Hierarchical development of Library and Information Science Education in Ethiopia

V. Rama Devi
Asst. Professor, Department of Information Science, Faculty of Informatics, University of Gondar, Ethiopia

Demeke Alene
Head, Department of Information Science, Faculty of Informatics, University of Gondar, Ethiopia

Abstract: This paper attempts to provide a brief description of the history of Ethiopia, its language, script and libraries during the past 2000 years. Only church and monastery libraries and some personal royal collections were identified during this period. Among personal royal collections, Emperor Tewodros Magdala Library is the most important and famous library. Now-a-days Ethiopia has the fastest growing economy in Africa with gross domestic product (GDP) growth rates averaging 10 percent over the past decade. Between 2004 and 2017, GDP per capita grew more than fivefold. Ethiopian education system expanded rapidly in the decades after the overthrow of the Derg in 1991. The higher education sector, has come a long way since its humble beginning. The history of Library and Information Science (LIS) education in Ethiopia, has been traced since its inception in 1959. LIS professionals and educators in developing countries have a keen awareness of the problems besetting the profession. In this paper an attempt has been made to know about hierarchical development of Library and information education since 1959. In this modern information era, there is need and awareness to know about information and information centers especially in the process of research, initiation from all sides including government of Federal Republic of Ethiopia. Case studies of different universities, departments of Library and Information Science have taken and discussed about their development since their inception. Application of new technologies in relation to these departments, their organization and administration, staff pattern, course and curriculum structure, implementation steps have suggested.

Keywords: Academic libraries, Ethiopia, Current and future trends in LIS, Developing countries, Ethiopian universities, Higher learning institutions, Current and future trends in LIS

I. INTRODUCTION

Now-a-days Ethiopia has the fastest growing economy in Africa with gross domestic product (GDP) growth rates averaging 10 percent over the past decade. Between 2004 and 2017, GDP per capita grew more than fivefold, from USD$136 to USD$768 (World Bank, 2016). Ethiopian education system (Education in Ethiopia – WENR) expanded rapidly in the decades after the overthrow of the Derg in 1991.) The net enrollment rate (NER) in elementary education, for instance, jumped from only 29 percent in 1989 to 86 percent in 2015, according to the UIS. The higher education sector, has come a long way since its humble beginning. The overall number of tertiary students in both public and private institutions exploded by more than 2,000 percent, from 34,000 in 1991 to 757,000 in 2014, per UIS data. The history of Library and Information Science (LIS) education in Ethiopia, has been traced since its inception in 1959, reviewing both the retrospective (historical background) and prospective (rebirth and future direction) (Metikou, 1991). LIS professionals and educators in developing countries have a keen awareness of the problems besetting the profession (Catherine, 2007) The International Information & Library Review (2007) 39, 64–71. Because of the increased importance of information in a globalized society, people who have been trained to manage and provide access to information should be in demand to help create the Knowledge economy to which so many developing countries aspire. Nevertheless, LIS programs continue to suffer from lack of financial support by governments and, consequently, a lack of interest in them by ambitious, motivated students who can help to change the image and direction of the profession. But with LIS educators and practitioners in developing countries taking a leading role in identifying the problems and deciding which activities at home and what support from abroad would help resolve them there is a good chance that the profession will gain the relevance and respect it has continually sought. This study has undertaken library and information science education in some of the Universities in Ethiopia (Lawrence and Bayissa 2009**).**

II. PROPOSED METHODOLOGY

A. *Jimma University*

Department of Information studies

The Jimma University Department of Information studies,' curriculum and its development was specifically highlighted with reference to the core; supportive, common and education courses of the program. Plans for the future development of the program in Jimma University were also mentioned. The Jimma University Department of information studies' curriculum and its development was specifically highlighted with reference to the core; supportive, common and education courses of the program. Plans for the future development of the program in Jimma University were also mentioned.

B. *University of Adama Science and Technology*

University of Adama Science and Technology University has held fruitful discussion with community leaders, religious leaders and concerned sector leaders in Adama City. The meeting was meant to get consensus with every stakeholder group so that they can play their own in creating peaceful teaching-learning environment. Established in 1993, Adama Science and Technology University is a non-profit public higher education institution located in the urban setting of the medium-sized city of Adama (population range of 500,000-1,000,000 inhabitants), Oromia. This institution has also branch campuses in the following location(s): Asella. Officially accredited and/or recognized by the Ministry of Education, Ethiopia, Adama Science and Technology University (ASTU) is a large (uniRank enrollment range: 20,000-24,999 students) coeducational higher education institution. Adama Science and Technology University (ASTU) offers courses and programs leading to officially recognized higher education degrees such as bachelor degrees, master degrees, doctorate degrees in several areas of study. See the uniRank degree levels and areas of study matrix below for further details. This higher education institution does not have a selective admission policy. UniRank is used as Universities Search Engine. With the help of UniRank university can search courses, Scholars, loans, searching 13,600 universities worldwide. bybit user-friendly interface. 2019 University Rankings, Online courses, Universities on Social Media, Other Lists - Higher Education-related Organizations, Higher Education-related Organizations, Religiously Affiliated Universities, A-Z List of Universities.

