



TECHNICAL UNIVERSITY AND POLYTECHNIC SYSTEM IN AFRICA'S DEVELOPMENT

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Abstract

Africa is a continent in the world, majorly occupied by black race. In this region of the world, developmental process is so backward that majority of her populace live in devastating abject poverty. They hardly can eat the standard three square meal, which is the basic measure for normal living. This is simply tied to nothing than the inability of the continent to develop her technical education system, such as the technical universities and/or the polytechnics education system. Rather than given priority to technical education, the conventional education system is highly embraced, such as the conventional universities education system, leaving the technical aspect of education to suffer a rejection mode by even the so-called leaders in the continent. As rightly known, technical universities and polytechnics offer higher education system which deals especially in science and technical subjects connected with practical use of machinery, methods e.t.c in science and industry. In this wise, this education system must be given the right atmosphere to operate, this will create a development platform that will lead to the development of the infrastructures that will enable industrialization in all ramifications and pull the citizens out of the teeth gnashing poverty. In simplicity, this paper looks at technical universities and/or polytechnics education, as a way of bringing the required development to Africa. It shall be based on the principle of secondary data research, thematically.

Keywords: *Technical University; Polytechnic; Development; Infrastructure; Africa.*

Introduction

For development to be attained in any society, unity of mind must be the order of the day. Africa as a black and dark world, where darkness has engulfed the land, is nothing but a shadow of a continent. The people were made to suffer ills due to lack of industrialization and infrastructural development, which will pivot them to the required level of standard living. This duo can only be attained by encouraging the technical education, like the technical universities and the polytechnics, which has to do with skill acquisition, to facilitate the growth of technology. For it is a known fact that the lives and/or the living standard of people in any geo-political zone depend largely on the level of technical skill acquired by the people in the zone.

For this reason, the leaders must embrace the technical aspect of education, which by Hornby (2000), entails an educational system connected with practical skills for use in industries. From this, it shows clearly that for industrialization and infrastructural development to be attained in Africa, the technical universities and/or the polytechnics must be given the right atmosphere to operate in order to boost the technology needed to make Africa a reliable continent. As said by Raymond (2007), where he posited that Technology is the processes by which human beings fashion tools and machines to increase their control and understanding of the material environment. He posited further that technology has always been a major means for creating new physical and human environments. In contemporary times there are a number of different types of emerging technologies, and these are centered on ways we live and how we make our lives more comfortable.

Africa is endowed with enormous natural resources that could pivot her to greatest level, but the issue of lack of the potential to harness these resources has bedeviled her in so many ways. One of these resources is the limestone, being abundant in one of the region called Nigeria, and according to Concrete Society (1987), Nigeria is endowed with enormous deposit of limestone. Limestone is a mineral resource considered to be an extremely valuable raw material used in several industries where chemical properties are relevant. Particularly, the construction and manufacturing industries are essentially the principal consumers of the mineral. For instance, limestone is the major raw material utilized in the production of cement, which is further used in making mortar, bricklaying or concrete blocks (ASTM, 2015). Lee (1998) suggested that innovation in the use of limestone in the production of cement could lead to the



design of cements that could have greater qualities than plastics and metals. Indigenous technologies are required in the extraction of limestone, and their subsequent uses in industrial spheres of the nation.

It is believed that economic regeneration in Africa is pre-vital to recession downtime; this can be achieved by endowing people with technical skills and/or technical education to support industrialization drive and the attainment of middle-level income status towards an accelerated development. In order to achieve economic regeneration, the development of technical skills in technical education in an economy like Africa cannot be put aside. With the enormous resources, being garnered in this part of the world, only fraction of it is being utilized. It is either the enormous lying underneath the earth, due to lack of skill/technique to explore it or being cat away by foreigners to the detriment of the African child.

This paper is looking at the technical universities and/or the polytechnics system as a way out of the current quagmire in Africa as a region in the world, for a better economy.

Method

This research work will be based on the secondary data findings. The secondary data consists of data from several sources, which include; textbooks, journals, newspapers and periodicals. The secondary data is very important in this resource study as it provides the direction and preview of the work, and moreover, its reliability is based on the strong belief that the people whose ideas were expressed are experts in their chosen fields. The secondary data search simply entails material gotten from the internet, such as research journals, conference proceedings, textbooks and other meaningful data/information that could aid the success of this research work.

