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Keywords: *education, development, skills, technical, vocational.*

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The Role of Technical and Vocational Education in National Development

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Abstract- Education, especially technical and vocational education is central to national development of fast developing countries such as the "Asian Tigers ". In Africa and Nigeria in particular, the adoption of technical and vocational education has not been given environmental recognition. This paper argues that the acquisition of technical and vocational skills education system propelling self reliant development. This paper seeks to understand the role of technical and vocational educations have in national development. The paper examines the problems of technical and vocational education in Nigeria. The paper recommended among others, the following: providing enough facilities and materials for teaching and learning; improvement of the working conditions of teacher and craftsmen so that they will be adequately motivated to stay longer on the job.

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I. Introduction

Generally, education has become the basis for economic growth, political stability and social harmony. Shehu (1997) opined that the level of development of any society depends on its intellectual, scientific and technological achievements. He further stressed that technology has become a critical factor of economic growth and social development as it is through their application that the natural resources of the country could be transformed into goods and services for better quality of life of the majority of the country's citizens.

In his contribution Akerejola (2001) asserted that the country's economic future depends to a large extent on its ability to adopt training strategies that will ensure the creation of adequate technically skilled development. However, technical and vocational education is a sure way to the desired development. Technical and vocational education empowers individuals by equipping them with skills and knowledge which would enable them to fit into the labour market and earn a successful living.

This type of education would help their products to use the knowledge and skill acquired to transform the nations environment politically, socially, technologically, and economically. Despite the contribution made by this type of education in National Development, a lot of problems are hindering the production of low level manpower in technical colleges and other similar institutions. Ama (2000) observed that technical and vocational education in Nigeria is fraught with problems which militate against its ability to produce adequate qualified skilled and technical manpower required to lift the nation from abyss of technological irrelevance, and economic depression. For a proper understanding of this paper, two outstanding concepts that are rather significant to the title of this paper need to be clarified. The concepts are technical and vocational education and national development.

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II. Concept of Technical & Vocational Education

Technical and vocational education is a multifaceted, multidisciplinary and pragmatic field of study, whose aim is to equipped individual with requisite technical and vocational education literary skills which will enhance their relevance and functionality in the society. As a result, it plays a vital and indispensable role in the development of society.

Unatu (2008) asserted that technical and vocational education is the acquisition of skill and techniques in chosen occupation or profession to enable an individual earn a living. The federal government of Nigeria (FGN, 2004) viewed technical educational and vocation education as the aspect of the educational process involving in addition to general education the study of technologies and related science and the acquisition of practical skills, attitude, understanding and knowledge relating to occupations in various sectors of economy and social life.

Osuala (2004) stated that technical and vocational education in a training intended to prepare a student to earn a living in an occupation in which success in dependent largely on technical information and an understanding of the laws of science and technology as applied to modern design, production, distribution and services, it is conducted as a part of a programme designed to prepare individual gainful employment as a semi-skilled workers, technician or sub- professions in recognized occupations as well as new emerging occupation.

Joshua (2002) viewed technical and vocational education as a type of education made up of theoretical and practical introduction given to those wishing to be employed in commerce and industry or any type of enterprise that requires the use of tools and machinery

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for the operation, production, preservation and distribution of goods and services.

Ocufirwa (2008) stated that technical and vocational education is result oriented. It brings about technological advancement and aimed at fitting new manpower for employment and providing continuous training for those already qualified so that they can keep up with modem working methods. As a matter of fact, technical and vocational education is aimed at developing not only practical skills but also developing a creative innovator and resourceful person.

The development of economy for self reliance and self-sustainability is the main driving force for acquisition of this type of programme. Several attempts have been made to define Technical and vocational Education. National Policy on Education, Federal Republic of Nigeria (2004) defined it as compressive term referring to the educational process involving the study of technologies and the related sciences, and acquisition of practical attitudes, understanding and knowledge relating to occupations in various sectors of economic and social life.

