

# Technical, Vocational Education and Training for Economic Development and Sustainability beyond Oil in Nigeria

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## ABSTRACT

There is an awakening of the need to diversify the Nigerian economy. The current shock being suffered by the Nigerian economy as a result of oil mono economy and oil price fluctuation is an indication that the time to explore other sectors of the economy is now. It is near impossible to achieve sustainable economic development on a mono-economy. This is because a house standing on one pillar will surely collapse if the pillar collapses. It is the position of this paper that practical attention must be giving to economic diversification rather than political mantra. The paper advocates that this can be achieved through adequate development of human capital, particularly in technological capacity. It elected TVET as the much needed and suitable education and training programme for developing the human capital. The paper holds that TVET produces human capitals with the right competence and attitude to explore the environment, hence diversifying the economy.

**Keywords:** *Economic Diversification, Sustainable Economic Development, Human Capital Development, Technological Capacity, TVET*

## 1. INTRODUCTION

Nigeria can be counted as one of the countries richly endowed with natural raw materials. Nigeria's raw materials can be attested to be healthy, abundant and supporting multiple use. They are capable of providing an enviable quality of life for citizens and visitors if properly harnessed and utilized. They can attract and sustain business and tourism that translate into economic wealth. With the abundance of natural resources in Nigeria, especially oil and gas, one would expect the country to rank among the richest economies in the world. It is widely speculated that oil exporting countries are gifted from God that permits to live a life of unending ease, leisure and luxury.

However, the opportunities offered by the disposal of oil have become negative factors and antagonistic to political, social and economic aspirations. Beck (2012) noted that most oil-producing countries very often struggle with low performance (politically and economically), as they fail to establish economic systems that generate sustainable development. Nigeria was one of the 50 richest countries globally in the 1970s but now is among the 25 poorest countries in the world (Daily Independent, 2013; Information Nigeria, 2013). Nigeria, the ninth largest producer and sixth largest exporter of crude oil, is still hosting the third largest number of poor people in the world after China and India (Ehinomen & Adeleke, 2012). It is difficult to imagine that poverty in Nigeria is in the mist of plenty.

This is a clear indication that great economies are not made by the abundance of resources inherent in them. Okorafor and Ike (2013) were of the opinion that the ability to optimally harness and utilize available and acquired resources seems the most important determinant of a nation's economic development

and sustainability. This could explain why nations with high knowledge (especially technological) capabilities are the most successful in organizing a vibrant economy. Okorafor (2014) asserted that, in today's globalizing knowledge economy, the major determinant of greatness is the available pool of knowledge, talent and creativity adequately applied in delivering goods, processes and services. Unfortunately, Nigeria lacks the knowledge (human potential) that can translate its local natural resources to economic wealth. The country spends a huge amount of money importing back finished products of its local resources that were exported, due to inability to process them for utility. If this trend is not checked, the future is not secured. Thus this paper examines the need to diversify the Nigerian economy and reduce overdependence on oil for sustainable economic development. The crucial role of TVET in economic diversification is pointed out in this paper. However, let's first discuss TVET, economic development and sustainability and the place of oil in the Nigerian economy.

## 2. TVET – TECHNICAL, VOCATIONAL EDUCATION AND TRAINING

In terms of definition, ever since TVET was used in the annals of educational history, it seems to convey different meaning to different people. To some, TEVT is the total education program by which man learns about work. While others refers to it as that aspect of education tailored towards enhanced productivity of the labour force. While perceptions about TVET may vary, it should be recognized that its scope is extremely broad. It touches all aspect of education by which one learns how to work and is directly linked with a nation's productivity and competitiveness. In this discussion TVET

refers to those aspects of educational processes involving, in addition to general education, the study of technologies and related sciences, as well as the acquisition of practical skills, attitudes, understandings and knowledge relating to occupations in various sectors of economic and social life (FRN, 2004). TEVT is meant to impart knowledge and skills for increased efficiency in the world of work, sustainable livelihoods, personal empowerment and socio-economic development, which enhances proper adjustment in knowledge economies and rapidly changing work environment. According to Cedefop (2008), It includes vocational education and training carried out before entering working life and the education or training that comes in after entry into working life and aims to help people to (a) improve or update their knowledge and/or skills; (b) acquire new skills for a career move or retraining; and (c) continue their personal or professional development. Thus TVET is all embracing comprehensive education and training program, involving lifelong learning, responsible citizenship, and the promotion of sustainable economic development and social transformation.

