



L/ECA/DISD/AVLIN/8

8 May 2003

**UNITED NATIONS  
ECONOMIC AND SOCIAL COUNCIL**

**Original: English**

**ECONOMIC COMMISSION FOR AFRICA**

**Workshop on Technical Aspects of Building Digital Libraries and  
Electronic Information Networks**

**Addis Ababa, Ethiopia  
10 – 11 May 2003**

**Sustainability of Digital Libraries:  
Developing and Maintaining Digital Library  
Documents and Collections<sup>1</sup>**



<sup>1</sup>Prepared on behalf of the United Nations Economic Commission for Africa (UNECA) by Prof. Anaba Alemna for the *Workshop on Technical Aspects of Building Digital Libraries and Electronic Information Networks*, 10 – 11 May, 2003, Addis Ababa, Ethiopia. Prof. Alemna is the University Librarian of the University of Ghana, Legon.

## **INTRODUCTION**

Although a digital library is a computer-based system for acquiring, storing, organizing, searching and distributing digital materials for end user access, it may not necessarily be network-based. However, it can be designed to be capable of being attached to a network.

The growth of digital libraries involves:

- (a) Digitisation of existing library materials;
- (b) Connectivity to the users online and offline;
- (c) Integration with networking; and
- (d) Availability of materials on the worldwide web.

The successful building of digital library collections will therefore necessarily be composed of several different elements such as policy; collection development; technical processing, systems; access; human expertise; and funding.

## **POLICY ON DIGITIZATION**

Right from the initial stages, policy guidelines should be drawn up on the digitisation project. This should include content of the collection; oversight on the part of the library; technical and legal issues; as well as opportunities for funding.

## **COLLECTION DEVELOPMENT**

There must be a new attitude towards collection development in digitised libraries. One of the major decisions in digitisation is whether to include a given item or set of items in the digital collection. Another source of worry is whether to retain the traditional library set up despite developing a digital version. For the sake of uninterrupted functioning (especially in Africa), it may be necessary to have both systems, with one acting as a back-up. But this may be expensive in the long run, in terms of space and preservation management.

## **TECHNICAL PROCESSING**

This refers to the process of creating or converting the information into digital form. The problems here are with regards to staff expertise, time and commitment. Although expert advice is often recommended, the adaptability of systems to the local situation should also be considered. The development of in-house expertise should be given a high priority. There must also be an understanding of the costs and benefits associated with various digital formats.

## **SYSTEMS**

This refers to the provision of storage space and server capacity for the digitised product. The library should be able to provide a platform on which to host the digital library. A web-based server currently appears to be the most viable platform for the output of a digital library initiative in Africa. It may be pertinent to note here that the change from traditional to computer-based systems may be taken in stages.

## **ACCESS**

Another area of concern is the provision of tools and methods for providing access to the digital information. Various questions have to be answered here:

- (a) Should there be records in the online catalogue for some or all of the digital collection?
- (b) Should there be indexing or full text searching or both?
- (c) How can we integrate this activity into the existing technical services workflow?

All these questions must be sorted out in the initial proposal document for digitisation.

## **HUMAN EXPERTISE**

With the introduction of digital libraries, the library profession is changing. Librarians and their staff must prepare themselves for this transformation. This will include training and re-training of staff, both in the technical aspects of how to create digital products and the procedural aspects of how to process them through the library system. The training must also include an undertaking of technical and legal issues relating to digital libraries.

## **FUNDING**

In terms of resources, a robust digital library initiative would require a significant investment of money. Funding is needed for immediate purchase of a high-quality digitisation workstation (computers, scanners, etc.). The library unit chosen to house the workstation will also need at least one highly trained staff member. There is also the need for additional funds for server upgrades and disk storage space to accommodate growth in the digital collections. Sufficient funds must also be provided for the maintenance of the system.

## **SUSTAINING DIGITIZATION**

Various issues have to be addressed quickly if digital libraries are to be sustained in Africa. Some of these issues are:

## **1. Training of Library and Information Professionals**

We should not ignore the role of librarians and their supporting staff in this area. The question is whether they are being provided with adequate training and the smooth transition from traditional to digital. In this regard, a cause for concern is the dominance of purely I.T. specialists without any librarianship background in our libraries. In addition to the librarian responsible for the digitisation unit, other staff will require training on the tools and methods for creating digital products. Although one can look up to the Library Schools for this training, as a short-term measure, in-house training is necessary.

## **2. Procedures for Change**

While planning for the change from traditional to computer-based systems, it is necessary to take it in stage. Some of the points to be considered are:

- (a) Anticipated traffic to flow on the network;
- (b) Origin and destination of that traffic;
- (c) Set procedures if part of or the whole network fails.

Apart from organizing materials in a format suitable for computers, it is necessary to develop safe methods to provide uninterrupted services.

## **3. Staffing**

Much of the staff for digitisation projects will come from the library. However, for purposes of sustainability, there is the need to have a senior professional in-charge of the project. A position could be created in the library such as "Digital Collections Coordinator" who is solely responsible for the digital projects.

## **4. Psychological factor**

This must also be taken care of, in order to ensure sustainability of the project. In the initial stages, librarians have to overcome psychological aversion from both users and support staff. It is easier to overcome the difficulties of the former than the latter. Appropriate instructions and roles should be assigned to each group in order to build confidence among them.

## **5. Resource-sharing**

It should be possible to promote the sharing of information and coordination of efforts relating to digital initiatives across libraries. This will develop collaborative relationships with other libraries in areas such as materials, training, equipment and sharing ideas. This would go a long way in advancing digitisation projects (e.g., the DATAD Project of AAU).

## 6. Infrastructure

The application of digital and information technologies is limited in Africa due to various infrastructural problems such as power supply, satellite time and internet access, cost of connection, bandwidth limitations, and high telephone bills. These issues need to be seriously considered in the quest to develop, maintain and sustain digital libraries.

## 7. Funding

Initial maintenance of digital libraries is more difficult, compared to traditional libraries. Digital libraries require significant investments of money, time and effort. Unfortunately, libraries in Africa depend mainly on government funding which is less available these days. Under the circumstance, ways have to be explored to earn income so as to reduce dependence totally on the government. Some suggested alternatives are:

- (a) Appealing to the private sector – especially those that manufacture I.T. equipment, for some support.
- (b) Introducing user charges.
- (c) Support from local and international financial institutions.

## CONCLUSION

- The electronic revolution sweeping the globe requires that African countries change their altitudes in information provision. This is to ensure that we close the gap that is gradually widening between developed countries and us. The digital library must therefore be one of our serious priorities.