Similarly, Okonkwo (2008) defined it as that aspect of education and training that bothers on the acquisition of practical skills as well as basic scientific knowledge which are vital to the Improvement of man's material well being. In the same view Sallah (2008) stated that Technical and Vocational Education is an educational aspect that prepares individuals for saleable skills arid takes one fit into the society to make effective contributions for its development. This implies -that practical skills acquisition in various areas or vocation leads to economic stimulation in a dynamic society where individuals who are vocationally knowledgeable embark on production saleable items

The National Policy on Education of the Federal Republic of Nigeria (2004) postulated the goals of technical and vocational education as to:

- Provide trained man power in applied science, technology and business, particularly at craft advance craft and technician levels
- Provide the technical knowledge and vocational skills necessary for Agricultural commercial and economic development; and
- Give training and impart the necessary skills to individuals, who would be self- reliance economically.

To accomplish these goal at science and technical college level, programs of activities have been grouped in the policy document (FRN, 2004). The groups for each programme comprise general education theory and related courses, workshop practice and industrial training/production work. It is thus, expected that graduates from technical and vocational institutions will be equipped with practical manipulative skill/service competencies, basic scientific knowledge and proper work habit/attitudes. The programme of study at technical and vocational institutions have been clustered into Agricultural, Building craft, Electrical engineering trade, Mechanical engineering trades, wood trades, business trades, computer trades, textile trades, hospitality.

The products of technical and vocational education, after they have, passed through assessment criteria (examination) are certified as having acquired the skills set out by the curriculum. Certificates are awarded to them as National technical Craft (NTC) and Advanced National Technical Craft (ANTC).

The form of training received by the graduates of this form of education involves lectures and tutorials (for acquisition of factual knowledge) the theoretical knowledge will help them have a firm understanding of their subject area for problem-solving in a work related environment. The practical knowledge helps them learn the skills of hand and leg to do the productive work necessary for the welfare of the nation. The graduates also acquired knowledge industrial based training where real life technical environment and procedures are encountered. The candidates also acquire general knowledge to do the work of the socialization of individuals in the social environment. The professional preparation enables them to know the ethics of their profession. The main focus is to make the trainee fully equipped to meet the varied challenges in his chosen profession after the course of study.

III. The Concept of National Development

Development in the context of this discussion means many things to many people but since our theme is related to National development normally means faster and greater economic growth leading to the enhancement of the wealth of the nation, higher level of Medicare and faster and greater improvement in the quality of living environment of the people (Ejike, 1998) All these processes lead to enhancement of National image, stability and power for the government and nation at home and abroad. Power mentioned here is the ability to influence events in other parts of the globe and to be taken seriously by friends and foes alike. Development could also mean enhanced performance scope in various fields of human Endeavour derived from superstitions culture. It involves empowerment of individuals to earn a successful living, and contribute to the economy. It also involves transformation of our environment. The transformation could be social, physical, political, and economical, change of value system, among others.

It is the belief of the average Nigerian that technological knowledge acquired from Technical and Vocational education could be used to solve the

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problems of poverty, unhealthy environment and diseases which plague this nation. According to Isoun (2001) the developed nations of the world have, through technology, transformed their economies to industrialize their societies, eradicate diseases, create wealth and National affluence, and assured political stability and global dominance.

The Role of Technical and Vocational Education has a significant role to play in shaping the socio economic future of Nigeria. Enebe (2002) highlighted the roles Technical and Vocational Education can play in curbing unemployment and in providing the needed skilled labour for industries. These individuals help to transform our environment. The transformation can be social, physical, economical or political. That is to say that this type of education equips individuals with vocational skills which would enable them to be gainfully employed with the empowerment so that they can earn a successful living. Later they would use the skills acquired to contribute to technological and economic development.

Nature has given every nation natural resources but the extent to which each nations utilizes these gifts depends upon the level of that country's technological advancement. It is through the application of vocational skills and knowledge that natural resources could be transformed into goods and services. In education, progress is made through science which is the foundation of technological development. Technology generates skills for production.

