THE ISSUES OF AFRICA AND TECHNOLOGICAL DEVELOPMENT AND THE WAY FORWARD

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Abstract

Technology could be regarded as the use of technical knowledge for the production of machinery meant to suit mankind. It holds widely in the field of medicine, science, industry, communication, transportation, and other daily activities. Africa as the continent has been so backward in terms of technology, to the point that its citizens are so poor in all dimensions. For her development to be rapid, she must embrace technology in all ramifications, such abut as industry, energy, power, and agriculture, to mention but a few. It is worthy of note that the development of any environment is a function of its technological improvement and advancement, but not necessarily the use of importation technology for her own technological and industrial needs as opined in the African world. Technologically, Africa is nowhere to be found, as a result of, especially, the attitudes of the leaders in government, aligning themselves with the Western world to the detriment of the African technological development and the entire black populace. Africa is nowhere to be found on this path of development in the continental world and indeed, a derailment in the phase of her economy. In short, this paper focuses on Africa and the need for technological development, so as to climb out of her present state of predicaments, for a better economy. The paper was based on the principle of thematic research.

Keywords: Africa, Technology, Development, Predicaments.

Introduction

According to Hornby (2000), technology is the scientific knowledge that is implemented in practical ways in the industry in designing new machines; whereas Akaninwor (2008) views technology as a systematic application of manufacturing methods and industrial arts to improve efficiency in human activities. He went on to say that technology can simply be described as the result of man's efforts to do things more efficiently and effectively. Another meaning of technology is a method or methods of achieving a task. In other words, technology is the application of scientific knowledge to the arts or to accomplishing things. This scientific knowledge might take the form of either theory or practise. The actual application of scientific knowledge, on the other hand, appears to be more imposing in the whole enterprise or superstructure. And the objective or core of this is to make life more pleasant and to sustain human existence (Ekanem, 2007). It might also be considered as a practical application of systematised information for the benefit of man and his comfort.

It holds widely in the field of medicine, science, industry, communication, transportation, and other daily activities. Africa as the continent has been so backward in terms of technology, to the point that her citizens are so poor in all dimensions (Dosi, 1982). For her development to be rapid she must embrace technology in all ramifications, such abut as industry, energy, power, and agriculture, to mention but a few. It is worthy of note that the development of any environment is a function of its technological improvement and advancement, but not necessarily the use of importation technology for her own technological and industrial needs as opined in the African world. Technologically, Africa is nowhere to be found (Dosi, 1962), as a result of, especially, the attitudes of the leaders in government, aligning themselves with the Western world to the detriment of the African technological development and the entire black populace (Kuhn,1970). Africa, being as old as Methuselah (Gen 1:20), is nowhere to be found on this path of development in the continental world and indeed, a derailment in the phase of her economy.

In a nutshell, this paper looks at Africa and the need for technological development, so as to climb out of her present state of predicaments, for a better economy.

Methodology

This study carried out a conceptual approach of research on the site, e-books, and textbooks. This was done via a thematic approach, which entails the searching for and collecting information of standard from internet and other sources.

The paper will analyze different categories of technology, which Africa as a continent requires or should embark upon, to bring her out of the state of wretchedness. These technologies are:

Agricultural Technology

In Africa, agricultural technology has been mostly crude, with the use of crude tools to engage in agriculture. An example is the cultivation of farmland for planting purposes (Suri & Udry 2022). It is majorly observed that the majority of these cultivations are done using crude implements, such as cutlass and hoe. This equipment are far too crude to the point that they do not guarantee sustainability in terms of food technology. These peasant farmers can only provide for their homes, leaving the continent in devastation and in shortage of food for her populace (Suri & Udry, 2022).

