

# **Education for Sustainable Development (ESD)**

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**Published by:**

Faculty of Education University of Ibadan, Ibadan, Nigeria.

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ISBN: 978-978-912-378-0

First Published 2010

IBADAN UNIVERSITY LIBRARY

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# Repositioning Technical, Vocational Education and Training (TVET) for Sustainable Development 15 in Nigeria

*Erwat E.A. & Isah E.A.*

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## Introduction

Nigeria is the most populated black country, not only in Africa but the whole world. Nigeria is also richly blessed with vast natural resources which can, if judiciously and appropriately developed and utilized, transform this country into such a magnitude of economic development that it would become a haven for people from other developing countries. Nigeria has the potential to achieve the laudable 20-2020 vision of being one of the most developed 20 economies in the world. The natural resources are available, but these have to be employed by human capital using appropriate technology to bring the desired results. Nigeria needs to increase her investment in human capital and technological development in order to forge ahead, since Nigeria is yet to meet the UNESCO minimum benchmark of 26 per cent of national budget allocation to education.

Education is the bedrock of development because it equips people with knowledge and skills to improve themselves and others in their community, and also contribute meaningfully to the development of the nation. Education is investment in human capital development. *Business Day* Newspaper (Monday, May 4, 2009, pp 31) quoted the Director General of Small and Medium Development Agency of Nigeria (SMEDAN) as saying that there cannot be national development without human capital development. Human capital is the workforce

that moves national development forward, while technology is the vehicle that makes national development possible.

Nigeria is blessed with a large population which she needs to harness and employ achieving national development. China and India are other two nations with large populations and which are tapping their human resource assets for national development. Through TVET these nations equip their youth with knowledge and skills with which they are gainfully employed to contribute to economic and national development. India has keyed into the IT revolution whereby her youths have become adequately equipped. It is known that companies in developed countries outsource IT personnel from India. Goods produced in China now flood markets in other countries of the world.

According to UNESCO cited by Adenipekun, (2007), "the shift in blue-color employment from the United States and Europe to India and China revealed the high returns on investment that proficient labor force provides". In China, for example, where skilled labourers represent the backbone of the current economic expansion, one-third of all secondary school students are enrolled in vocational schools. Nigeria should also take advantage of her large population as an asset, equip them with required skills, so that they can be gainfully employed and thereby contribute to national development. Empowering Nigerians (especially the youth) with knowledge and skills would make them both to be gainfully employed and socio-economically productive. This would result in peace and stability in the long-run. Joblessness breeds anti-social behaviour and vices.

### **Concepts of TVET and Sustainable Development**

Technical Vocational Education and Training, according to UNESCO-UNEVOC.org (n.d.), is concerned with the acquisition of knowledge and skills for the world of work. Throughout the course of history, various terms have been

used to describe elements of the field that are now conceived as comprising TVET. These include Apprenticeship Training, Vocational Education, Technical Education, Technical-Vocational Education (TVE), Occupational Education (OE), Vocational Education and Training (VET), Professional and Vocational Education (PVE), Career and Technical Education (CTE), Workplace Education (WE) etc. Several of these terms are often used in specific geographic areas.

Furthermore, TVE is generally defined as a specialized education as distinct from general education (UNESCO, Fuller and Pomfret all cited in Longe and Adedeji, 2003). The aim is to train learners to develop and acquire skills that will be necessary to make them self-reliant and eventually enhance technological progress for the nation. Longe and Adedeji, (2003) also state that The American Education Association defined it as the education designed to develop skills, abilities, understandings, attitudes, work habits and appreciation needed by workers to enter and make progress in employment on a useful and productive basis. UNESCO again cited by Longe and Adedeji, (2003) prescribe that TVE activities should be:

- an integral part of general education
- a means of preparing for an occupational field and
- an aspect of controlling education in some areas.

In the Nigeria National Policy on Education (Federal Republic of Nigeria, 2004), TVE is used as a comprehensive term referring to those aspects of the educational process involving (in addition to general education), the study of technologies and related sciences, and the acquisition of practical skills, attitudes and aptitude in technical courses and good performance in Mathematics and Science. TVET, therefore, though a specialized type of education, should be an integral part of general education. It involves the acquisition of technologies and related attitudes, understanding and knowledge relating to occupations in various sectors of



economic and social life (UNESCO and ILO cited by Onjewu, 2008).