Technical University

A technical university is an institution of tertiary education that specializes in programmes that prepare graduates for technological occupations and grants as its major qualifications, baccalaureate and post graduate degrees and also conducts research with an emphasis on applied research (www.lawnsider.com/dictionary/technicaluniversity, 2023) Accordingly, it has objective for value creation and welfare in society through technical education and training.

Technical universities of yesterday started with the scope of training and educating engineers, this aim became enlarged with the introduction of research, thus changing the disciplinary scope with time, due to some reasons such as response to external forces demands and inevitable consequence of technological development, leading to prevalent tensions and challenges for technical universities as organizations.

Today, and according to de Ridder-Symoens (2003) , who posited that technical universities have a shorter history than universities such as Oxford, Krakow, Copenhagen, and Uppsala which have medieval origins and started out as organizations intertwined with the Church. Furthermore, in contrast to the Humboldtian research university, the emergence of technically oriented HEIs was closely related to even intertwined with the industrialization of Western societies in the eighteenth and nineteenth centuries. In the words of Anna Guagnini: “The majority of the new schools were created outside the university system, in a variety of quite distinct institutional contexts, and they were admitted to the highest levels of the educational hierarchy only slowly” (Guagnini 2004). As Swedish historian of technology Svante Lindqvist has argued, engineering schools in the industrialized nations of the Western world share the same basic characteristics and they have more in common with each other than with other HEIs (Lindqvist 1998).

To this end, it is crystal clear that technical universities were created to facilitate the training and education of technically/technologically minded professionals to steer the ships of progression in terms of infrastructural development and industrialization. Hence, Africa as a body should be able to utilize this sect to make an advancement in the area of developing her enormous resources, so as to alleviate this trenches of poverty amidst her populace.

In 2012, Ghana, one of the leading states in the region of Africa came up with a policy of, say, positivity, converting her polytechnics to technical universities, in order to deal with persistent challenges facing technical education in the country via a technical committee that was set up (Adumado Report, 2014). This action aims at giving a sense of belongings to these polytechnic students and creates a view, in terms of removing the dichotomy and frustration being experienced by these set of students, create competition among her educational system. To this end, I’ am of the view that, if this act is a laudable development in Ghana, then, she should be able, as one of the leading nation in Africa, pivot Africa or her co-nations in Africa, to gear up and create the enabling environment for the required



development in the African continent. But, I'am not so sure that this policy has create the required development because, the problems, such dichotomy, suppression, which led to this conversion were man-made, to the detriment of the society; may be the universities were created by nature and the polytechnics created by man that resulted to the problems.

Polytechnic Education

This is a type of education system that is a derivative of college for higher education, dealing especially in science and technical courses, connected with practical use of machinery, methods e.t.c. in science and industry. It is a part of technical education programme in tertiary education level that leads to the acquisition of practical and applied skills as well as fundamental scientific knowledge (Obasi, 2011).

It could be recalled that polytechnic education in Africa was given birth to by the colonial master of the British Empire. It all started in 1936 when the now Yaba College of Technology, Lagos, Nigeria (The Numero-Uno) was given birth to as Yaba Higher College alongside Fura Bay College in Sierra Leone, meant to produce a middle manpower for the African economy. When the university education came, African leaders concentrated all efforts to this sect and frustrated the polytechnic education via marginalization, dichotomy and all sort of relegations. This polytechnic education system was bastardized, just like the stone rejected by builders and casted away into the dungeon. The outright of this was poverty, agony, hunger, depression, fear, death, "japa (a syndrome of leaving one's land, flowing with milk and honey for the sake of seeking a greener pasture, due to African leaders ineptitude)", to mention a few, thereby breaking the backbone of the African child.

