

Human Capital Development in Technical Vocational Education (TVE) for Sustainable National Development

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Abstract

The globalization process, knowledge economy and the emergence of new modes of production in the industries in the 21st century has brought about new challenges for the developing economies and their labor markets. However, there is a clear indication now that human skills plays an important role in sustaining the current pace of growth and development through enhanced productivity of human capital. The paper discussed extensively on human capital development in TVE for sustainable national development in Nigeria. The paper also stressed on the concept of TVE and role of TVE human capital development for sustainable national development in Nigeria. The paper concludes that TVE institutions at all levels should be well equipped with good infrastructures, workshop facilities as well as employing qualified teachers to enable the graduates of the program to acquire the required skills for gainful employment in order for them to contribute to the development of their society and the nation at large.

Keywords: Human Capital Development, Technical Vocational Education, Productivity, Sustainable National Development.

1. Introduction

Education is considered the most effective means of bringing about total change that would ensure accelerated economic growth and national development for any country. In Nigeria for instance, the educational system operated at post-independence placed emphasis on academic excellence rather than acquisition of technical vocational skills which prepare the individual for a more useful and fulfilling life within the society. In other words, the system focused and emphasized on subjects in the humanities or arts at the expense of TVE which can facilitate practical skills acquisition that is generally believed to be more relevant to the development of a nation.

However, the increasing importance of TVE for sustainable national development has been stressed by multinational donor organizations (OECD, 2009; Asian Development Bank (ADB), 2008; ILO, 2008; World Bank, 2007; DFID, 2007; European Training Foundation (ETF), 2006a) for three reasons. First, although the UNESCO Education for All (EFA) initiative has been successful in improving enrolment rates and the quality of primary education, a new problem has arisen in terms of how to promote employability among secondary education graduates. Secondly, global environmental, social and economic development trends provide a rationale for TVE and human capital development, as a better skilled labor force is a required precondition for sustainable development, based on coping with environmental issues using appropriate technologies and maintaining infrastructures that minimise pollution and reduce the greenhouse effect. Thirdly, socioeconomic development requires specific kinds of qualified human capital. Whereas knowledge-based economies are likely to increase employment opportunities for non-academic post-secondary and university graduates. TVE is considered by development experts and donors to be a specific human capital development instrument that can be effective in promoting socioeconomic progress. Investments in TVE is seen as an approach to increasing economic competitiveness and reducing poverty increasing productivity, employability and sustainable national development (Wallenborn, 2010).

2. Human Capital Development (HCD)

The importance HCD cannot be over-emphasized according to OECD (2001:18) human capital is defined as: "the knowledge, skills, competencies and attributes embodied in individuals that facilitate the creation of personal, social and economic wellbeing" HCD is the process of capacity building and strategic mobilization of human capital which unlocks the door of modernisation, increases productivity and greater global trade as well

as integrates them with the world economies (Kazmi, 2007) 7) human capital development presupposes investments, activities and processes that produce knowledge, skills, health or values that are embodied in people. It implies building an appropriate balance and critical mass of human resource base and providing an enabling environment for all individuals to be fully engaged and contribute to goals of an organization or a nation. Any effort to increase human knowledge, enhance skills, productivity and stimulate resourcefulness of individuals is referred to as HCD.

HCD as a process of increasing human knowledge, enhance skills increase productivity and stimulate resourcefulness of trainees should be systematic, sustainable and strategic. The process should be systematic to the extent that there should be a plan for which previous activities will provide support for upcoming activities while facilitating the attainment of set goals. The process should be sustainable since the product (human capital) must make desired and enduring impact on the organization or society. The process should be strategic to the extent that there are well-defined goals and targets whose attainments are time bound. It should be dynamic, responsive and result oriented; continually evolving and proactive to address emerging challenges (Enyekit, *eta'l.*, 2011). The most important outcome of an effective HCD system is that it opens up decent employment opportunities by enhancing workers' abilities to secure and retain jobs, progress at work and cope with the change. Investment in priority areas of education and skills development become very important for reducing the gap between knowledge based workforce and a low-skilled workforce. HCD has also emerged as the primary and most effective means for reducing chronic absolute poverty, reducing gender-oriented and inter-generational income inequalities (Kazmi, 2007).