C. *Haramaya University*

Department of Information Science

HU has three basic missions: training, research and extension (outreach services). The university's academic activities/programs are conducted in various programs which strive to serve the needs of the country in general and those of the surrounding communities in particular. HU developed a baccalaureate degree curriculum program entitled Information Science in 2007. The Department of Information Science started in 2007 with a nomenclature of Department of Information Studies but now, after reviewed at a national level, it is changed to Department of Information Science. The Department falls under the Faculty of Computing and Informatics. Department of Information Science's first task is to create and facilitate the curricula for the degree programs, building on the models available in other Universities in the world with the like-named degrees, and holding on to the goals set by curriculum review initiative in Ethiopia.

D. *Addis Ababa University (AAU) (Addis Ababa University, 2019)*

Addis Ababa University (AAU), which was established in 1950 as the University College of Addis Ababa (UCAA), is the oldest and the largest higher learning and research institution in Ethiopia. Since its inception, the University has been the leading center in teaching-learning, research and community services. Beginning with enrollment capacity of 33 students in 1950, AAU now has 47,610 students (29,872 undergraduate, 15,398 Master's and 2,340 PhD students) and **8,709** staff (3,110 academics, 4,346 admin support staff and 1253 health Professionals). In its 14 campuses, the University runs 70 undergraduate and 293 graduate programs (72 PhD and 221 Masters), and various specializations in Health Sciences. Over 222,000 students have graduated from AAU since its establishment. In recent years, the University has been undertaking various reform schemes in order to cope with and respond to the fast-changing national and international educational dynamics. At present the University has 10 colleges, 4 institutes that run both teaching and research, and 6 research institutes that predominantly conduct research. Within these academic units, there are 55 departments, 12 centers, 12 schools, and 2 teaching hospitals. The University has the following academic units: 10 Colleges, 12 Research and Training Institutions and 12 Schools.

Systems Portal

- ICT Support
- Research Management
- Report issues

    - Students Satisfaction Survey
- Information Systems
  -College/Institution: CNS
  -Department/School/Center:
  - School of Information Science
  - Program title: B.Sc. in Information Systems
  - Program duration (in years): Four for regular and five for extension
  - Study Language: English
  -Credits and the equivalent ECTS: ECTS – 240 (146 Credits)
  - Mode of delivery: Regular and Extension

III. RESULT

Graduate Profile

Libraries or information centers are essential organs for education, information, enlightenment, recreation, research and integral part of Government organizations, Non-Governmental organizations, Government agencies, Institutions of learning (i.e. Universities, Colleges, School libraries etc.). They are known for generating, collecting, organizing, storage and disseminating of up-to-date, accurate, unbiased and relevant information in print or non-print formats in order to motivate and satisfy the needs of their users.

The major skills and competencies of the graduate include:

· To analyze, design, develop, implement and manage ICT based information systems, services and solutions (organization and retrieval of information resources);
· To generate and produce tangible and usable information services and products;
· To manage information resource centers and agencies system development projects;
· To provide information system/technology consultancy services;
· To create and develop practical projects related to information resources and services;

Program Profile

- The curriculum of Information Science program is organized in the context of library and information science; human-interaction; information generation, information organization, information access and information dissemination. The program offers basic general
- Knowledge of the field of Information Science with opportunities to specialize in particular areas of the field in preparation for a variety of career opportunities/outcomes.

The following are some examples of career for the Graduates:
1. Chief Information Officer
2. Information Expert
3. Information Broker
4. Information Retrieval Specialist
5. Information Subject Specialist
6. Archivist
7. Knowledge Manager/Organizer etc.

The curriculum provides not only a list of courses or modules offered in a program, but it also gives information on content, purpose, method, time/duration, trainers and location or situation of a program or course – all of which are essential in a successful dispensation of manpower training and education. From Academic year 2012/2013, Information Science has also started MSc Program for both regular and summer students. The proposed scheme is tested using ordinarily image processing. From the simulation of the experiment results, we can draw to the conclusion that this method is robust to many kinds of watermark images.
Program Objective – graduates, in general, will specifically have the chance to have knowledge and Understanding in the following major areas:

- Theoretical background on the functionalities of computer and application of computer to businesses;
- Theories, principles, processes and techniques of organization, storage, retrieval, dissemination and utilization of all forms of information;
- Understanding of computers and communication systems, including basic software engineering, network design, database development, implementation and management; Knowledge of organizational behaviors and different organizational principles;
- Various types of academic and business information resources, systems and services;
- Knowledge of basic principles of ICT-based business information processing techniques;
- Theories, practices and principles of information systems analysis, design, development and management in the business environment;
- Principles and different approaches of computer programming and algorithm development to solve real world problems;
- Theories, practices and principles of business process engineering in a creative manner to solve information related problem of businesses and organizations.

John F.Kennedy Memorial Library

- The main university library is the John F.Kennedy Memorial Library, which was opened in August 1969. It is located on the Main Campus (at Sidist Kilo) of Addis Ababa University.
- For Course clustering see the link in references.

