

EDUCATING TWENTY-FIRST CENTURY INFORMATION PROFESSIONALS IN AFRICA: ISSUES AND PROPOSED COURSE OF ACTION

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ABSTRACT: *An educated workforce is among the ingredients to creating a strong economy and a society with a high quality of life. This is especially true in this global and knowledge-based economy. To enjoy sustained growth and development as well as building a knowledge economy, countries need to have favorable policies and the right ingredients, such a highly skilled workforce. However, African countries have chronic shortages of highly skilled workforces, including in the library and information professions. In addition, library and information science (LIS) schools in Africa lack some important components of 21st century LIS education such as collaborative as well as engaged teaching and learning, both within and outside the classroom. This is essential because involving libraries and information centers in LIS education is critical to the achievement of most of the Sustainable Development Goals (SDGs). This paper attempts to identify major issues with respect to contemporary LIS education in Africa and to propose a course of action to address them, based on the extant literature and lessons learned from LIS programmes across the globe.*

KEYWORDS: *library and information science, education, Africa, information professional, sustainable development goals.*

INTRODUCTION

Employment and education are among the first steps to creating a strong economy and a society with a high quality of life. The global economy is increasingly becoming a knowledge economy Powell and Snellman (2004). Hence, if countries are to enjoy sustained growth and development, they need to put in place all the necessary policies and to have the ingredients for a knowledge economy, spurring economic and social development to alleviate poverty and build opportunities and foundations for national success. One of those ingredients is an educated workforce because human intellectual capacity, more than physical or natural resources, is the key component of any knowledge economy.

However, the continent of Africa suffers from a chronic shortage of an educated workforce Shango (2019); among these is the library and information professions. In addition, Library and Information Science (LIS) education in Africa has, for the most part, been steeped in a primarily British tradition when it is supposed to emphasise a more global perspective. Many LIS programmes in the world are now engaged in activities outside the classroom, including collaboration (e.g., collaborative teaching and research) and global experiences (e.g., faculty and student exchanges and engagements, and study abroad). These activities are important components of the twenty-first century LIS education to produce library and information professionals with global understanding and strong critical thinking skills. These activities also contribute to building the human resource capacity of higher learning institutions in Africa, thereby contributing to fulfilling the continent's development goals.

LIS schools, libraries or information centers, and library and information professionals are critical to the attainment of most of the Sustainable Development Goals (SDGs). This is because at the center of the SDGs

are not only humans that are the primary users of information environments, but also partnerships among academia, the civil society, and the private sector. An information environment is defined here as an entity or system with people, information sources, and technology as the main elements and where these three elements interact in order to allow the creation, processing, organising, managing, dissemination, and use of information. As such, a high quality education system that produces citizens, employees, and end users of information with the level of education that is necessary to make the right judgments about relevant sources of information and library and information professionals capable of taking on critical roles in a continuously global information environment are vital to the successful pursuit of meeting those goals. Librarians are primarily trained to create, manage, and run information environments and their services to assist an informed citizenry who can make educated decisions in their lives and in the future of their nations. But how do we create excellence in LIS education for future librarians who will be responsible stewards of information and knowledge that will aid the future development of Africa?

The purpose of this paper is to attempt to identify major issues with respect to contemporary LIS education in Africa and to propose a course of action to address these issues, based on lessons learned from LIS programmes across the globe and the extant literature on LIS education on the continent. As such, our goal is not to present a survey or analyses of LIS schools and/or programmes in Africa. Other LIS researchers and educators have adequately done that e.g., Ocholla (2008); Ocholla and Bothma (2007); Onyancha and Minishi-Majanja (2009); Raju (2013, 2015). Therefore, using works by those who conducted in-depth analyses of LIS education and programmes in Africa as a foundation and background to our work, we, for the most part, focused on issues related to curriculum, research, teaching, service and outreach, engaging with stakeholders, including government entities, in order to recommend some immediate actions. The recommended course of action includes:

- Strategies for educating librarians and information professionals to support the development agendas of the United Nations (UN) and the African Union (AU);
- Clearly stated technology and other skills necessary for librarians to achieve those goals and become twenty-first century library and information professionals;
- Curriculum design that incorporates articulated roles of librarians in the effort to seek solutions to human problems, including the importance of preserving African culture and heritage for development.