HCD specifically improves skill levels of the workforce, impacts positively on economic growth, raises productivity levels and reduces unemployment Solow (Kazmi, 2007). Wagner (2005) stressed that TVE and professional training system would have a major positive impact on national competitiveness. The ILO global report on information technology (2001a) points out that the full benefits of the new wave of technological change cannot be appreciated without creating a striking balance of skills. Promoting a knowledge-based economy puts a huge premium on acquiring an appropriate education and demand-driven skills. HCD has received worldwide recognition as an important factor for achieving a rapid transformation of economies from agrarian, to industrialized economies. As elaborated in the ILO's *World Employment Report 1998-99*, demand for skilled labour has been rising as a result of globalization, and the technological advancement has led to changes in work organization. HCD is the intangible factor of the production that brings human intellect, skills and competencies in the production and provision of goods and services. It is that human capability and productivity engendered through knowledge and skills acquired from TVE, training and experience and facilitated by an environment. Elements of human capital would include knowledge, skills, attitudes and motivation belonging to an enterprise or society and engaged in the development of that enterprise or society to fulfil its objectives.

3. Concept of Technical Vocational Education

Technical vocational education is defined according to Akerele (2007) as that aspect of education that exposes the learner to the acquisition of demonstrable skills that could be transformed into economic benefits and sustainable livelihood. Mar (2011:4) in introducing UNESCO's technical vocational education and training definition and strategy, stated that TVE is defined as a comprehensive term referring to those aspects of the educational process involving, in addition to general education:

- the study of technologies and related sciences;
- as well as the acquisition of practical skills, attitudes, understanding, knowledge relating to occupations in various sectors of economic and social life.

TVE is to be understood as:

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

TVE can therefore be seen as the formal training of persons to acquire skills, knowledge, attitude for gainful employment in a particular occupation. Thus any education that is geared towards teaching technical skills and attitudes suitable to such skills can be regarded as TVE (Audu, *eta'l.*, 2013). According to Enyekit & Enyenili (2007) TVE includes preparation for employment in any occupation for which specialized education is required, for which there is a societal need, which can be most appropriately done in schools. It is concerned with the whole hierarchy of occupations from those requiring relatively short periods of specialized preparations such as clerks, typists to occupations requiring specialized professionals: thus it includes the whole spectrum of labor

force from semi-skilled to technicians and paraprofessionals. TVE is a vehicle upon which the skills of workforce are built. Effective implementation of TVE will lead to graduates acquisition of the required skills for gainful employment or future self-reliant for sustainable human capital development in the globalized world. TVE as an instrument for change and development and a provider of service oriented skills, which play a significant role in economic revival for sustainable human capital development. It is on the recognition of these needs that the National Policy on Education places emphasis on TVE at the secondary and tertiary institutions (Awotunde, 2004).

3.1 Role of Technical Vocational Education in Human Capital Development for Sustainable National Development

The role of TVE in HCD for sustainable national development cannot be overemphasized. According to Alam (2007) human capital theory has powerful influence on the analysis of labor market. Alam further noted that investment in education and training produces benefit both to the individual, society and the nation as a whole. The return on investment for society and the nation will be a skilled workforce that will enable global competitiveness and economic growth, while the return of the individual will be a better career path, increased earning and a better quality of life. Amachule & Enyekit (2010) stated that effective implementation and utilization of TVE programs will inculcate the necessary skills and competencies that would help the youth to be self-reliant. This would lead to the much desired human capital development in the economy. Amachule & Enyekit went further to explain that TVE equips individuals with certain competences, technological and managerial skills to be able to manage human and material resources for increased productivity in an organizational set-up.