## **Sustainable Development**

Many researchers have given several definitions of sustainable development. According to Tapscott (n. d.), sustainable development is building our communities so that we can all live comfortably without consuming all our resources. Sustainable development is doing things for future generations, while we enjoy ourselves. Everyone makes an impact on the environment through what he/she does and how he/she lives his/her life. According to Akinboye, (2003) it is a development that meets the needs of the present without compromising the ability of future generations to meet their needs. UNDP cited by Akinboye, (2003) states that:

*Sustainable human development is viewed as development that empowers the poor and generates growth which is equitably distributed. Such development preserves the environment rather than degrades it, and advances women instead of discriminating against them. It promotes job-led growth rather than job-less growth. It is development that stresses empowerment, employment, equity and environment...*

Hence, sustainable human development is equipping learners with skills, attitudes, knowledge, with which they are employable. Learners are empowered to be effective citizens, that is, they are useful to themselves, to their families, communities, states and the nation. Akinboye, (2003) buttresses this by stating that one of the underlying purposes in life is that individuals should be empowered to be able to stand on their own, become productive, prosperous and useful to themselves, their families and the community at large.

According to Odufuwa, Olateru and Adedeji (2008), sustainable development is commonly understood through the definition given by the World Commission on Environment and Development (WCED, 1987). It entails the alleviation of poverty and the maintenance of environmental and ecological equilibrium in the process of exploiting resources for the provision of jobs, income, food and social services that promote the quality of human dignity, for the present and future generations. Approaches to achieve the overall targets of sustainable development have been tackled through economic, environmental and social dimensions.

UNESCO-UNEVOC, (2005) also states that the concept of Sustainable Development combines three principal aspects:

- 1) Economic: An economically sustainable system must be able to produce goods and services on a continuing basis, and to avoid sectoral imbalances between such areas as agricultural and industrial production.
- 2) Environmental: An environmentally sustainable system must maintain a stable resource base, avoiding over-exploitation of renewable resource systems, and depleting non-renewable resources only to the extent to which adequate substitutes can be developed. The concept includes maintenance of the ecosystem functions such as biodiversity and atmospheric stability, thus addressing resources that are traditionally not considered as economic resources.
- 3) Social: A socially sustainable system must achieve distributional equity, adequate provision of social services including health and education, gender equity, as well as political accountability and participation to promote active citizenship.

## **TVET as a Key for Sustainable Development**

The purpose of development generally is to reduce poverty, inequality and unemployment (Seers cited by Odufuwa, *et al*, 2008). Education in general and TVET in particular are important keys to achieve the desired sustainable development. UNESCO-Bonn Declaration, (2004) states that:

*since education is considered the key to effective development strategies, technical and vocational education and training (TVET) must be the master key that can alleviate poverty, promote peace, conserve the environment, improve the quality of life for all and help achieve sustainable development.*

Education, and TVET in particular, will equip the citizenry with knowledge and skills with which they would be useful to themselves and the society. They would contribute meaningfully to the economic and social development as active participants because they would be gainfully employed. Perera of UNESCO-UNEVOC, (2005) states that about 80 per cent of jobs in poorer countries require some form of vocational skills. The urgent challenge is therefore to bridge the demand for jobs with the actual needs of society. Politically, governments cannot afford not to invest in the skills of future generations.

Some researchers aver that there is a correlation between education on the one hand and poverty, productivity and economic development on the other. There is an inverse relationship between education and poverty. Knowledge gained through education helps people to live healthier lives and also earn income to provide for their family needs; thus poverty reduces with level of education one obtains. The relationship between education on the one hand and productivity and economic development on the other is positive. Knowledge and skills gained through education enable people to positively contribute to the social and economic development of the country. *Business Day Weekend* Newspaper (Friday 13 – Sunday 15, March, 2009, pp 6 - 7) cite Mike I. Obadan and

Ayodele F. Odusola of former National Centre for Economic Management and Administration (NCEMA) that:

*Productivity and employment are issues that are central to the social and economic life of every country. The extant literature refers to productivity and unemployment as constituting a vicious circle that explains the endemic nature of poverty in developing countries. And it has been argued that continuous improvement in productivity is the surest way to breaking this vicious circle.*

Education is the avenue through which people can be equipped with knowledge and skills and their potentials developed with which they can be productively employed and contribute meaningfully to the social and economic development of the nation.

