing human capital were
In the quotation above, the private domestic investment refers to private entrepreneurial activities while human capital development refers to education and specifically, functional education that is capable of enhancing ability to be economically productive. It therefore becomes imperative that Nigeria emphasize entrepreneurship and entrepreneurship education in her education system from the primary level to the tertiary level as she cannot afford to be left out in this global trend towards achieving sustainable national development which is a pre-requisite to achieving the vision 20:2020.

**Agricultural Science Education in the Context of National Development**

It is the desire of most developing countries including the Federal Republic of Nigeria to build a united, strong and self-reliant nation. A self-reliant nation is one which depends on her own capabilities judgment resources and skills in a bid to enhance moral independence food security freedom from servitude. This state in any nation can only be achieved when the development of human and material resources are emphasized and pursued meaningfully. It is only in the context of this emphasis that the spirit and the skill of innovation, the knowledge and attitude to make people self-conscious instruments of change can be developed. In this regard, the country will not have to depend perpetually on the importation of food and relevant skills from abroad rather she will use what she has to produce what she needs in terms of food and infrastructure. This implies the development of man which enables the unfolding and realization of his creative potentials, the development of occupational skills needed as preparatory for work and promotion of the dignity in human labour.

The above in a nutshell is the objective of a functional agricultural science education which helps in the general uplifting of the individual and society at large. Thus there is reduced juvenile delinquency, adult crime, unstable and unsatisfactory political system because there is enough food which is affordable and people are gainfully employed in one form or the other. Another far-reaching benefit of a functional agricultural science education otherwise called vocational agricultural education is the stemming of rural-urban migration. This is because the resulting increase in the standards of living, schools and a wider cultural life will help encourage the youths to stay in the rural areas because they are always in search for a better way of life wherever it is found.

According to Osinem (2008), agriculture today, is not only farming it is also a business and a functional agricultural science education programme trains the individual for a rewarding business in farming. This is because he can manage his labour efficiently and organize the farm so that production costs are reduced as low as possible.

In the light of the above, the role of functional agricultural science education in national development cannot be over emphasized. An attempt is hereby made to highlight the various enterprises in which graduates of agricultural science education can contribute meaningfully to the development of this nation through gainful self-employment and economic empowerment which could lead to curbing the twin problems of extreme poverty and youth restiveness.

**Agricultural Enterprises**

- Fish farming
- Poultry farming
- Piggery
- Rabbitry
- Small ruminant production
Small scale dairy production
Bee farming
Snail farming
Garri and cassava flour production
Plantain flour production
Yarn flour production
Cow-pea (beans) flour production
Soya milk production
Cashew-nut production
Pop-corn production
Ice-cream and yoghurt production
Production of starch for laundering
Tapioca production
Potato chips production
Plantain chips production
Wheat flour production
Horticulture
Landscaping

The above list is certainly inexhaustive, however, a functional agricultural science education which provides our youths the skills to embark on these ventures can drastically reduce unemployment as the youths become self-employed and creator of jobs instead of job-seekers, there is also increased Gross Domestic Product (GDP) of the nation and above all improved Science and Technology base of the country which is required to achieve the vision 20:2020.

The Challenges of Development in Nigeria

Nigeria is a country that has always aspired to attain the status of a developed nation in view of her great potentials and hence the vision 20:2020; but there is a paradox in the sense that this same nation is beset with so many socio-economic and political problems that have always hamstrung the country’s efforts towards achieving the said status. One of these socio-economic problems is the corruption record of the country which is considered one of the worst in the world, according to the report of the Transparency International. In fact, Nigeria’s internationally acclaimed scholar and elder statesman, Achebe, (1983) cited in Kayoma (2010) rightly captured the true situation of the country while narrating the troubles of the country by saying that “Nigeria is not a great country because it is one of the most disorderly nations in the world. It is one of the most corrupt, insensitive, inefficient places under the sun.” This assertion sums up the major challenges facing the nation. Therefore no country can achieve development in the face of inefficiency and corruption.