According to Fagerlind & Shah (Alam 2008) the concept of 'human capital' suggests that education and training raises the productivity of workers, and increases their lifetime earning capacity. Alam (2007) states that governments perceive increased demands for skills when the labor supply shows rapid growth, when employment grows quickly, or when employment increases significantly. They argue that governments have called TVE to help unemployed young people and older workers get jobs, reduce the burden on higher education, attract foreign investment ensure rapid growth of earnings and employment, and reduce the inequality of earnings between the rich and the poor. Colin (Alam 2008) also states that TVE can play vital role for development planning, but he warns that if the policy makers do not make it up-to-date, and TVE schools do not have enough qualified teaching faculty and sufficient facilities to offer quality TVE, it will not be useful. He also claims that these are not limitations of TVE per se, but limitations of the educational policy of the country.

Bennell (1996) states that though TVE has been a powerful influence in development planning; indiscriminate offering of TVE programs may have negative impact on development. Arriagada & Ziderman (Alam, 2008) criticize TVE, saying that it does not play an appropriate role in development and claim that the higher investment needed for TVE does not seem to be compensated for by high return. However his definition of TVE can explain a good significant role of TVE in development: "Vocationalization refers to effort by school to include in their curriculum those practical subjects which are likely to generate among the students some basic knowledge, skills and dispositions that might prepare them to think becoming skilled worker or to enter other manual occupations" The World Bank Policy Paper on TVE (1991), says that to get the maximum benefit to national development from TVE certain factors must be considered:

- well-timed modern programs or courses linked with local and global demands,
- relevant and up-to-date TVE courses need to be developed;
- proper justification in respect of individual country that is at which level of schooling is best in offering TVE courses, and
- wider range of TVE courses need to be developed in terms of demand and cost effectiveness (not only for offering various programs but also for the duration of the programs, for student classification in terms of their merit, ages, job market, etc.).

Lewin (1993:14) claims that TVE seems to allow us to "kill many birds with the same stone." Akyeampong (2002) points out that TVE in national educational system is not only for its economic contribution but also for its cultural, social and political contribution. International Labor Organization (ILO) (2001b) claims that TVE is intended as a bold and courageous step to undertake, with the changing scenario for economic life by developing human capital for increasing productivity and sustainable national development. Alam (2007) observes that TVE not only benefits those who gain it through increased income, but also helps *overall* social development. The return on investment for the society will be a skilled workforce that will enable global competitiveness *and* economic growth, while the return for the individual will be an improved career path, increased earning power *and* a better quality of life. According to Fagerlind & Saha (1989) the concept of 'human capital' suggests that is not always true for the high proportion of learners and trainees who have gain education leaving certificates. It is the people with the highest level of education, as observed by Fagerlind & Saha who are most likely to benefit

from human capital investment.

3.2 TVE in Nigeria

A brief look at the Federal Republic of Nigeria (FRN) in the National Policy on Education (NPE) (FRN, 2004) aims of TVE amongst others shows the rationale for government interest and support to the skill-oriented education. In addition to TVE providing skilled manpower and reducing youth unemployment, it has contributed significantly to economic development by reducing poverty through access to various income areas, supporting foreign investment and largely transforming attitudes of people to TVE (Adebambo, 2007). Prior and after independence, the system of TVE in Nigeria was the continuation of the colonial system. Much of what goes into TVE was modelled after the apprenticeship system (Audu, *eta'l.*, 2013).

TVE in Nigeria has encountered a lot of problems during its developmental stage. Amongst these is the problem of insufficient provision of instructional materials, tools and equipment. Experts in the field of TVE have expressed the necessity for adequate physical, human and financial resources to effectively execute a TVE based curriculum. Akaninwor (2001) in his study traced the technological backwardness in the country to lack of infrastructure and equipment for TVE. Puyate (2001) is of the view that instructional facilities should be looked at vis-à-vis the curriculum in order to make TVE effective. He stressed on a TVE curriculum that will meet the present needs of the 21st century demands of the society. Supporting his view, Aghenta (Onyene, *eta'l.*, 2007) affirms that the TVE curriculum should be based on occupational and manpower needs to avoid irrelevant courses and time wastage