The African Leaders and Their Ideology

In this context, and with due respect to some African leaders, such as the great Maduba of Africa, Late Nelson Mandela of South Africa, Late Jerry Rawlings of Ghana, the Late Sage, Obafemi Awolowo of Nigeria, the Jomo Kenyatas of Kenya, to mention a few, they surrendered their lives for the betterment of the black human race in Africa; greetings to you all in where ever place you are in the great beyond. However, there are thousands and one of these leaders, with a well-known fact that their ineptitudes have failed the continent of Africa in general. The reasons behind this is due the followings: i.). Abandonment of their people to the cold hand of death, example of this is the Nigerian case, where insurgency overruns the government, to the shedding of many innocent blood, which leads to depression, frustration, poverty, e.t.c, depleting the pride of Africa to a zero state; ii). Hunger taking over the African stage, the people are dying in the phase of starvation, as seeing in Nigeria, the Sudans, Ethiopia, e.t.c., in lieu, the leaders piling up the starvation on the African child, without minding that natural voice which says, put food on the table of my people; iii). Lack of basic education for the people, which is now a matter of "On Your Own". The African child has been made to embrace unholy attitudes, such as Yahoo, "Japa" Rituals, to mention a few, as a result of poor economic condition. The way out of this quagmire is for these set of leaders to have a change of heart, putting the love of their followership in mind, revive infrastructural and industrialization development through a well-funded education system, especially, in technological/technical education holistically.

Holistic Technical Education; Technical Universities/Polytechnic Education

Regarding to Ghana changing her polytechnics to technical universities, and according to Akanpaadgi & Mumuni (2021), They asserted that changing polytechnics to Technical Universities was not an exception as it seemed to have been done haphazardly. Keeping track of the process was difficult because there was no clear road map to guide the entire process which generated anxiety and frustration among stakeholders with attendant labour unrest. Therefore, it is not a matter of converting polytechnics to technical universities that matter, but the implementation of the said act, which will guarantee the achievement of the aims, attached to it. May be one could say that the name polytechnic would have been maintained, but giving these polytechnics, a Degree awarding status, which could help the technical education status of these polytechnics and create a worthy or healthy competition between the universities and the polytechnics.

The issue of converting polytechnics to technical universities has made nonsense of the whole system, because of the name, university. The parents that gave birth to the polytechnic system, the British, never converted their



polytechnics to whatever name university, rather, they gave the polytechnics a Degree awarding status, up to PhD level and today, they are where they are. China, the giant of the Asian world and a renowned world power, decided to add more values to her technical education system, to increase the technical know-how and the employability of her teeming youth population. At the output of the decision, six hundred universities were converted to polytechnics, and today she moves from great to greater, because they made their education system to be dynamic (Muhammad, 2022). A question, can a university be converted to polytechnic, in the phase of the myopic African leaders?

But the truth of the matter is this, for industrial, infrastructural and any developmental revolution to take place in Africa, technical education must be prioritized. The technical in the education is the polytechnic (Multitechnical). It is not an idea of converting polytechnics to universities, but dynamism in education of maintaining the technical aspect of education. The dynamism of innovative education system, which entails a deliberate and planned act of problem-solving that aims at achieving higher quality of theory to practical learning, which exceeds the traditional paradigm. It entails transcending the academist knowledge and shifting from the students' passive theoretical education to an idea of intense practical education that is built in everyone (UNESCO, 2016). With this, learning at all the levels of education must be prioritized, to guarantee a life wire that will usher in the current required to ignite and simplify the complex nature of the innovation in education and bring about the real ideology that will surmount the complexity and pave way for innovation in the education sector at all levels for Africa.

In doing this, Innovation integrate a perceived change in the assumptions and practices of actors and institutions, which are not random or deliberate but require intent and planning in order to improve situations that may be problematic (Macchiarola, & Juárez, 2009)

Conclusion

Africa has been so backward among her pairs in the world; her leaders have traded her development for a pot of porage, meant for them and their families, leaving the teeming populations of the followers to their fate. The infrastructural development was bastardized, industrialization is nowhere to be found, and nothing is working according to true specifications. The education sector which ought to be prioritized, viz-a-viz, the technical education, mostly the polytechnic system, has been pushed to the background in preference of the university education. Round pegs were inserted into square holes to prevent leakages, which tend to be null and void. To make way for infrastructural, industrial and any other development, in order to create enabling society for the African child, the technical aspect of education must be prioritized as done by China. I'am not saying, a polytechnic be converted to a university, but that the statuesque of the polytechnics be maintained and giving the right atmosphere to operate by the African leaders, like the founder of the polytechnic system, the British. A holistic technical higher education that resides in the Polytechnic system should be allowed to flourish. This will engender a new Africa in terms of infrastructure, industrialization and the development of the likes, so that the term Africa will not be emanating bitterness to the lives of her citizens.

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