LIS EDUCATION IN AFRICA TO SUPPORT ITS DEVELOPMENT AGENDA

A work by Raju (2015) based on a comprehensive review of the literature on LIS education in Africa, a survey of heads of LIS programmes in South Africa, and a content analysis of Websites of LIS schools in the country, with the help of Abbott's (2001) chaos of disciplines theory, concluded that the chaotic nature of the LIS field should be considered an opportunity for a paradigm shift that will aid the broadening of the field's domain rather than a challenge or crisis to be fixed. Whereas Raju's (2015) work is unique among several others that looked at the nature and history of LIS education in Africa, others e.g., Ocholla (2008); Ocholla and Bothma (2007); Onyancha and Minishi-Majanja (2009); Raju (2013) hold the view that several challenges either existed in recent years and/or still remain to be addressed. Chief among these and supported by researchers from outside Africa are; (1) lack of resources and infrastructure that is also partly due to low economic development, conflicts, debt, corruption, and over population Coulibaly (2018); (2) no clearly defined disciplinary boundaries Palmer (1996); (3) competitive environments that forced some of the LIS programmes and schools to merge and/or dissolve; and (4) lack of job opportunities for graduates of LIS programmes in Africa. We are of the view that the chaotic nature of LIS in Africa and globally is both a challenge and an opportunity and there are issues that need addressing if LIS schools, information environments such as libraries, and library and information professionals are to fulfill not only their mandates, but also to serve a bigger purpose – supporting their countries' and the continent's development agenda. Raju (2008) concurs

that the LIS field, information environments, and library and information professionals, in conjunction with other sectors of society in Africa, need to work together to address the challenges codified into the SDGs.

Another important principle that LIS curricula in Africa need to incorporate, with respect to the nature of information environments and the roles of library and information professionals, is the fact that libraries and museums: (1) are cultural heritage institutions that preserve African culture and heritage for posterity; and (2) support the development of democratic institutions, contribute to efforts that seek solutions to human problems, and effect economic development. Some of the measures that have been taken by LIS schools on the continent to fit this vision include Raju, (2015): (1) broader focus by the LIS field; (2) technology integration into the curricula; (3) addressing issues that hamper LIS programmes and schools to compete for viability in their institutions; (4) awareness of LIS schools' contributions in addressing the continent's development challenges; and (5) incorporating issues related to the digital divide into their curricula. Most of these measures clearly fit into the United Nations' Sustainable Development Goals (SDGs).

For LIS education in Africa to contribute to the SDGs, it is important to have guidelines for quality LIS education. This is the work of the International Federation of Library Associations and Institutions (IFLA) working group, the Building Strong Library and Information Science Education (BSLISE), a partnership between the IFLA sections on Education & Training (SET) and Library Theory & Research (LTR) Chu et al. (2018). In 2018, they published a white paper detailing their research on LIS education around the world. The purpose of this research was to conduct a worldwide survey to investigate the qualification requirements for library and information practice, focusing on LIS qualifications and certification requirements and what it means to be an LIS "professional." It also sought to identify organizations who oversee professional LIS requirements across different geographic regions. With over 700 responses from 100 plus countries, the BSLISE is currently working on harmonizing the standards and guidelines of professional practice from organizations across the world to develop recommended guidelines. Many African countries are represented on the BSLISE as well as participants in the survey. These guidelines will be helpful to ensure that standards of LIS education are met, to prepare information professionals to meet the needs of their communities and countries.