### 3. ECONOMIC DEVELOPMENT AND SUSTAINABILITY

Economy itself can be regarded as the system of production, distribution and consumption of goods and services of a community, which determines the standard of living of people in the community. It is a collective focus of the study of money, currency and trade, effective management of resources of a community or system. On the other hand, development simply means positive change, while sustainability implies maintaining the change indefinitely. Economic development then is improvement (quantitative and qualitative changes) in the economy leading to high standard of living.

Very important is the sustainability of the improvement, i. e. maintaining a continuous quantitative and qualitative changes in the economy such that there are no threats to future development. Finding approaches to development that balance economic and social progress, address cultural differences, conform to global, national and local needs, and respect ecological values and limits is the key to sustainable development (UNESCO, 2006).

Economic development and sustainability involve sustained road-map and concerted actions in diverse areas, such as human capital development, critical infrastructure, regional competitiveness, social inclusion, health, safety, literacy etc., aimed at promoting the standard of living and economic health of a state. It has to do with culturally directed search for a dynamic balance in the relationships between social, economic and natural systems, a balance that seeks to promote equity between the present and the future, and equity between regions, races, social classes and genders. Economic development and sustainability therefore has to do with increasing living standards, earning power, self-esteem needs and freedom from oppression and greater choice, without jeopardizing future opportunities. However, productive workforce holds the key to economic development and TVET holds the key to productive workforce.

### 4. OIL AND THE NIGERIAN ECONOMY: DANGER IN SPECIALIZATION OF ONE EXPORT COMMODITY

Oil remains and will still remain (for a long time) the dominant energy source. It is a unique commodity with good attributes that makes it universally preferred above other energy sources. These attributes include sufficiency, accessibility, versatility, ease of transport and low costs. It has multitude of practical application in the industrial, commercial and domestic fields. Rahman (2004) noted that oil accounts for about 40 per cent of the energy mix.

Since the discovery of oil in commercial quantity in Nigeria in 1956 and the oil boom of 1970s, oil has dominated the economy of the country. Oil accounts for more than 90 per cent of the Nigeria's exports, 25 per cent of the Gross Domestic Product (GDP), and 80 per cent of government total revenues (Amuche, 2016; York, 2015). Nigeria, like most oil producing countries, has not been able to develop a vibrant economy, despite the huge revenue generated from oil. Beck (2012) affirmed that this could be explained by rent theory. Beck observed that the bulk of oil income is composed of rents. A rent is an income that is not balanced by investment or labor. There is a huge gap between the oil price and the capital and labor invested to produce oil. Beck pointed at two cons of rent. Firstly, they are at the free disposal of the recipient since no investment is needed to generate future rent income. Moreover, oil rents usually go to state bureaucracies whose strategies to gain legitimacy are fairly unconstrained. Secondly, rents cause structural heterogeneity. Since the oil sector is far more productive than all others, the rest of the economy is in danger of becoming crippled (Dutch disease). This results in low investment in productive branches, an overvalued currency, and high unemployment rates. In this context, Beck pointed out that pure market economies do not provide remedies for Dutch disease.

Unfortunately, the price of oil has continue to fall over the years. Mathew (n. d.) attributed the low oil prices to several main factors among others:

1. OPEC's December 1, 1997 agreement to raise the group's production quota by 10%
2. A warmer-than-normal winter (1997/1998) in the northern hemisphere
3. Increasing Iraqi oil exports
4. Reduced oil demand due to the severe economic crisis in East Asia.

If oil prices continue dwindling for a prolonged period, it could result in long-term reductions in oil export revenues, and would force oil exporting countries to make difficult economic, social, and political tradeoffs. Consequently, the economy of Nigeria has been substantially unstable, a consequence of the heavy dependence on oil revenue, and the volatility in prices. Nigeria's economy is sliding into a spiral

of economic damage from the plunge in world oil prices. Its currency is weakening, government revenue has dropped dramatically, civil-service salaries are delayed, many construction projects have been suspended and layoffs have begun (York, 2015). Edozie (2015) reported that the Vice President, Professor Yomi Osinbajo said Nigeria's over dependence on oil is not only responsible for the downturn in the economy but also the emergence of a redundant human resource base and high level of corruption, as well as, the root of agitations for resource control.

