

# ACHIEVING SUSTAINABLE TECHNOLOGICAL DEVELOPMENT IN NIGERIA THROUGH ENTREPRENEURSHIP AND TECHNICAL VOCATIONAL EDUCATION AND TRAINING (TVET)

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## **Abstract**

*Technical and Vocational education will continue to remain one of the forms of education to contribute to the national development of Nigeria. Technical and Vocational Education and Training (TVET), coupled with entrepreneurship skills, is essential component in all round technological development. Although the National Policy is not implemented to its letter, TVET continues, to impact in areas such as Information Communication and Technology (ICT), education, entrepreneurship, private businesses, technology appreciation, occupational choice and economic empowerment. This paper therefore highlights the potential effect of TVET on national development, stating what TVET is all about, the contributions of entrepreneurship skills and how to achieve national and sustainable technological development. The areas of technological development and some of the problems facing TVET as educational programmes are also highlighted. The paper then concludes after suggesting some recommendations on how to achieve the full potentials of TVET*

The economic competitiveness of a country depends on the skills of its workforce. The skills and competencies of the workforce, in turn, are dependent upon the quality of the country's education and training systems (Mustapha & Greenam, 2002). Aina (2006) stated that education is undoubtedly recognized as the bedrock of any meaningful development and that technical and vocational education (TVE) is the cornerstone for any sustainable technological development. Technical and vocational education, in its traditional role, facilitates the adjustment of the skills and knowledge of man to the changing demands in the society. According to Olaitan (1993), this form of education is deliberately designed to help man improve his skills in his chosen occupation. Okwelle (2008) stated that socio-economic changes taking place globally poses enormous challenges to technological, educational and industrial development of nations including Nigeria. According to Okolocha (2006), the massive rate of unemployment, changing phase of economic, social, political and labour market worldwide and entrepreneurship have led to new educational policies and reforms with emphasis on Technical and Vocational Education and Training (TVET). These are geared towards helping the beneficiaries to be self – reliant and productive.

Asoegwu (2010) defined entrepreneurship as a task with struggle which entails efforts, risk and provide insight in the setting up of enterprise for self –reliant jobs. Entrepreneurial development, according to Okiti-Okagbare (2006) is an array of activities arranged to enhance the knowledge and abilities of the individuals or groups to assume the role of entrepreneur(s). Therefore the attainment of technological development through these two parameters is the focal point of this paper.

### **The Need for Entrepreneurship Education**

Entrepreneurship Education, according to Akpom; (2009), is a form of education which focuses on developing understanding and capacity for the pursuit of entrepreneurial behaviours, skills and attributes in widely different contexts.

Entrepreneurship education is based on the belief that it utilizes a body of knowledge, skills and attitudes which could be learnt and applied by people who are sufficiently motivated to enhance technological development. Technology involves the use of machines in getting things done. Okiti-Okagbare (2008), defined technology as the application of scientific principles in research, design, development, production, distribution and services. Most business activities are now carried out with computer systems made available by technology. Asoegwu (2010) is of the opinion that, for sustainable development to be achieved, there is need for entrepreneurship education which may use some of the modern technological gadgets. According to him, entrepreneurship education will enhance people's knowledge and thinking skills which will enable them to remain constantly alert and responsive to global trends. According to Bolariwa (2001), entrepreneurship education has the following advantages:

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- (a) It helps to form a base of knowledge about the function and operation of any given business.
- (b) It introduces one to the business environment such as technological change and micro-enterprises.
- (c) It plays a complementary role in developing occupational knowledge, job skills and work experience.
- (d) It offers opportunities for job experience and for earning, saving and investing.
- (e) It helps to reduce the rate of unemployment in the society while self employment, business ownership is encouraged.
- (f) It helps in the early identification of people with entrepreneurial traits.
- (g) It motivates, develops and acts as a springboard to launch into and manage self – awareness, self-reliance and self – employment

According to Amadioha (2008), the attainment of millennium Development Goals (MDGs) is primarily based on the development of entrepreneurship skills. These goals are:

- i. Eradicating poverty
- ii. Achieving universal basic education
- iii. Promoting gender equity and empowering women
- iv. Reducing child mortality
- v. Improving maternal health
- vi. Combating HIV/AIDS, malaria and other diseases.
- vii. Ensuring environmental sustainability
- viii. Developing a global partnership for development.

According to Amadioha (2008), apart from taking care of school drop-outs and the illiterate poor in the society, entrepreneurship education and skills also equip individuals with knowledge, skills and training on how to discover their talents and traits to enable them take their own decisions.