The role of libraries in addressing the Sustainable Development Goals (SDGs) are of increasing relevance and importance to the LIS community as it seeks to address the major challenges facing the world today. For example, the theme of the Annual Meeting of the Association for Information Science & Technology (ASIS&T) in 2020 is "Information for a Sustainable World: Addressing Society's Grand Challenges" (<https://www.asist.org/am20/>). The previous year at the ASIS&T 2019 Annual Meeting, there was a "President-Elect's International Incubator Session 1: Transformational Actions Using Information to Advance the United Nations' Sustainable Development Goals" (<https://www.asist.org/am19/international-incubator-sessions/>). The purpose of this workshop was to "develop and create transformational actions using information to advance the United Nations' Sustainable Development Goals (SDGs). These and other activities in the information community are preparing LIS professionals to address these important development goals.

In particular, with respect to African LIS programmes and courses that can be designed and introduced (if not available already) to address some of the Sustainable Development Goals (SDGs) (see Figure 1 below) are: (1) Development informatics/librarianship (programme and/or course: SDG #1, 2, 4, 7, 8, 9, 10, 11, 13); (2) Social informatics (course: SDG #1, 2, 5, 6, 8, 10, 11, 12, 16); (3) Health informatics /librarianship (SDG #3, 6, 13, 14, 15, 16). Obviously, these are, by no means, a complete list of potential courses and/or programmes. They are offered as examples of how LIS schools in Africa, through their programmes, curricula, and courses can begin to address some, if not all, of the SDGs. Raju (2008) also offers the following list of areas of the SDGs that LIS and the LIS professions can address: (1) quality education - literacy - SDG #4; (2) poverty reduction - SDG #1; (3) social & economic problems - SDG #1, 2, 3, 5, 7, 8, 10, 16; and (4) managing ICTs to bring about the knowledge society - SDG #8,9. If enough of the above-mentioned programmes/courses are offered, there is no reason why LIS students, and future librarians, cannot have a good grasp of what challenges lie ahead and ways to support their institutions, communities, governments at all levels, and the end users of information

environments to support the individual countries' and the continent's development agenda, hence meet the SDGs.



Figure 1: Sustainable Development Goals (SDGs)

(Source: https://upload.wikimedia.org/wikipedia/commons/d/df/Sustainable_Development_Goals.png)

SUSTAINABLE DEVELOPMENT GOALS: THE ROLE OF INFORMATION ENVIRONMENTS AND PROFESSIONALS

Although there have been varying degrees of relationships between LIS schools and the library and information professions and, at times, those relationships are not clear Cornelius (2004), it is advantageous to all the stakeholders when LIS researchers, educators, and practitioners work in tandem. Strong relationships and alliances are necessary to enhance individual schools' or programmes' or groups' strengths and minimise any apparent weaknesses. Only when existing and future relationships and alliances are calibrated that LIS, as a field, and library and information professions can meet their primary goals that are, potentially, aligned with the Sustainable Development Goals (SDGs).

In light of the relatively lower rates of literacy, both general and information literacy, combined with low enrolments in both K-12 and higher learning institutions in Africa, well-trained LIS professionals are necessary for the learners and educators to be effective users of information resources as well as for the countries on the continent to achieve their education, social, and development goals. LIS education and library and information services play crucial roles in addressing the Millennium Development Goals (MDGs) that were set after the United Nations' Millennium Summit in 2000 see Albright and Kawooya (2007); Forsyth (2005); Godlee, Pakenham-Walsh, Ncayiyana, Cohen, and Packer (2004) for more on how LIS education and services can address the MDGs). They also have a role in bridging the digital divide Aqili and Moghaddam (2008), paving the way for a country's progression towards a knowledge economy and poverty alleviation.

A fundamental shift in the types and nature of services by information environments as well as the practice of library and information professionals are required if the above is to be realised. Sturges (1999) has identified

one of those shifts as moving away from the model where information resources are collected 'just in case' they become accessed and, eventually, used to a model where they are made available 'just in time' based on a user's need for information. As Sturges (1999) rightly argues, the new information environment and library and information professional need to engage in several activities beyond collecting and providing access to information resources, whether this is done 'just in case' or 'just in time'.