Moreover, there is no hope of oil price improvement in the near future. Recently, United States of America re-admitted Iran into the international oil trade market. With the lifting of the sanctions, Iran, which has the fourth largest oil reserve in the world (160 billion barrels), is expected to flood the international oil market with more oil which could worsen the ongoing glut that has reduced the price of crude from \$105 per barrel to about \$30 per barrel (Amuche, 2016). Also, Amuche reported that the middle-eastern country recently announced its capability to produce oil at \$1 per barrel; which means it can afford to sell its oil below the official international rate if it pleases. Again, the re-entry of Iran into the international oil trade could result to attracting reputable buyers like India away from Nigeria. India is Nigeria's top buyer of crude (about 750,000 barrels per day). Therefore the need for Nigeria to diversify its economy is not an option and cannot be more important than now. This is where TVET has a very crucial role to play.

## 5. TVET FOR ECONOMIC DIVERSIFICATION, DEVELOPMENT AND SUSTAINABILITY

It is near impossible to achieve sustainable economic development on a mono-economy. This is because a house standing on one pillar will surely collapse if the pillar collapses. However, if there are many pillars, at the collapse of one, the others will sustain the house while the collapsed pillar is restored. The heavy reliance of Nigerian economy on oil has made it vulnerable to Dutch disease. The current shock being suffered by the Nigerian economy as a result of oil mono economy and oil price fluctuation is an indication that the time to explore other sectors of the economy is now. Economic diversification is no longer an option for Nigeria, if the country wishes to realize its national objectives such as great and dynamic economy. Economic diversification means energizing many economic sectors (investing in a variety of assets) to be functional and productive. It is the process of growing the range of economic outputs, thereby having many sectors of the economy contributing fairly to the GDP. Economic diversification strives to smooth out unsystematic risk events in a portfolio so that the positive performance of some investments will neutralize the negative performance of others. Nigeria must diversify its markets for exports/income sources. Fortunately, there are numerous potential economic sectors

that could be exploited such as agriculture, forestry, mining, manufacturing and tourism etc. There is no more time for political mantra but action (implementation).

The surest means of achieving economic diversification for economic development and sustainability is investing heavily on human capital and infrastructural development. Unfortunately, these areas have not been given adequate attention by the government. Uzonwanne (2015) noted that a significant bottleneck to economic development in many countries is poor physical infrastructure. Essential services such as electric power, water, roads, railways, ports, and communications have been neglected, especially in the rural areas. The education sector is poorly funded and the worst hit is the TVET sub sector of education. Best estimates are that Nigeria spends about 2.3% of GDP for education, less than half the percentage of GDP spent by the 19 sub-Saharan African countries on average (Federal Government of Nigeria, 2009). In 2010 the Federal Government spent N249.08 billion on education out of a budget of about N4.07 trillion. This sum translates to just about six percent of the total budget in spite of UNESCO's recommendations that, at least, 26 percent of national budgets should go to education. Available data indicate that 20.9%, 7.1% and 13% of total expenditures on education in 2003, 2004 and 2005 respectively went to the NBTE of which 39.2%, 83.6% and 78.4% of yearly budget appropriations to NBTE in the same years were actually spent (OECD- AfDB, 2008). In the scale of low priorities to Education system, TVET comes lowest. Capital allocations for TVET showed that 0.13% of total FGN budget and 0.05% of total then proposed FGN budget were allocated to TVET in 2011 and 2012 respectively (Chukwumerije, 2011)

There is no disputing the fact that the quantity and quality of human capital is very important to economic development and sustainability. Economic development involves the creative capacity of people to transform effectively, the natural resources of their environment into goods and services. Sustainability of economic development hinges on the effectiveness and efficiency in capital utilization, which in turn solely rest on quality human resources. High quality human resource is a critical factor in organizing a vibrant economy that must survive and thrive. Nations' capability to attract appropriate and relevant investment is dependent on the pool of available skills; as this provides basis for employment creation and human resource development.