In other agricultural technology, like fishery, animal husbandry, and so on, the manners for which these technologies are being carried are too crude to the detriment of the African child. Research in agricultural technology has been so poor, fertilizers, which ought to be subsidies and storage facilities have not been there, to encourage the farmers (Druilhe Zoe & Jesus Baneiro-Hurle, 2012). One typical example could be related to Nigeria and other part of the Black continent, in terms of crop production and animal husbandry. In this case, the rearing of cows is being handled carelessly, to the point of these species causing great havoc to the already insufficient farm agriculture. Farm products are being destroyed in the name of rearing cows, in fact, to the extent of many lives being lost in the herdsmen and the farmers engaging themselves in the process financial muzzle and improved seedlings technology are two major points being a hindrance to technology improvement (Suri & Udry, 2022).

As the agricultural sector progresses from smallholder farmers cultivating mostly food crops (cereals) for self-consumption to larger-scale farmers growing food crops primarily for sale, a first step towards structural change occurs. Currently, around 80% of African farmers are smallholders with less than two hectares of land, accounting for 40% of farmed area (Lowder et al., 2016), while farm sizes appear to be increasing in several African nations (Jayne et al., 2016).

Increasing agricultural productivity through big farmland technologies cannot be ignored; Africa must transition from small-scale farming to large integrated farming in order to produce excess food. This would ensure her economy and the well-being of the African kid in all spheres.

Education Technology

Presently is, education simply means bringing light to the feet of any system. It is a field of study that investigates the process of assessing, designing, developing, implementing, and evaluating the instructional environment, learning materials, learners, and the learning process in order to improve learning and teaching (www.loyola.edu). From the above definition, it could be seen that nearly 80% of the definition is missing in the African content of education technology. This poor education technology in Africa has led to chaos in the education sector of the region (www.loyola.edu). Education technology should be one with educational innovation, which goes a long way and is understood as planned changes that are oriented towards improving teaching and learning processes. This education system has a knot with information and communication technology (ICT) as an anchor which allows a well-based and formidable education achievement, by virtue of teaching, research and learning, it guarantees a better and virile

educational technology to sustain Africa in her quest for emancipation in her present predicaments (Akaninwor 2008).

Education technology in Africa should have mapped out future philosophy in order to equip graduates with technical know-how that will suit the local demands of African roots. This concept would have revived the continent's faltering technical development. Rather than the oppressive sort of schooling being promoted by the authorities, from which few indigenous people benefit. This is nothing more than the behaviour of the primary players in governance (Akaninwor 2008).

Renewable Energy Technology

This might be thought of as an energy that can be restored at the same pace as it is depleted. It has a natural resource that is regenerated by natural processes at a pace equivalent to the rate at which it is consumed by end users. Africa is thought to be a renewable energy powerhouse, particularly in terms of solar energy and abundant wind (US Department of Energy, 2001). However, because of this uniqueness, Africa remains a behind technology in terms of renewable energy. The abundance of the sun, the ever-flowing waters, and the unlimited flowing air pressure has amounted to a nullity in her quest for energy to sustain her industry and other notation for energy consumption. Renewable energy, such as biomass, biopower, bioenergy, hydropower, biofuels, solar energy e.t.c., are some of the renewable energies available in the African seeing. Hydropower has been a major energy derivative in Africa and to this end, a basement in her economic setup, with all other viable means of energy generation at a low ebb. To this end, the leaders of the people of the black race/world must arise to lead the people aright. They must rise up to fully make use of other energy sources of renewable in order to give, if not maximum, a close to this, so as to awaken the technology, a lead to economic viability.

Backwardness to African Technology; The Aiding Factors

The summary of the factors militating against technology development in Africa are as stipulated below:

➤ Unable to increase its industrial production line.
➤ Inability to use her natural resources unless with the assistance of foreigners who will generally supply the technology and experience to conduct natural resource exploitation.
➤ To boost production, dynamic tools such as tractors, lathe machines, drilling machines, automobiles, railroads, and other earth-moving equipment are manufactured.
➤ The large level of illiteracy, poverty level, and ignorance level.
➤ Liabilities between her institutions; majorly the universities and polytechnics viz-a-viz unwarranted tussle.
➤ Unable to deploy dynamic technology in her environs.
➤ Inability to export finished products to other countries instead of exporting raw materials.
➤ It is unable to create its own military weaponry to defend itself if necessary.
➤ The healthcare system is failing; seeing leaders go for months of healthcare outside Nigeria's shores, a shrinking return to the country.
➤ If a substantial proportion of persons involved in agricultural production continue to employ crude tools for agricultural production activities.