In spite of the wide variety of research endeavor and production of information and knowledge in the country, the Ethiopian research and academic community predominantly has been at the receiving end of research-based information for quite some time. This was due to lack of proper infrastructure and means of communicating such research results generated locally. Consequently, Open Access is a relatively recent movement in Ethiopia. However, the proliferation of professional journals and ICT infrastructure in the country has given a kick start to the research and academic communities' ability to access information and knowledge freely or at a lower cost. The support to such local movement by many global efforts such as INASP through the Programme for the Enhancement of Research Information (PERII) further increased the local capacities. As of June 2015, there is one Open Access repository registered in OpenDOAR: AAU-ETD (Addis Ababa University Libraries Electronic Thesis and Dissertations Database) and there are five Open Access journals published in the country which are indexed in DOAJ: Bulletin of the Chemical Society of Ethiopia, Momona Ethiopian Journal of Science, Mizan Law Review, Science, Technology and Arts Research Journal, Ethiopian Journal of Education and Sciences.
Researchers from Ethiopia publish articles in international Open Access journals, for example 189 articles have been published with BioMed Central – an STM (Science, Technology and Medicine) publisher which has pioneered the Open Access publishing model – and among them are highly accessed (most viewed) articles published by researchers from Adama Hospital, Addis Ababa University, Addis Continental Institute of Public Health, Amhara Regional Health Bureau, Arba Minch Hospital, Armaur Hansen Research Institute, Bahir Dar Universit, The Carter Center, Ethiopian Health and Nutrition Research Institute, Debub University, Ethiopian Public Health Association, Federal Ministry of Health, Fayya Development Association, Jimma University, FAO, Haramaya University, Hawassa University, ICAP International Ethiopia, Malaria Consortium Ethiopia, Malaria Control and Evaluation Partnership in Africa, Malaria Control Program, Mekelle University, Ministry of Defense, Oromia Regional Health Bureau, Southern Nations, Nationalities and Peoples' Regional Health Bureau (Awassa), Tigray Regional Health Bureau, University of Gondar, WHO and Wollega University. 157 articles have been published in Public Library of Science (PLoS) international Open Access journals: PLoS ONE, PLoS Medicine and PLoS Neglected Tropical Diseases (Unesco).

Enabling Environment:
The Ethiopian Government has embarked upon an ambitious effort to expand higher learning institutions throughout the country. Following the recently established, about 31, academic and research institutions, the number of research-based postgraduate programs has also increased. This in turn means an increase in local research output and knowledge production as well as demand for a low cost or free access information and knowledge. In an effort to develop institutional repositories and enable wide access to their research collections, quite a number of institutions are already embarked on digitization of their unique paper copy of research outputs. In addition, the ICT

infrastructure and expertise of these institutions have been improving to support the envisaged increased access to local and indigenous research results.
Potential Barriers:

Major Projects/Initiatives:
30 April, 2015: EIFL announced a new eight-month project that will support Ethiopian universities in developing open access policies and launching open research data services. The "Sharing best practices of Addis Ababa University (AAU) on open access to other institutions in the country, sustaining current OA projects and a workshop on open research data" project aims to increase the visibility and the impact of Ethiopian research outputs. The project is to be implemented by AAU Libraries and will include the adoption of an AAU OA policy and the promotion of AAU OA publishing platform "Ethiopian Journals online (EJOL)", with the main goal that more journals will join EJOL in the coming years.
June 2013- August 2014: "Open Access in Ethiopia" project was supported by EIFL and run by AAUL in partnership with CEARL. Key achievements:
Open access publishing platform EJOL has been set up and launched to publish open access journals using OJS.
An OA policy draft has been developed that includes open access publishing provisions.
Over 150 journal editors and publishers, researchers and students, research administrators and policy makers attended the project events on open access publishing.
A workshop on open research data for AAU and selected members of the Consortium of Ethiopian Academic and Research Libraries (CEARL) will also be conducted to train researchers, research administrators and librarians on the importance of making research data openly available, discussing open research data policies in universities and best practices in data sharing. As a pioneer institution in opening access to various information resources and knowledge in the nation, the Addis Ababa University Libraries has been advocating institutional repository and Open Access throughout the country since 2004. As part of this effort, the library has made available over 2,500 thesis and dissertations submitted to the university for everyone on the web. The Library also created a collection of out of copyright electronic books in the area of engineering and technology which will soon be available for public use.

IV.CONCLUSION

In conclusion we can say that Production of qualified librarians or information specialists with adequate theoretical knowledge and practical skills in applications of modern Information and
Communication Technologies (ICTs) is found to be a strategic asset that will bring about significant development and changes in any nation's economy, politics, education, agriculture and other national sectors of the economy. All the above said thoughts influenced the direction of curriculum and the development of library and information science education in Ethiopia. Establishment of many universities and departments of Library and Information Science education, well organization and administration, management of their different activities with the application of new technologies giving the way towards development of the nation in this information age. Awareness of students about the LIS education, through which career development and good opportunity of employment will lead to higher education level and economic development of the nation.

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