It therefore becomes imperative to cultivate human capital suited to labor demand as a competitive weapon to drive higher value. As rightly buttressed by Marimuthu, Arokiasamy and Ismail (2009), achieving high quality human resource for sustainable economic development means exposing the workforce to a comprehensive education and training programs. Such program as has been universally elected is TVET. UNESCO (2006) asserted that it is impossible to think of making gains in poverty reduction, job creation, health or environmental concerns without a focused TVET policy, and

it is equally true that a well-articulated and focused TVET policy can lead to huge improvements in education, gender equality and living conditions. TVET can play an instrumental role in developing a new generation of individuals who will face the challenge of achieving sustainable socioeconomic development. TVET is an effective tool for achieving a culture of peace, environmentally sound sustainable development, social cohesion, and international citizenship (UNESCO, 2006). Former President Olusegun Obasanjo stated that TVET is the most effective means of empowering the citizenry to stimulate sustainable national development, enhance employment, improve the quality of life, reduce poverty, limit the incidence of social vices due to joblessness and promote a culture of peace, freedom and democracy (Federal Ministry of Education-FME, 2000).

By the virtue of its philosophy and mission, TVET can be regarded as an educational/training program designed to equip youths, adults, employed and unemployed with the required understanding, knowledge and salable practical skills, competencies, attitude, and habits for effective and progressive participation in the work environment. . Effective TVET capacitates individuals to be self-dependent and job creators. It could be accepted that TVET owing to its technological base, is the most viable training program to inform and prepare the right group of individuals in quality and quantity that can boldly on their own take off enterprises that can build the technical capacities of Nigeria for economic development. TVET equips individual with skill, confident, creativity and discipline to seize opportunities that present themselves regardless of the economy (Okorafor & Ike, 2013). If good percentage of the populace is educated in this program and they establish own industries, then the state in no doubt will be on the right track to economic development and sustainability.

The oil sector contributes relatively low to the Gross Domestic Product (GDP), despite the huge revenue generated from it annually. This is due to the dominant involvement of foreign investors and low local participation in the sector. EL-Rufai (n. d.) noted that the oil and gas sector accounted for about 16 percent of GDP in 2010 and employs less than 0.15 percent of the population, due to its technology-intensive nature and the procurement practices of the international oil companies. Although Nigeria has introduced local content policy in 2006 and enacted the Nigerian Oil and Gas Industry Content Policy (NOGICD) Act in 2010); yet Nigerians have little share of the oil and gas business. The low presence of Nigerians in the oil and gas sector is majorly attributed to lack of capacity and expertise to work in the sector. Likewise other sectors of the economy are redundant due to lack of capacity to explore them. However, a well-focused TVET can produce the required human capital in quantity and quality to develop all the sectors of the economy sustainably. UNESCO (2006) opined that TVET can:

1. Contribute to the achievement of the societal goals of greater democratization and social, cultural and economic development, while at the same time developing the potential of all individuals, both men and women, for active participation in the establishment and implementation of these goals, regardless of religion, race and age;
2. Lead to an understanding of the scientific and technological aspects of contemporary civilization in such a way that people comprehend their environment and are capable of acting upon it while taking a critical view of the social, political and environmental implications of scientific and technological change;
3. Empower people to contribute to environmentally sound sustainable development through their occupations and other areas of their lives.

## 6. CONCLUSION

Obviously, Nigeria in her pursuit to sustainable development cannot move too far or fast enough on one leg, in order to catch up with the rest of the world. It is time to invest in other sectors of the economy. However, no matter what is invested in any sector of the economy without adequate high quality human capital to man such sector, it may not survive and contribute its quota to economic development. Adequate supply of qualitative manpower is what is mostly needed in Nigeria to instigate all-round development. TVET is in the best position to supply the required skilled manpower both in quality and quantity. TVET for sustainable development is a process of learning how to make decisions that consider the long-term future of the economy, ecology and equity in the workplace and wider community. TVET graduates will play a crucial role in inventing and implementing practical solutions to poverty, job scarcity, economic diversity, environmental degradation, waste reduction, access to safe water and hygienic sanitation. Major considerations in TVET such as gender and ethnic equality in the workplace, occupational health and safety, the wise use of resources and diminution of waste, etc. are also central to sustainability. Therefore TVET should be strengthened to achieve this crucial goal.

