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Open Access Initiatives in Africa — Structure, Incentives and Disincentives

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ABSTRACT

Building open access in Africa is imperative not only for African scholars and researchers doing scientific research but also for the expansion of the global science and technology knowledgebase. This paper examines the structure of homegrown initiatives, and observes very low level of awareness prevailing in the higher educational institutions and research institutes, organizations and governments. Increasing penetration of internet as well as growing proficiency in its use account for any evidence of OA movement in the region. The absence of interest and willingness of governments and policy makers to take a role in building the movement in the region makes any observed progress a fragmented one.

As we hurtle into the twenty-first century, will we be passive downloaders of content or active uploaders of meaning?[1]

INTRODUCTION

Open access (OA) is now happening everywhere in the world, including Africa.[2] Although the global pattern and level of awareness and deployment may follow the paths of digital advantage,[3] the movement has gained tremendous pace, probably due to increased global access to the internet,[4] the activities of OA promoters and the pertinence of the mission of the movement.[5] Scholars in Africa and other developing regions no longer mourn the inaccessibility to research outcomes from the developed world. This is because, on a daily basis, both older and newer in-lab and out-of-lab information materials – books, serials, gray materials and others – are uploaded onto the internet, and downloaded by other scholars and researchers. The objective of this paper is to examine the structure OA initiatives in Africa as well as incentives and disincentives to the movement. To achieve this objective, the paper briefly examines Africa's position in the global pyramid of knowledge construction and argues that Africa's untapped knowledge resources could be an opportunity to explore OA as a strategy for making African information resources part of the global knowledgebase. The paper also argues that OA visibility in Africa may be a question of serendipity — people will use any information they can find, the ubiquitous internet having made access to information very easy. Finally, the paper highlights lack of national and institutional awareness as being responsible for the low uptake of the OA movement in many of the countries in the region. To support this research, the paper relied on syntheses from DOAJ,[6] DOAR,[7] the UNESCO's[8] global assessment of OA in various parts of the world plus practitioner's experiences and available literature in the field.

AFRICA IN THE PYRAMID OF KNOWLEDGE CONSTRUCTION

Africa consists of more than 53 nations, with thousands of native languages, and a variety of ethnic and cultural diversity. A major beauty of the continent is the unprecedented abundance of human and natural resources — Africa's biodiversity remains one of the richest in the world.[9] However, Africa is confronted with poverty, political instability, corruption, diseases, armed conflicts and ethnic and tribal chauvinism, all often blamed on postcolonial woes. In the country-by-country outlook on Africa in 2009, the Organization for Economic Co-operation and Development (OECD)[10] reviewed the African economic condition and concluded that more than half of African nations are off-track of their development objectives to achieve universal primary education by 2015.

Africa is the cradle of education in the world. According to Guinness Book of Records in 1997[11] University of Al-Karaouine, at Fez in Morocco, was founded in CE 859, followed by Al-Azhar University in Egypt in CE 970. Although the early educational activities of these institutions were mainly religious, this history represents a landmark for learning. However, today, education, even at the early levels, is performing below expectation. A typical example of state of affairs of basic education in Nigeria is the information below:

With Universal Basic Education Primary Schools in northern Nigeria still located in makeshift buildings, and with some of the schools

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having only one teacher and one classroom, and pupils of all age categories massed in one class, the feasibility of 2015 deadline for education for all for all remains unreaslistic.[12]

This may be the situation in many other countries in the region. Bad foundation for basic education implies that the critical connection between science and technology and economic prosperity, food security, disease control, access to clean water, and environmental sustainability, cannot be realised.[13,14] At the level of higher education, there is a chronic lack of investment in facilities for research and teaching. Generally, Africa's situation seems to defy analysis. This is because other regions of the world that shared some similar historical; experiences with Africa are already finding ways out of their crisis while Africa remains a case of chronic underdevelopment. An example of this is that Africa, India and China are equally victims of talent hemorrhage — where their best talents live and work outside the continent. However, the latter two countries (India and China) today rank among the best emerging economies of the world. Although the African Diaspora constitute a huge source of economic succor to their home countries,[15,16] their intellectual input has not made any significant impact in African development.[17]

With the foregoing picture, it could be expected that Africa will be in the bottom of global league of science producers. In a recent analysis, Thomson Reuters showed that between 2008 and 2009, Africa produced an average of 27,000 articles in journals and other sources and that this figure is almost equal to the output of Netherlands for one year.[18] This statistics might be indicating that Africa's contribution to global scientific knowledgebase is negligible. This situation persists despite observed changes in the global research production landscape which favors emerging economies such as Brazil, Russia, India and China.[19] In this new scenario, there is a strong indication that these emerging economies are also those with evidence of growth in research.