Adebambo (2007) noted that in the past, the effort to promote TVE has ignored the provision of trained teachers. He recalled that the National Teachers Training Certification (NTTC) was needed to meet the demand for technical teachers in many technical institutions and training schools. The emphasis then was on how to teach and what not to teach. This led to the establishment of the Nigerian Certificate in Education (Technical) (NCE, Tech) program. This has more content on what to teach and a little about how to teach. Also, in the past, technical teachers were sent overseas for training because of the cost implication it was stopped. In recent times, they are trained through the Technical Teachers Training Program (TTTP) the resultant effect has been a shortage of teaching personnel in the technical schools. To compound the problem, the NPE just like the Ashby commission recommendation ignored the issue of production of teachers for TVE. Awakuna (2006) affirms that the problem of production of TVE teachers has resulted in their paucity which is one of the obstacles in TVE in Nigeria.

It was also noted by Aina (Agbolade, 2007) that government neglect in terms of inadequate funding of the training program has not helped the TVE teachers hence their insufficiency in the technical colleges. Whilst the problem of shortage of technical teachers exists in the country generally, a study carried out in one of the Federal Colleges of Education (Technical) by Onyene *eta'l.*, (2007) revealed that the teachers are qualified but fairly adequate in the quantity needed. Another study by Kalejaye (2007) revealed that present day technical teachers are good in theory but lacking in practice. In the same vain, Ashaye (2007) countered this in his own study which revealed that technical teachers have practical knowledge but are hindered by lack of appropriate instructional resources.

Another problem of TVE in Nigeria is that it is seen by the society as education for the low status (Nwokomah, 2005). This is as a result of the low image of 'blue-collar' jobs which TVE offers. The Nigerian education system before independent and even after independence prepared students for basic 'white collar' jobs. Over time, the paucity of jobs led to high unemployment rate and also a high level of poverty in the society (Moja, 2000; Ebong & Leigha, 2006). The Nigerian society wrongly believes that those who are not academically biased study TVE subjects. It is because of this reason that most parents are not willing to encourage their wards to study TVE subjects. The urge for certificates and degrees in preference to technical vocational skills is as a result of the fact that when it comes to political appointments, leadership positions and decision making, degree holders in different fields are favored most than their counterparts with technical vocational skills (Nwokomah, 2005).

4. Conclusion

The globalization process, knowledge economy and the emergence of new modes of production in the industries in the 21st century has brought about new challenges for the developing economies and their labor markets. To face these challenges, it is imperative to be competitive in the world market, which to a large extent is driven by scientific and technological innovations. Education and training require to be made need-oriented, multi-skill and flexible to meet changing needs of the local industry and overseas demand. However, there is a clear indication now that human skills plays an important role in sustaining the current pace of growth through enhanced productivity of human capital. Setting up TVE institutions at all levels with good infrastructures, workshop facilities as well as employing qualified teachers is very important for graduates of TVE programs to acquire the required skills for gainful employment in order for them to contribute to the development of their society and the nation at large.

5. Recommendations

In order for Nigeria to achieve HCD through TVE for sustainable national development, the following recommendations were made:

- The public-private partnership is necessary to achieve the desired goals of human resource development. The country's present TVE training system is largely supported by the public sector which is not likely to improve the knowledge and skills that Nigeria needs badly. This is to say that the task of TVE provision cannot be tackled by government alone. The involvement of major Nigerian stakeholders, complemented by partnerships with international agencies, NGOs, Foundations, (etc.) will be essential if the goals and potentials of Nigerians are to be realized using TVE for sustainable national development.
- The current situation of knowledge and appropriate skills needs significant improvements. Nigeria must prioritise its investment in education, especially TVE. Investment in TVE is very important, keeping in view the global development. Without proper knowledge and skills Nigeria is not likely to compete properly in the globalized world
- Government, communities, industries, religious organizations, labor unions Non-Governmental Organizations (NGOs), wealthy individuals in the society should be encouraged in the funding of TVE for the smooth running of TVE in terms provision of infrastructural and workshop facilities such as tools, equipment and machines for the acquisition of skills of by the graduates of TVE program to enable them fit into the labour or be gainfully employed in industries or related organizations or to become self-employed in order to contribute to the socioeconomic development of the nation.
- The government should come out with a clear-cut policy on what is the role of TVE institutions in terms of human capital development for employment creation and poverty reduction and sustainable national development.
- The society needs re-orientation in order to change their wrong perception about TVE. In advanced nations individuals with technical skills and experience in relevant fields are highly respected and thus work in tandem with those with formal education. The worth of every worker should depend on the person's skills and knowledge and not the stack of academic degrees one has.