In 2002, the UN General Assembly in resolution 57/254 declared 2005 through 2014 as "The United Nations Decade of Education for Sustainable Development (DESD)". This is a decade to focus on the role of education, public awareness and training in creating a more sustainable future. To this end a series of UNESCO International Meetings on TVET have been held seeking for strategies for new reorientation of TVET to meet the goals of sustainable development. These meetings were held in Seoul, Republic of Korea in April, 1999; Bonn, Germany in October, 2004; and Bangkok, Thailand, in 2007 (UNESCO Bonn Declaration, 2004; UNESCO Bangkok, 2007, UNESCO-UNEVOC.org, n.d.). TVET is a most effective means for society to develop its members' potentials to respond to the challenges of the future (UNESCO-UNEVOC, 2005). The UNESCO Bonn Declaration (UNESCO Bonn Declaration, 2004) affirmed that the appropriate development of TVET is central to the attainment of the sustainable goals, EFA and the MDG goals also. Recognizing that the vast majority of the worldwide labor force, including knowledge workers, require technical and vocational knowledge and skills throughout life, the participants further affirmed that skills development leading

to age-appropriate TVET should be integral of education at all levels, and can no longer be regarded as optional or marginal. It is especially important to integrate skills development in Education for All EFA programmes and to satisfy TVET demand created by learners completing basic education.

### **A Renewed and Growing Interest in TVET**

According to UNESCO (2005, No 13), TVET has fueled phenomenal economic growth in some countries; while in some other countries TVET has not significantly benefitted the countries due to ineffective implementation and utilization of the TVET programmes. Globalization is prompting governments to take renewed interest in TVET, which is still perceived as second-class education to mainstream or pure academic education. Mohan Perera, Head of UNESCO's Section for Technical and Vocational Education, sees a growing interest in TVET in many countries of the world. Countries realize that it is a means to jumping on the bandwagon of development and globalization. There is a tremendous shift of employment from the United States and Europe to India and China, where you have such highly skilled work forces. By substantially investing in TVET, these countries (India and China) laid a major bedrock for their economic foundations.

### **The Experiences of Some Countries in the Development of TVET**

#### *The Republic of Korea*

The Republic of Korea is a shining example of how TVET can fuel spectacular economic growth (UNESCO, 2005, No 13). While no model should be emulated, the South Korean experience offers some key lessons. First, the government took a sequenced approach to education. Money did not start flowing into TVET until the country nearly achieved universal primary education. By design or by accident, major investing began in the early 1980s, just as labour shortages started to

affect the economy negatively. To make the “big push” into export-oriented manufacturing, construction and service sectors, the country needed a new stream of skilled workers. At the same time, policy-makers in the Republic of Korea were beginning to be alarmed by a growing appetite for higher education. People would become “over-educated”, expecting white collar jobs in an economy thirsting for new sources of skilled labour. By expanding TVET, the government planned to satisfy its forecast labour needs while reducing pressure on universities to enroll more students. Today, about 40 per cent of secondary students are enrolled in TVET. Yet it is still perceived as a second-class education. So the government is trying to draw up new curricula to enable TVET students to have the minimum requirements for continuing to higher education if they so desired. In some schools, academic and vocational students share as much as 75 per cent of a common curriculum. The government of Korea is channeling public and private investment into new post-secondary training institutes to kill the myth that TVET is an academic ‘dead-end’. The ultimate challenge lies in keeping abreast of technological change, to keep curricula relevant and to tighten links to the private sector.

### *China*

Similar reforms to those in Republic of Korea are taking place in China, where two-third of all secondary students are enrolled in vocational schools, according to the UNESCO Institute for Statistics, (2005). China partners with the private sector. Private companies are providing financing, materials, apprenticeships and guidance as representatives sit on school advisory boards. These partnerships reflect a key element of the Chinese vision of life-long learning: schools will develop and broaden students’ capacities and the work-place will provide the requisite training.