### **Technological Development Through TVET**

Despite the rapid rate of industrial expansion throughout the world, Nigeria still lack sufficient young men and women with appropriate skills, abilities and services that can compete favorably in the global market. Lack of skills and knowledge is a set – back to any form of development. Gbinigie (2009) observed that to off – set this set – back, technical and vocational education should be promoted. The Federal Republic of Nigeria (2004), defined Technical and Vocational Education (TVE) as those aspects of educational process involving, in addition to general education, the study of technologies and related sciences and acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of economic and social life. According to Omozuawo and Imonigie (2008),

TVE prepares people for occupational field and is organized on a national or local basis so as to respond positively to social, economic and educational needs of different groups. Technical and Vocational Education (TVE) therefore contributes to national development in such areas as:

1. **Educational Development:** TVE has made it possible to incorporate general education into its curriculum thereby, removing the notion that technical education is inferior to other forms of education (Imennigie and Omozuawo, 2008). TVE has led to the establishment of technical colleges, polytechnics, Colleges of education and department of Vocational Technical Education in many universities and other higher institutions of learning. (Ekpeyong, 2001).
2. **Information and communication Technology (ICT):** Chukwuemeka and Agreen (2009), described ICT as the utilization of technologies for collecting, storing, processing, communicating and delivery of information related to teaching and learning process. The National Policy for information Technology (2001), described ICT as any equipment that is used in the acquisition, storage, manipulation, management, control, display, switching and transmission of information. Therefore/ technology which involves the use of machines, acquired through TVE and training, facilitates the use and application of ICT machines and hardware.
3. **Economic empowerment:** One of the cardinal objectives of TVE is to alleviate poverty and this is also the first goal of the MDGs. TVE is playing this role by training people to be self-reliant and productive. According to Nwaokolo and Itubelu (1995), one of the missions of TVE is to enable learners acquire the ability to float technology-based businesses on graduation.
4. **Technology appreciation:** TVE prepares the individual to appreciate and understand the ever - increasing complexity of technology by exposing them to different levels of training (FRN, 2004).
5. **Choice of occupation:** Ater and Onwuegbuna (2005) equated TVE with occupational education. To them, vocational education is specifically planned and designed to prepare individuals to enter into selected jobs, positions and occupations as well as provides upgrading skills for those who are already employed in the selected occupations. They went on to stress that TVE provides the skills, knowledge and attitudes that are necessary for effective employment in specific occupations which culminate in the development of occupational competencies and teach those skills which would enable an individual to earn a living.

### **Problems Facing Entrepreneurship Education and TVE in Nigeria**

Like every other form of education, entrepreneurship, TVE and training are facing some problems some of which include:

- 1. Energy/Power Crisis:** Due to enormous power outage and shortage, business establishment that require electric power such as business centres, poultry farms, industries, technology-related as well as machines in schools cannot be put to maximum use. This affect the teaching and learning of TVE in schools.
- 2. Insufficient funding:** This is a drawback to the implementation of TVE programmes in institutions. Machines and equipment are capital intensive which require huge capital outlay (Ater and Onwuegbuna, 2005).
- 3. Low esteem:** Nigerians still discriminate against TVE, preference is still in favour of grammar school type of education. According to Chiejile and Mbonu, (2008), the society view TVE programme as manipulative in nature, merely designed for those students who are not science - inclined and generally poor academically.
- 4. Ineffective implementation of the national policy on education:** According to Ajao (2008), the National Policy on Education was a fine document but was not effectively implemented. He stated that for thirty years now, the nation has been unable to successfully implement the National Policy on Education. This has made the Nigerian education system to be the crisis child of our time. According to him, education has receded into the Dark Age characterized by brain drain, Campus cult and examination malpractices.
- 5.** Okwori and Mafwali (2005), listed other problems facing TVE to include mass exodus of qualified vocational teachers due to poor salaries and motivation, lack of partnership with training institutions and business enterprises, lack of materials and maintenance, poor counseling services and relegation of TVE programmes to the minors.

### **Conclusion**

The authors concluded that entrepreneurship, technical and vocational education can contribute to sustainable national development in Nigeria if promoted. It is believed that if the recommendations made herein are faithfully implemented, Nigeria will in no distant time join the league of industrialized nations of the world.

### **Recommendations**

In order to harness the full potentials of entrepreneurship, TVE and training towards technological development in Nigeria, the following recommendations become imminent:

1. The federal government should allocate 21 percent of their annual budget to education as directed by the United Nations.
2. A National Policy on TVE and entrepreneurship education should be formulated.
3. TVE programmes should be run in partnership with private sector, industries and ICT firms.
4. The training and empowerment of small scale entrepreneurs should be made a priority by the three tiers of government.
5. Energy and power sector should be privatized as this will guarantee steady, adequate and affordable power supply in the country.
6. Technical and vocational teachers should be placed on a different salary scale as their counterparts in the medical field. This will motivate and bring out the best in them.
7. Training and retraining of TVE teachers should be made a continuous programme.

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