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Reference

- Adebambo, K. A. (Ed.). (2007). *Vocational and technical Education and training*. Ibadan: Gabesther educational publishers.
- Agbolade, F. (2007). Resource Allocation and Utilization as Correlates of Students Academics Performance in Technical Colleges. Unpublished Manuscript. Department of Educational Administration. University of Lagos Nigeria.
- Akaninwor, K. G. I. (2001). *Curriculum Issues in Technical and Vocational Programs for Sustainable Poverty Alleviation in Nigeria*. In the proceedings of the conference of the Nigeria Association of Teachers of Technology (NATT), Lagos.
- Akerele, W. O. (2007). Management of Technical and Vocational Education in Nigeria: Challenges of the Country. *Journal of Educational Administration and Planning*: 3(1), 11-21.
- Akyempong, A.K. (2002). Vocationalization on secondary education in Ghana. Washington, DC: World Bank.
- Alam, G.M. (2007). Private HE in Bangladesh: the impact on HE governance & legislation. Unpublished PhD thesis, University of Nottingham, United Kingdom.
- Alam, G.M. (2008). The Role of Technical and Vocational Education in the National Development of Bangladesh. *Asia-Pacific Journal of Cooperative Education*: 9(1), 25-44.
- Amaehule, S. & Enyakit, E. O. (2010) Re-branding Vocational Education Skills Acquisition: The Role of the Administrators. *SBMT Nekede Conference Journal*: 1(2), 132-137
- Ashaye, M. A. (Ed.). (2007). Technical Teacher Education: Issues, Prospects and Challenges. In A.O. Ayoola & B.P. Ehinmipare. (Eds). *Technical and Vocational Education: Assessment and Examination (Policy Issues)*. Ibadan: Gabesther educational publishers.
- Asian Development Bank. (2008) *Education and Skills: Strategies for Accelerated Development in Asia and the Pacific* (Manila, Department of External Relations).
- Audu, R., Kamin, Y. B. & Balash, F. (2013). Technical Vocational Education: As a Veritable Tool for