However, these problems are not in surmountable. They are surmountable if only the crop of politicians we have in this country today are able to respond appropriately to the challenges of these critical times.

Furthermore, the twin problems of inefficiency and corruption have affected even facet of the Nigerian economy to the extent that no meaningful development effort can be undertaken. For example, the country’s infrastructure is in a state of complete disorderliness and decay. Public utilities such as electricity, potable water and roads are in shambles as nothing seems to function properly and predictably. With this state of affairs, the nation cannot make progress talkless of achieving vision 2:2020. There is also serious paucity of quality data for effective planning in this country. The
importance of planning in economic development cannot be overemphasized. In fact a nation that fails to plan is that which plans to fail. Thus if there are no reliable data to enhance effective planning in this country, then the dream of becoming one of the 20 leading economies in the year 2020 is a very tall one to achieve.

Almost stemming from the above problems are the challenges of having a functional agricultural science education in contemporary Nigeria. As observed by Okorie (2001) and Obi (2005), the delivery of agricultural science at the secondary level is still being handled as a science subject per se rather as a vocational subject hence no meaningful agricultural skills are acquired by the students. Olaitan, (1997) had indicated that the basic goal of the National Policy on Education in Nigeria is to make education both functional and utilitarian but the delivery have always posed a problem. Egbule (1998) captured the true situation when he noted that the teaching and learning activities of vocational agriculture at the secondary schools are grossly insufficient to elicit the desired level of initiative and creativity in students. He further observed that the recommended instructional strategies is full of “showing”, “telling” and “observing,” with a few cases of “doing” and “practice” thus contradicting the recommended “learning by doing” and “guided discovery” instructional strategies (National Policy on Education, 2004).

The above assertion confirms that there can be no functional agricultural science education without well planned and managed school farms otherwise called the “land laboratory,” where the practical aspects of agriculture are expected to be performed to enhance teaching and learning. The school farms have virtually vanished from our schools today hence agricultural science is taught like any other academic subject rather than as a vocational subject. This certainly does not augur well for a nation that aspires to join the league of developed nations in the world.

Summary and Conclusion

Nigeria, no doubt is a great country with vast human and material resources that can help change her present developing status to that of a developed nation but the socio-economic conditions in contemporary Nigeria such as the high level of unemployment and poverty present a startling paradox.

Successive governments have put in place various programmes and policies in order to solve these socio-economic problems so that this nation could take its rightful position among the league of developed nations but bad leadership with the resultant high level of corruption have been identified to be the bane.

Amongst some of the strategies identified and being implemented to move this nation forward are the vocationalization of the education system and entrepreneurship, that can actually turn the industrial wheels of this nation through the acquisition of required knowledge and skills and the creation of job opportunities. However the implementation of these strategies inspite of the great potentials to improve the economy of this nation still leave much to be desired and the reasons for the poor implementation are traceable to bad leadership and corruption.

Therefore, the ongoing “re-branding” exercise is a step in the right direction to re-position the country in her bid to attain greater heights in terms of development. However if the exercise is not done with sincerity of purpose and continued after the end of the present administration, the achievement of vision 20:2020 may not be feasible.
Recommendations

It has been mentioned that Nigeria’s enormous natural and human resources are sufficient to enable the nation achieve the vision of becoming one of the 20 leading economies in the world by the year 2020 but this vision could be a mirage if the challenges identified above are not addressed. First and foremost, the hydra headed problem of corruption should be tackled with sincerity of purpose because corruption is an albatross to economic development. Hence, the government must deploy all its arsenals to combat this societal cankerworm. The problems of inefficient infrastructure such as the epileptic power supply and bad roads should be addressed squarely so that an enabling environment is created for the existing and prospective entrepreneurs in the country. Due considerations must be given also to the generation of quality data for effective planning purposes.

In line with the above, government should stop paying lip services to vocational education programmes hence Legislations or Acts to back up the programme in Nigeria as done in other countries will be a move in the right direction to making agricultural science education functional and hence help achieve the much desired vision 20:2020.

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