INFORMATION AND COMMUNICATION TECHNOLOGIES, LIS EDUCATION, AND THE INFORMATION PROFESSIONS

Because we are in the middle of the digital or knowledge age, the success of any endeavour is bound to be tied to the extent to which it takes advantage of the dynamic changes and developments in information and communication technologies (ICTs). Albright (2005) notes that ICTs are causative of economic, social, political, and cultural change. Economic growth is identified as an increase in gross domestic product per capita. Social change is defined as increases in education, life expectancy, and urbanisation. Cultural change reflects the number of women in parliament, and political change is measured through civil liberties, political freedom, and freedom of the press. All measures were indirectly and causally related to an increased ICT infrastructure in a country. Thus, ICTs provide the necessary means by which information is made accessible and information resources are more readily available.

As a field and profession, LIS and the library and information professions are the beneficiaries of developments in ICTs and other related innovations. In fact, it could be argued that while the user remains the focal point, save a few exceptions, technology is the main driver of every new development, product, and service in today's information environment. Even what end users exhibit with respect to their information seeking, search, and use behaviours is, in part, determined by the specific type of technology available to them. This is not to say that ICTs are the be-all and end-all when it comes to information environments and the information behaviour of their users. Some of the innovations that had significant impacts throughout human history include the ink, papyrus, mechanical movable type, and the telephone.

As more and more countries in Africa and elsewhere in the developing world as well as their citizens, organisations, and businesses continue their adoption and wider utilisation of ICTs, they will eventually pave the way for the transition to an "information society" and a "knowledge economy". The last few decades saw the rapid transition of the global economy from the industrial age - what Toffler (1980) calls the "Second Wave" - to a knowledge economy (or the post-industrial age or "Third Wave"). Because of this transition, countries, their citizens, and institutions that had the means to acquire and adopt relevant and appropriate ICTs to create, manage, package, market, deliver, sell, and provide access to information and knowledge are able to thrive and prosper.

On the other hand, those who lacked the economic and financial strength to do the same remained underdeveloped, although the fast rate at which developing countries are adopting ICTs Miniwatts Marketing Group (2019) could spur their transition. Not only did this create the often-discussed digital divide and information or content divide, it also made the economic divide even wider. Although library and information professionals have less direct influence on addressing the digital divide, they have a major role to play in addressing the content or information divide as curators, stewards, and facilitators of access to information resources and services. Information environments such as libraries as well as library and information professionals, especially those in Africa, must recognise that information and information resources are sometimes exclusionary (for instance, information resources that reside in databases and not accessible through everyday devices). That is, information resources may not be public goods because of barriers such as geography, economic level, and culture. Fortunately, through open access initiatives Davis and Walters (2011), activism by professional associations (e.g., IFLA), and other collective actions, library and information professionals, in collaboration with library vendors, booksellers, and publishers are doing their fair share to address information access related issues.

If library and information professionals in African and beyond are to play these key roles effectively, they need to both be prepared, through systematically designed LIS programmes and curricula that emphasise not just information and communication technologies within the confines of the information environment but also in individuals' homes, workplaces, and other settings as well as organisations in all sectors of the society, economy, and culture. In addition, library and information professionals should embrace life-long learning in order to keep up with new developments with respect to innovations and ICTs that are being adopted and used by the various communities of users of their information environments. LIS schools also need to assess the gaps that exist within the library and information professional communities in terms of skills, knowledge, attitudes, and values in order to provide a feedback loop into their curriculum design/revision efforts and incorporate any missing elements into their teaching and scholarship.