Backwardness in Africa; Why?

As I have earlier written, once the anchorman (the shepherd/the head) is bad/fraudulent, all the other parts become bad. The responsibility for this could not be aligned with anything else, other than the point below

➤ **Africa and Policy of the Leaders**
Unfavourable and unfortunate policies from the leaders in government have hindered and derailed the effectiveness of the system, especially policies related to technical indigenes, they are being pushed to the background. Round pegs should be round holes and square pegs to square holes (Ekanem, 2007).

➤ **Lack of Stability in Power Supply**
Attainment of stable power supply to the industry and the people in general.

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➢ **Bad Education Policy**

University World News (2019), in 2017, the Asia giant, China made a policy in her education thereby converting about 600 universities to polytechnics, for the sake of dynamism in their educational policy. This is a result of the fear that the theory of education might in the nearest future throw the country into joblessness. Rather than encouraging technical education, African leaders are venturing into theoretical education to the detriment of practical education that gives the live line to technological development. In Nigeria (a sub-African state) today, an already failed plan is in the pipeline; wanting to convert that NUMERO-UNO, Yaba College of Technology to University, in the name of University of Technology or whatever name. The truth is this, once you convert the polytechnics to university, whether "of technology or technical", the university there has already made nullity the multi-technical in the name "Polytechnic". This will not go well with the continent. The leaders forgot that in the UK, the name Kings College, and Imperial College are still sound today, with the elevation of her environment to the award of Degrees up to PhD level. Then, why the upside in the African content? (Maduka, 2003).

➢ **Corruption**

A major bane of Africa's integrity, and majorly embedded in the leaders at all strata. Factually speaking, it is a can of worms that has bedeviled this part of the world, which is derailing the vehicular motion of the continent. The youths of the nation have been dumped into the pit of faeces, called corruption by the leaders at all strata and they are made to smell from other continents of the world (Maduka, 2003).

Backwardness; the Missing Link

Africa must re-instate the missing link, Technology, in order to move into the developed arena. Some of these missing links are discussed below:

➢ **Provision of Infrastructural Facilities in our Schools**

According to Martin Luther King, a social activist and a baptist minister, "the prosperity of a system depends not on the abundance of its revenues, nor on the strength of its fortifications, nor on the beauty of its public buildings, but on the number of its developed citizens, its men who have been educated, and their awakening of personality" (Akaninwor 2008). Seriously, the only method to develop Africa is to illuminate the citizen's virgin mindset, which cannot be accomplished by simple rhetoric but only through genuine acts.

➢ **Adequate Financing of Research Institutions**

Research in any meaningful economy cannot be over-emphasized. The baseline of development in any advanced state is research, and this is keeping their wheel of progress moving hitch-free. A large number of research institutions in Nigeria are underfunded. This continues to be a barrier to good research. In 1985, India, for example, funded more than three billion dollars in 1,300 research institutes focusing on electronics, aeronautics and space, atomic energy, and so on. In 1985, India spent 1.5% of its GDP on research and development, compared to the US's 2.5% (Maduka, 2003). Nigeria's highest allocation figure in 1983 was 0.43%, which fell to 0.05% in 1992 and 0.23% in 2003 (Maduka, 2003); maybe in the next or future budgetary, the country will witness a 0.00%. The same goes with other African nations, they are not doing enough to the research institute that can bring the required technological improvement to the African arena.

Conclusion

Africa as a black world, must miss-align herself from the ever backwardness in technology to the continuous glooming light shown by technology She must sincerely call the necessary missing links which is technology to come into play, so as to guarantee a placement in the advanced world, in order to liberate her people from blackness to ideal illumination methodology. She must purify herself internally from the blackness of the continent, though been seen externally as black does not mean negation to her in any situation, but to make her internal structure a whole in purify so as to climb out of her present predicaments. This simply means that any oppressive idea leading to diminishing the African soil must be discarded.

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