Material production itself consists of the action of men taken upon nature in their efforts to humanize it. For instance Agricultural skills obtain through Technical and Vocational Education could be used to produce more yields. Increased productivity therefore, enhances better standard of living which is the desire of many individuals. If the products of this vocational education (e.g. Agricultural Science) could venture into farming or take farming as their life career and apply the scientific knowledge acquired during their training, they can produce: enough food to feed her teeming population and local industries. The excess could be exported to others countries.

A developed Nigeria according to Esen (2000) is a Nigeria that produces what it consumes with substantial left over to sell to other nations. For Nigeria to belong to the club of developed nations she must change from consumer to producer nation. This means that the country should be able to process her raw materials such as hides and skin cotton, cocoa, palm oil, Palm kernel oil, crude oil and pulp into finished product she should be able to manufacture the cars the citizen use as well as fabricate the spare parts instead of importing them from the western world. Nigeria should be able to use her engineers, technologists arid technician in building houses, roads, railways, ships, drill crude oil rather than using foreigners. The much echoed local content i.e. involving Nigerians in the manufacture of goods can only be achieved when more craftsmen and technicians are trained in Technical Colleges. It is only the relevant technological skills that are derived from technical and vocational education that will change raw materials into finish products.

Products of technical and vocational programmes become wage earners and self employed in some instance thus assets to the society rather than dependants on society. Preparation for useful employment contributes indirectly to many social benefits. Trained workers contribute to the general upliftment of the masses standard of living as well as theirs. There should be many and varied job training programmes by government and industries in the hope of improving the lot of the deprived and the disadvantaged members of the society (and therefore concluded that vocational education is the answer to many of them).

Aina (2000) asserted that technical and vocational skills empowers young people and adults to play active roles in a development paradigm that seeks to narrow economic and gender disparities while preserving the integrity of the environment. He further said that in future, the backbone of robust social and economic development in a nation will be the technical professionals.

Suleiman (2002) viewed technical and vocational education as the salvation for the unemployed, juvenile designates, criminals, unstable, and unsatisfactory home etc. sociologist perceived vocational education as the salvation of civilization because they ascribe most social ills to vocational incompetence.

IV. Prospects of Technical Vocational Education in Nigeria

The prospects of improving the current state of Technical and Vocational Education may be found in the Federal Government master plan 2000 2010 for Technical and Vocational Education.

According to Sani (2002) the Federal Government of Nigeria through the Federal Ministry of Education intends to address some of the limitations and failures of the Technical and Vocational Education System.

Sowade (2006) reported that UNESCO's department for technical and vocational education in cooperation with the National Board for Technical Education (NBTE) in Nigeria is currently implementing a project that aims to equip large number of individual for work. Technology is essential to normal living if Technical and vocational Education produces technologist and craftsmen who transforms natural resources into goods and services. According to Tower (2001) Technology is likely to dominate most parts of the

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21st century. For a country like Nigeria to fully benefit from technical and vocational education it must be given the highest priority that is deserved. Our technical colleges must be restricted, revamped and fully developed to provide the leadership required to grow.

On the side of the products of technical and vocational education a brighter future awaits them. They could as well set up their own business and become self- employed and be able to employ others. Those of them that do not want to work immediately after graduation could go for further studies in colleges of Education, Polytechnics or Universities.

V. Problems of Technical and Vocational Education in Nigeria

Many educationists regard technical and vocational education as the basis of industrial and economic development, and indeed as the pillars of prosperity. Yet, most of the problems hindering effective teaching and learning are not solved.

Awotunde (1993) observed that most of the institutions that engage in vocational and technical colleges lack enough facilities, some lack enough workshops and laboratories. Where workshops and laboratories are available, they are ill equipped with tools and equipment because vocational and technical education is capital intensive. Some institutions are not able to purchase appropriate tools, machines and other equipment for the training of manpower. They make use of obsolete machines and equipment to train people.