Collaborative efforts by all stakeholders, including LIS schools and library and information professionals, could go a long way to leveraging ICTs for teaching, scholarship, and practice in order to serve the information and other types of needs (e.g., social, economic, etc.) of communities across the continent. For instance, the makerspace movement is becoming a standard feature of the LIS curricula as well as library and information services. While all makerspaces do not rely on ICTs entirely, the projects and activities that could be accomplished through makerspaces could intersect various issues related to a community or society. This makes makerspaces a good example of a facility and a way of thinking or mindset that leverage what is already available and practiced by the community to meet community needs, thereby addressing several of the Sustainable Development Goals. Although skills-based opportunities, also known as makerspaces in advanced economies, often exist in educational settings, at both primary, secondary, and post-secondary education levels, their impact could even be greater when deployed in and integrated into a community's social, economic, cultural, political, governance, and environmental structures. Although they may not have the label "makerspace", communities in rural villages and small towns across Africa have community centers and hubs that function as "makerspaces" that are also centers of social, economic, and cultural activities.

CONCLUDING REMARKS AND RECOMMENDATIONS

With the help of foundational works on LIS education in Africa, we set out to present the major issues related to LIS education in Africa, offer some recommendations for a course of action to address the issues, and do so within the context of the Sustainable Development Goals (SDGs) and Africa's development agenda. Our intent was not to paint a rosy picture, although there are many positive examples of African LIS programmes as well as initiatives by the library and information communities and professional associations within and outside the continent. It was to show that what has already been done could serve as a solid foundation to build LIS programmes, create information environments, and produce library and information professionals with 21st century skills and knowledge that will support the continent and African countries to meet the SDGs and their developmental targets. We acknowledge that, like all developing countries, African countries have several challenges, including: (1) lack of adequate staffing at LIS schools, especially those with advanced degrees; (2) brain drain - even those schools with enough faculty with advanced degrees; (3) lack of adequate ICT infrastructure and not being able to keep up with obsolescence; (4) lack of options for students in terms of LIS programs, specializations, and courses that are appropriate and of high quality; and (5) lack of adequate facilities and support from parent institutions and governments.

Some of the ways that these challenges could be addressed, at least with respect to LIS education and the information professions, are: (1) forming alliances and consortia among LIS schools within and outside a country, between LIS schools and information environments, and between LIS schools and professional associations; (2) continuous programme assessment and improvement to meet demands as well as instituting program accreditation processes and standards taking a national or regional approach to ensure quality assurance in LIS programs.; (3) using their alumni base to lobby relevant institutions, businesses, and authorities; (4) engaging other relevant stakeholders, including students, to make them aware of the issues

facing the LIS field and professions and seek for help in finding solutions through various media, including Social Media.

Recent reports and discussions by IFLA's Building Strong Library and Information Science Education (BSLISE) Working Group IFLA BSLISE Working Group (2018) could also offer the roadmap for redesigning programmes that meet the needs of African LIS schools, their stakeholders such as students, and the library and information professionals who are at the forefront of the provision of library and information services to a diverse community of end users. One of the Working Group's next steps is developing "an international framework for the assessment of quality standards in LIS education" IFLA BSLISE Working Group (2018. 2) which could prove useful to LIS programs and the information profession in the continent.

To build and sustain strong LIS programmes, an alternative approach could be the creation of accrediting bodies, either at the national, regional, or continental levels. Experiences by the LIS schools and accredited programmes in North America (where programmes are accredited by the American Library Association, ALA) and the United Kingdom (where CILIP is the accrediting body) could also offer another model to ensure the consistency and quality of LIS education and programmes in Africa that meet common standards created to address the needs of all stakeholders.

Other initiatives currently underway by Chu, Mehra, Albright, and Du (2019), may offer specific information action items that can be considered to address each Sustainable Development Goal. For each goal, Chu et al. (2019) are building teams across the world to develop "action briefs" to discuss the importance of each SDG to the library and information community, how it relates to the profession, and 10 specific ways in which that community can act to address the SDGs from an information activity(ies) perspective. These action briefs are currently under development and will be made available at a later date.

In addition to this paper, the session at the SCECSAL conference will outline issues in LIS education that are important to supporting the Sustainable Development Goals, and these include audience participation to review the list of issues, and identifying those that are the most critical to prepare future LIS professionals in Africa that are capable of managing information environments and services that address the SDGs.

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