### *The Czech Republic*

This is one of the few countries where vocational education enjoys a prestigious reputation. About 75 per cent of secondary students are enrolled in TVET, compared to 25 per cent who attend purely academic schools. Instead of abandoning the system to market forces, the government has given greater freedom to principals and teachers to update curricula and introduce new occupational fields as opposed to the specific skills associated with a particular job. The Czech Republic is one of the former Soviet Union countries that still has state control of their TVET programmes. The Czech government sees TVET as important to national and economic development; more so now in keeping abreast with globalization.

### *The Russian Federation*

The Russian Federation is also planning to decentralize its TVET system, permitting regional governments to administer their own programs. Previously two-thirds of Russian workers were trained in elementary vocational schools and 22 per cent of the population has a secondary vocational education, which is 1.5 times higher than those with a college education. This shows that even a country like Russia sees the importance of TVET. Through the TVET programmes, the population is equipped with skills they can be employed, and young people are kept off the streets (UNESCO, 2005, No. 13).

### *Botswana, Ghana and Kenya*

These countries are shouldering the burden of funding TVET education since World Bank loans dried up in the 1990s. Instead of setting up a separate stream of specialized schools, these countries have "vocalionalized secondary education". While the curriculum remains academic in nature, between 15 and 30 per cent of courses focus on practical subjects like agriculture, management and entrepreneurship. "The aim is to redress the imbalance between the aims of a purely academic

secondary education and the needs of society”, says Rupert Maclean, Director of the UNESCO International Centre for Technical and Vocational Education and Training (UNEVOC) (UNESCO, 2005, No. 13). There has been tremendous political support for these courses in these three countries, according to the report’s co-editor, Jon Lauglo, a former World Bank expert on TVET. Botswana, in particular, has made huge investments to introduce information processing and computer skills at the secondary level (UNESCO, 2005, No. 13).

### *Arab States*

UNESCO is increasingly active with TVET projects in Arab states, which are trying to reduce their reliance on expatriate workers. For example, over the past five years, UNESCO has been assisting Libya to vocationalize its entire secondary education system and revise the curricula of post-secondary training institutes. In Bahrain, where 65 to 70 per cent of secondary students are enrolled in TVET, the government has financed a UNESCO project to create a Centre for Excellence, providing specialized teacher-training services and life-long learning programmes for adults. In Iraq, UNESCO is preparing plans to rebuild the vocational education system once the security situation has stabilized. Close to 3 million dollars in extra-budgetary funds have been earmarked for this purpose and additional funds promised.

### **Repositioning TVET in Nigeria**

According to *Business Day Weekend* (Friday 13 - Sunday 15, 2009, pp 6 - 7), a recent report shows that 40 million Nigerians are unemployed. The Minister of Education, confirmed that 80 per cent of graduates trained in our tertiary institutions as at today cannot be productively employed in our companies. The institutions face a lot of problems such as poor infrastructure, lack of equipment in laboratories, overcrowded classrooms or lecture halls among others. The allocation to education does not meet UNESCO’s minimum



requirement of 26% of the national budget. According to Odeleye and Owoseni (2008), Nigeria still remains grossly underdeveloped and most of the population is living in poverty because public education is not taken seriously. Then there is the problem of the curricula that are not sufficiently attuned to the needs of the labor market particularly in the TVET needs. Odeleye and Owoseni, (2009) again state that the Nigerian system of education seems to emphasize theoretical knowledge at the expense of technical, vocational and entrepreneurial education. A national stakeholder consultation on education convened by Federal Ministry of Education in Abuja in August 2000 identified underlying problems hindering optimal service delivery in the educational system. Some of the problems are:

- a. Poor state of infrastructure and facilities
- b. Lack of relevance, appropriateness and responsiveness in the curricula
- c. An over-emphasis on rote learning

The Nigerian Policy on Education has been reviewed a few times to include TVET at secondary school level and also polytechnics were established. According to Owolabi, (1998), the reforms were to:

- a. Provide technical knowledge and vocational skills necessary for agricultural, industrial, commercial and economic development
- b. Give training and impart the necessary skills leading to the production of craftsmen, technicians, and other skilled personnel who would be enterprising and self-reliant.

The steps taken to address the problem of educational irrelevance were in the right direction; but evaluative studies such as those by Adeyemi, (1989), Durosaro, (1985) and Okedara, (1985), all cited by Owolabi (1998) indicate that the impact of the new curriculum seems to be exceedingly small as outputs of the new system have not been demonstrating their possession of technical knowledge and vocational skills.