Consumable items such as wood, iron and steel, plastics are often related to the background. Curriculum is a major requirement for carrying training in Technical colleges and other institutions. This consists of the list of courses and activities for the trainees and the general objectives of the courses. The nature of the curriculum affects the product. In other words the quality of the products from technical colleges depends on the type of curriculum of the institutions among others. The curriculum of the Technical and Vocational Education has not been updated for long to march development in commerce, science and technology. This affects the quality and relevance of the Technical and Vocational Education. Onwuchekwa (2001) stated that any worthwhile programme is never static but dynamic and therefore, liable to constant changes in the aims of the nation.

Class sizes are abnormally large a situation that adversely affects teaching efficacy. The ideal classroom should accommodate only about 20 students. This class size enhances and facilitates thorough supervision and assessment of the extent of practice of skills. Also it gives room for the teacher to sufficiently access the students.

Unfortunately most classes in Technical colleges are large. Often 50 or more students are found in a class, this affects the quality of learning. Another source of worry is that the industrial Training Programme was designed to familiarize trainees with the world of work. Olaintan (1996) observed that this programme has become a formality and no longer serves effectively the purpose for which it was set. For one reason or the other, the responsibility for placement has been shifted to students. Students often scramble for places of industrial training. Even some of them that secure places complain of redundancy. While some spent half of the time allocated for the programme looking for places that would suit their selfish interests. Some are even rejected by Government establishment and private sectors (industries).

A major problem facing technical institutions is the epileptic nature of power supply where it exists. According to Tower (2001) no technical and vocational subject can be offered anywhere and at any level without regular electricity supply. Some technical and vocational schools are located in rural areas that have no standby generators.

Okonkwo (2008) asserted that the human resources situation has not been favourable for technical and vocational education. Some professional that would have made excellent teachers only had a brief stay in schools and then leave for other sectors of the economy. According to Nwosu (2003) the comparatively poor working conditions of teachers is gradually transforming the teaching profession as a stepping stone to other highly esteemed and more attractive professions and other jobs. Teaching therefore has become a professions for fresh graduates as well as unqualified graduates who are ever ready to quit their position as soon as they find greener pasture elsewhere. In support of this statement, the Enugu State Government in 2009 recruited all graduates who have no job into the teaching professions in order to fill vacancies created by those who left their jobs. Those recruited include holders of NCE, First Degree and Masters Degree and those without teaching qualification such as B. Sc., B. Tech., HND. These categories of teachers are likely to leave teaching prematurely since they do not possess teaching qualifications and; they may decide to leave as soon as they secure more lucrative jobs or business. So it is no longer the issue of production of teachers, rather, it is the problem of how to retain the existing ones.

VI. Conclusion

Technical and vocational education is education with a strong job orientations and which, a result is imbued with such job-relevant practical content that its products emerge with marketable physical and mental skills. Despite the present economic meltdown, technical and vocational education has the potential to develop our economy. But the problems against the

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development of technical and vocational education are many. They range from inadequate provision of tools and materials to none retention of personnel and inadequate facilities. For technical and vocation education to be of benefit to the country, therefore, those problems need to be attended squarely.

VII. Recommendations

Based on the problems discussed, the following recommendations are proffered:

- Good operational environment and educational facilities should be provided to promote the efficiency of the teaching process.
- The relevant bodies should be review or update the curriculum of technical colleges from time to time in order to update knowledge and skill for development
- Government should set up centre for work experience in each Local Government and involve students in consumption and maintenance of school building to accommodate those who could not for any reason get a place for SIWES.
- Government should enforce the implementation of 1:20 teacher/student ratio in technical colleges.
- Improve the working conditions of teachers and craftsmen so that they will be adequately motivated to stay longer on the job.
- Strengthen the technical and vocational education component of the UBE through a massive and comprehensive rehabilitation of existing technical colleges.
- Provide standby generator for each training institutions. - It would seem that technical and vocational education has not adequately been given the priority it deserves by Government, since adequate facilities, training equipment and personnel have not been made available to the training institutions.

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