- Eradicating Youth Unemployment. *International Organization of Scientific Research Journal of Humanities and Social Science*: 8(2), 10-17.
- Awakuna, P. O. (Ed.). (2006). *Vocational and Technical Education: Issues and Prospects*. Enugu: Dimension publishers.
- Awotunde, P. O. (2004). Technical and Vocational Education in Nigeria: Past, Present and the Future. In P. O. Awotunde (Ed). *The Dynamics of Vocational Technical Education in a Democratic Nigeria*. Katsina-Ala: SVTE Katsina-Ala Press.
- Bennell, P. (1996). General Versus Vocational Secondary Education in Developing Country: A Review of Rates of Return Evidence. *The Journal of Development Studies*: 33(2), 230-247.
- DfID-Department for International Development. (2007) *Educating out of Poverty* Edinburgh: DfID.
- Ebong, J. M., & Leigha, M. R. (2006). Graduate Unemployment in Nigeria. Concepts and Issues. *African Journal of Education and Development Studies*: 3(1), 103-111.
- Enyekit, E.O. & Enyenili, K.S. (2007). Projecting Nigeria into the end of the First Quarter (25) Years of the 21st Century in Vocational Technical Education. *African Journal of Education and Research Development*: 1(1), 2-8.
- Enyekit, E. O., Amaehule, S. and Teerah, L. E. (2011). Achieving Human Capital Development in Nigeria Through Vocational Education for Nation Building. *Journal of Humanities and Social Sciences*: 2 (2), 131-139.
- Erhurua, H.E.O. (2007). Skills Acquisition: A Tool for Youth Empowerment for Economic Growth and Development. *Journal of Business and Management Studies*: 1(2), 116-125.
- ETF-European Training Foundation (2006) *Skills Development for Poverty Reduction* (Luxembourg, EU Publications Office).
- Fagerlind, I., & Saha, L.J. (1989). *Education and National Development: A Comparative Perspective*. Oxford, UK: Pergamon.
- FRN- Federal Republic of Nigeria. (2004). *National Policy n Education*. Lagos: Nigeria Education Research and Development Council Press.
- ILO- International Labor Organization. (1998) World Employment Report 1998-99. *Employability in the Global Economy: How Training Matters*. International Labour Office, Geneva.
- ILO. (2001a) *World Employment Report 2001, Life at Work in the Information Society*, International Labour Office, Geneva.
- ILO. (2001b). Revised recommendation concerning technical and vocational education - 2001. Available at: www.ilo.org/public/english/employment/skills/recomm/instr/unesco (Accessed March, 15th 2013).
- ILO. (2008) *Skills for Improved Productivity, Employment Growth and Development* (Geneva, International Labour Organisation).
- Kalejaye, K. P. (Ed.). (2007). Vocational Education and National Development. In A.O. Ayoola & B.P. Ehinmipare. (Eds.). *Technical and Vocation Education: Assessment and Examination (Policy Issues)*. Ibadan: Gabesther educational publishers.
- Kazmi, S. W. (2007). Vocational Education and Skills Development: A Case of Pakistan. Available at: www.shrhc.org/doc/.../8.%20Syeda%20Wadiat%20Kazmi.pdfShar (Accessed: March, 13th 2013).
- Lewin, K.M. (1993). *Education and Development: The Issues and the Evidence Research for the Development for International Development* (No. 6). London: Department for International Development.
- Mar, V. (2011). *Introducing UNESCO's Technical Vocational Education And Training (TVET) Definition and Strategy*. Paris: UNESCO
- Moja, T. (Ed.). (2000). *Nigeria Education Sector Analysis: An Analytical Synthesis of Performance and Main Issues*. New York: New York University.
- Nwokomah, J. M. (2005). Strategic for Attainment of Functional Vocational and Technical Education in the 21st Century in Nigeria. *Journal of Education in Developing Areas*: 14, 53-61.
- OECD- Organisation for Economic Co-operation and Development. (2001). *The Well-being of Nations. The Role of Human and Social Capital* (Paris, OECD).
- OECD. (2009) *Learning for Jobs, OECD Policy Review of Vocational Education and Training: initial report* (Paris, OECD).
- Onyene, V. E., Olusanya, O., Salisu, R. A., & Johnson, O. (2007). *Production of Skill-Oriented Graduates for the Labor Market*. A Paper Presented at the 1st International Conference of the Nigeria Association for Educational Administration and Planning Lagos, Nigeria.: NAEAP.
- Puyate, S. T. (2001). *Manpower Development Through Relevant Technology Education Curriculum for Sustainable Poverty Alleviation*. In the Proceedings of the Conference of the Nigeria Association of Teachers of Technology (NATT). Lagos: Fembis international.
- Wagner K. (2005) Productivity and Skills in Industry and Services – A British- German Comparison. *The Pakistan Development Review*.

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- Wallenborn, M. (2010). Vocational Education and Training and Human Capital Development: Current Practice and Future Options. *European Journal of Education*, 45(2), 181-198. d_1424 18
- World Bank. (1991). Vocational and technical education and training. Washington, DC: World Bank
- World Bank. (2007). *World Development Report* (Washington, DC, World Bank).