### Recommendations

*Attitudinal Re-Orientation:* Reorient the populace on the role of TVET as capable of producing productive workforce needed to actualize the technological aspiration of Nigeria. TVET have always battle against not only the resistance of academic curricular. Rather there is the suspicion that the vocational curricula provide second class education and track to some individuals of lower class or lower castes, racial minorities, and women away from academic education and access to jobs of the highest pay. This attitude has to be re-oriented. It is only when the leaders and the public are aware of the contributions of TVET that there can be a position to be reoriented. The public must be made to understand that TVET is a strategic educational program for producing a productive workforce that can move the nation forward; rather than educational program

for academically less privileged. This can be done through campaigns, workshops, exhibitions, etc.

**Indigenous Curriculum:** It is time, Africans should use their initiatives to develop the curriculum that is relevant to their economic and social needs. Inasmuch as Africa desires to join in the global technological train, it must put into consideration the conditions of its natural environment, culture and resources. One major cause of declining quality of university education in Nigeria is irrelevant curriculum. Educational system in Africa has for too long looked at curriculum development as a global project and consequently, almost ignoring her needs (Apagu & Andural, 2007). Africans can do better in curriculum development if they first consider it as curriculum to first prepare Africans to live a happy and satisfying life in Africa using African indigenous technologies and materials; and secondly to prepare Africans to live in other parts of the world. This is particularly important for TVET curriculum. This will make the TVET curriculum more relevant to the needs of the majority who may even be in the rural areas. Also the TVET curriculum should include entrepreneurial competencies that will enable its recipients to manage their enterprise, since this is as important as the core technical skill needed for the enterprise to succeed.

**Building the capacity of TVET teachers:** It is obvious that the capacity of TVET teachers is very vital in achieving the objectives of TVET. There is the urgent need to revitalise the TTPP's initiative of the Federal Government. This will enhance turning out in good quantity and quality, the number of TVET teachers that will facilitate the achievement of TVET goals. Beside, TVET teachers should be supported for advance capacity development through scholarships and fellowship awards.

**Inclusion of requisite Skills in TEVT:** It is unfortunate that even the graduates of TVET are among the "sea of unemployed youths" in Nigeria. This could be that current TVET programs are unable to impact requisite skills relevant to local enterprises and for self-employment. TVET curriculum should be revised to shift from single to multiple skills build from local market opportunities to foster local innovations and technologies than over dependence on imported ones. These programmes should incorporate useful traditional skills and increase the flexibility of course offerings. Again since TVET skills tend to depreciate rapidly if not used, its flexibility will tie it to actual jobs with potentials for future labour market conditions.

**Reducing Opportunity Cost of Training:** Expand TVET program opportunities so as to increase access and equity among youths and adults in need of acquiring more skills. If TVET is to alleviate poverty, its structure must be flexible enough to accommodate poor candidates that cannot afford to be out of workforce for the training, even when it is free. This can be achieved by offering shorter, but more intensive course or providing training at convenient time (e.g evenings) and locations.

**Linking TVET to Industries:** Training institutions should be linked to employment agencies/enterprises. This will improve the flow of information on the demand for skills and the success of training in meeting the skills standards of employers; thereby, creating a permanent pipeline of market information on the demand for skills and supply. Some of the mechanisms to accomplish the link are constitution of advisory and curriculum development committees with members representing employers and the schools, vocational guidance and placement activities, surveys of local employers, and training strategies that include periodic, supervised placement of trainees in work experience. Further to this, utilizing information on employment rate by skills levels, economic returns on different levels of training, current vacancy rates, and employer projections of employment opportunities are likely to expand in the medium term. Such feedback's enables training agencies and institutions to meet the training needs of the clientele and the world of work.

**Establish comprehensive initiative for nurturing entrepreneurship:** The business environment in Nigeria is very hostile. The exorbitant charge extorted from entrepreneurs has pushed some out of business. This has to stop. There is need to encourage establishment of indigenous small scale industries (SSIs) by giving incentives to recipient of TVET to take off enterprises on their own

**Government commitment:** Government should show corresponding commitment to TVET as indicated in its policies.

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