However, Nwagwu[20] has suggested that, although science production in Africa might not be as high as would be expected, the actual volume of papers produced in the region cannot be reliably established on the basis of the content of Thomson Reuters' and other foreign databases. Unfortunately, this kind of infrastructure is not yet available. Whatever the case, the inability of the region to provide publication and innovation evidence to account for its investment in education, suggests possible failure of modern science education in the region. Africa remains a region that is lagging behind in both modern and local science and innovation. Open access, should present an opportunity for African scholars not only to learn from scholars in various parts of the world but also to share their scientific information with scholars in developed and developing countries around the world.

OPEN ACCESS, OPEN AFRICA

Open access should be viewed in Africa as a development imperative, and therefore considered as an opportunity for the countries in the region to strengthen their research capacities. Open access has the capability to open up huge opportunities by freely providing software, technical know-how, scientific knowledge and general education to countries and people that need it most, but can least afford to pay for it.[21] Open access has the capability of empowering and stimulating ordinary people to be intellectually creative. It has the promise to reduce commercial monopolies that control software standards and information production and distribution.[22] Supporting this expectation is UNESCO's 32nd General Conference[23] in 2003 which recognized that building knowledge societies and advancing knowledge-based practices is an essential component of globalization and sustainable economic growth, particularly in developing countries.

Open access provides African scholars the opportunity to express their right to share information with the people of the world in accordance with the Universal Declaration of Human Rights of 1948.[24] The opportunity offered by OA is tremendous because it is an internet driven technology and along with other information and communication technologies, is expected to reduce many traditional obstacles, especially those of time and distance for the benefit of millions of people in all corners of the world.[25] This powerful new tool will provide and enable new styles of work based on collaboration while opening up opportunities for us to share our cultures for the mutual benefit of humanity. Peter et al. put it this way:

Information, knowledge, and culture are central to human freedom and human development. How they are produced and exchanged in our society critically affects the way we see the state of the world as it might be; who decides these questions; and how we, as societies and polities, come to understand what can be done.[26]

In a general sense, Africa is open to knowledge produced elsewhere; but Africa and the rest of the world are unwittingly heedless of Africa's modern and natural scientific information resources. The most significant opportunity offered by the OA movement to Africa is the opportunity to use the ubiquitous information technology to develop and upload Africa's rich knowledge resources to the rest of the world through the World Wide Web. In spite of the huge volume of information that is downloaded by African scholars on a daily basis, the real Africa and the real African contribution to global development can only emerge when Africa is able to create, store and disseminate, and sustain its own knowledge and technology, and contribute this to world knowledge stock. Presently, what is happening is that Africans are avalanched by scientific information produced elsewhere with the expectation that such information would help them produce their own information.

This dissonance is not even recognized locally. Development strategies in the region in science and technology as well as medicine, for instance, have focused on technology acquisition and transfer from the developed to the developing world. As a result, indigenous and local initiatives are not given more than mere recognition and mention. A realistic fact may be that modern African governments, citizens and educational institutions seem to have lost confidence in the ability of their environment to meet human needs, not minding that the same knowledge practices have sustained their society till today. The extent and level of sophistication in modern science have probably intimidated African scholars from exploring their indigenous wealth of knowledge. The famed rich biodiversity of Africa remains unharnessed, and is threatened presently by the infamous climate change.

Hountoundji,[27] a philosopher of African extraction has narrated real life stories that demonstrate the limitations of modern science and technology to meet human health needs, showing that there exist opportunities for African scholars to contribute in these regards. According to Hountoundji, unexplored traditional African knowledge and techniques may have implications for the future development of the continent and the entire world. Hountoundji described ignorance about Africa's achievement in the past as a tragedy. Looking at the world today, the palliative solution to HIV/AIDS crisis, the recourse to managing high blood pressure and sickle cell anemia, and a host of other human health crises, point to the fact that deficits in the attempt of modern science to adequately meet human health needs may be partly traced to deficits in the development of science in Africa and other regions. Practically, Africa currently cannot compete favorably with the Western world in terms of science production or the quality of science output. As long as competencies of nations continue to be measured by strides in modern science, any evidence of science achievement in the region will be dwarfed by giant strides by the owners of modern science and technology.