School leavers are in no way self-reliant. They still appear to have a disdain for agriculture and practical work as they throng cities hunting for white-collar jobs instead of creating jobs. There is high unemployment rate among school leavers, and their drifting to urban centres is posing social problems. Studies revealed that TVET in Nigerian secondary education has been ineffective because:

- i. Workshop tools and equipments are often not available,
- ii. Where they exist they often are not put into effective use, either because they are too few or because there are no teachers to handle the subjects.

At the tertiary level, these problems of lack of infrastructure, equipment and teachers exist. However, there is an additional problem of TVET education being seen as inferior to the main stream academic education. Polytechnic graduates also often seek for jobs, and where they are employed they often feel cheated in terms of remuneration when compared to graduates from the universities. There is also this culture of worship of certificates instead of what one can do in terms of knowledge and skills. This has caused young people to always want to go to university instead of polytechnic. Policy to encourage students to pursue university degrees in technical and vocational specializations should be evolved. At present only very few universities offer programmes in TVET at that level. According to Kerre, (1998), the little attention accorded technical and vocational education programmes by Nigerian universities has contributed to the negative attitudes which TVET has earned, due to the lack of opportunities for further education.

Nigeria ought to learn lessons from South Korea to tailor the educational system to the needs of the country. Also, Education and TVET should be reoriented towards sustainable development. New strategies should be adopted, such as including vocational subjects at the primary level to build in the children healthy attitude towards work, using their hands and being creative. TVET should be geared towards to

sustainable development by preparing its products for self-employment or make them job creators instead of being jobs seekers. McGrath, (1998) states that in preparing TVET graduates for sustainable self-employment, enterprise education should be collaborated with post training support factors, e.g. capital, equipment, contracts etc. This will foster the success of the new idea of "Technopreneur" which is already gaining ground in East and South Africa. This is preparing young entrepreneurs to be enterprising, technologically minded and willing to work with their hands.

Education and TVET in Nigeria should be repositioned in that they should be brought to the forefront and keys to economic and national development. Government should support education and TVET programs by providing sufficient funding. TVET should cease to be considered as a second-class education, rather it should be integrated into the mainstream academic branch. According to Aicha Bah Diallo, Acting Assistant Director-General for Education, for many countries, TVET is not an option, but a necessity. Young people need skills that are flexible and relevant to the demands of a constantly evolving, globalized labor market (UNESCO, 2005, No. 13)

## **Conclusion**

Nigeria as a developing country and with a laudable vision of 20-2020 aimed at making her one of the 20 most developed economies in the world, needs to address the fundamental issue of the key role education and TVET play in economic and national development. Education in general and TVET in particular need to be prioritized and reoriented for sustainable development. There is a re-awakening interest in TVET in many countries in the world. Countries that prioritized education and TVET, such as South Korea, Taiwan and China, have experienced rapid economic growth. Nigeria should learn lessons from the experiences of these countries in order to break away from poverty, underdevelopment and

unemployment and join the community of economically developed countries of the world.

### **Recommendations**

The following recommendations are hereby made:

1. Government should prioritise Education and TVET in particular as one of the most required ingredients for economic and national development by according it adequate funds.
2. Government should embark on training TVET teachers to teach at various levels of education.
3. The curricula at various levels of education should all be reviewed to incorporate the current needs of the country for sustainable development and to meet global trends.
4. TVET should be encouraged and TVET subjects should be introduced from primary school level to help children develop healthy attitude towards technical work.
5. Enterprise education should be included in the TVET curricula in order to reorient TVET students towards self-employment i.e. integrate sustainability into TVET programmes.
6. TVET and Entrepreneurship courses should also be introduced at the university level as a strategy to prepare graduates for employment, self-employment and as job creators.
7. ICT should be integrated in the training of TVET teachers and in TVET instruction in order to keep abreast of global developments i.e. to be in tune with current practices in TVET.
8. Private sector should arise to the challenge to support education programmes and TVET in particular as part of their corporate social responsibility.
9. There should be partnership between government, private sector, institutions, parents and all other

stakeholders in curriculum or policy reviews and educational development.

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