DIGITAL COLLECTIONS: INTRODUCTION AND DEVELOPMENT OF A MODEL FOR THE COLLECTION AND DISSEMINATION OF SCIENTIFIC AND TECHNOLOGIC INFORMATION IN VETERINARY MEDICINE AND OTHER FIELDS

Horácio F. Zimba
Veterinary Medicine Librarian, Faculty of Veterinary Medicine, University of Eduardo Mondlane, CP, Maputo, Mozambique
E-mail: zimba@unb.br
Mohamed Harun
Faculdade de Veterinária, University of Eduardo Mondlane, CP, Maputo, Mozambique
E-mail: kabil.harun@tvcabo.co.mz

ABSTRACT: This paper will describe the Digital Collections project of the Faculty of Veterinary Medicine of the University of Eduardo Mondlane, Mozambique. The main aim of the project is the introduction of a standardized methodology for the collection of scientific and technological information in veterinary medicine and other fields, in support of the democratization of the access to information and the joint endeavours of the academic community and the production sectors, by creating a national network for information exchange. The implementation of this project will increase accessibility to public information produced by institutions, researchers and others on veterinary medicine in Mozambique. The system to be introduced will function as a web site. This means that anyone will be able to access the information no matter where he/she is located in the world, as it will only be necessary to have a computer with access to the Internet. For documents without copyright restrictions the full text will be available, and for other cases, references showing the location of the source will be available.
The end results of this project will be :

- *a gateway to scientific information*
- *a decentralized web system (site) with different access levels to ensure the safety of the information*
- *a virtual library and/ or digital collection with the full text of theses, monographs, articles, reports and other documents*
- *a reference list of databases of national and international academic and research institutions, researchers, and entities dealing with veterinary medicine*
- *a model to generate and disseminate digital contents which can be used in other similar institutions*
- *a collected database that will help in determining veterinary scientific production and*
- *a means to determine the information needs of the user community by applying web metering methods that will be part of the web information system.*

Introduction

Information can be seen as a commodity for entertainment and amusement and for news dissemination. It is also useful in teaching and education, whether formal or informal, and in the learning process. Information as a commodity can also be linked to the generation of knowledge. The distinction between these various forms of information is often not clear – its entertainment aspect is sometimes interlinked with learning, news and knowledge, and can even be to the detriment of the human personality. Therefore the need exists of creating models of the generation of specialized contents for each consumer type.

The present project seeks to set up a model capable of generating and spreading information concerned with veterinary medicine in Mozambique. The conception of this model is based on the idea that at the present time information is at the epicenter of the dynamics of the world economy, and plays a key role as commodity. The product is the "merchandise information" and can appear in different forms such as: newspapers, books, web pages, audio or audiovisual.

Diagnosis

Our diagnosis will refer to the relevant aspects related to the scientific and technological development at the institutional and/or at national level. The diagnosis will focus on the organizational and technological capacity of the Veterinary Library in general and in its role within Eduardo Mondlane University (UEM) Libraries System.

Organization and technological capacity

If we look at the actual situation of most, if not all, Documentation and Information Centers which are part of the Eduardo Mondlane University Libraries System, we will realize that all Centers are configured as book stores, without any administrative policy or institutional development strategy.
The concept of a library, documentation or information center is here understood as an entity whose main objective is to collect, process and make available the information for the targeted public, according to the information cycle shown below (see fig. 1). There is a correlation between the information to be collected and the targeted public (client), which means that the Library should collect and make available the information that the targeted public wants or seeks.

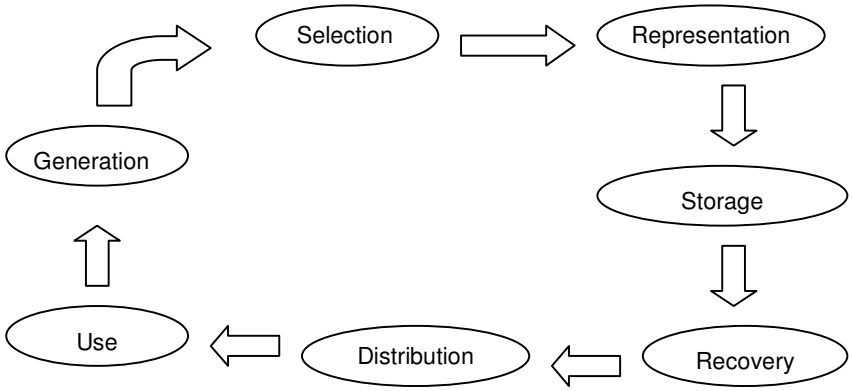

Fig. 1: Information Cycle

Special libraries, such as the Veterinary Faculty Library, should gather and make available the information produced in the country by national researchers dealing with local research issues, such as restocking, cattle diseases, control of foot and mouth disease, etc. Presently any attempt to locate this local type of information can become a nightmare, because a mechanism or systematized way to access this type of information (literature) does not exist.

For the same reason, there are difficulties in accessing scientific information produced during other times, such as, scientific information produced and published in journals or newspapers during the colonial period. Most of this information is stored at the Library of the Veterinary Research Institute (INIVE), also without any system to retrieve or consult the references. In general we can say that veterinary documentation, such as monographs, dissertations (prepared by students or lecturers), is kept at Libraries (Veterinary Faculty or Veterinary Research Institute) without any type of mechanism that facilitates its subsequent search, retrieval or access. This situation is also true for international journals or publications.

The above-mentioned problems, added to the scarcity of qualified personnel and lack of necessary technological resources for the full and correct functionality of the veterinary libraries in

Mozambique, have contributed to the increase of "info-exclusion" of the students, professionals and researchers. In summary we can say that most of the steps indicated in the information cycle (illustration 1) were not followed in veterinary libraries in Mozambique. This project was designed to fill the gaps and improve the services provided by the Library of the Veterinary Faculty.

Diagram of cause and effect

The diagram in fig.2 is based on the analysis of the current situation of the services provided by the Library of the Veterinary Faculty. It illustrates graphically the causes of dissatisfaction of the users (clients) and what probably generates the "info-exclusion" problem that this project intends to solve. The cause and effect diagram, originally proposed by Kaoru Ishikawa in the sixties, was already used in industry as a diagnostic tool to establish what was causing the low quality of products during the production process. It is a graphic tool used to explore and to represent opinions regarding sources of variations of quality in a specific process, but it can also be used for the analysis of organizational problems related to the planning and administration of information systems. Thus, in this graph four main categories represent the potential causes of the dissatisfaction problems and "info-exclusion" of the users (clients) of the Library of the Veterinary Faculty. Personnel, policies, administration, equipment and infrastructure are shown together with their critical factors.

Prognosis

We believe that the implementation of this project will increase accessibility to veterinary scientific information in the public domain and produced by institutions, researchers and other key players in the area of knowledge generation and diffusion. The system to be developed will work in a web environment, which means that anyone can have free access to Mozambican veterinary information from the digital database anywhere in the world, if he has a computer and access to the Internet.

It is important to mention that the added benefit of the implementation of this project will be the laying of the building blocks of a local tool which will enable the libraries not only to retrieve information, but also to measure the progress of the national scientific production through the development of input/output indicators, starting from the information that will be registered in the digital database system.

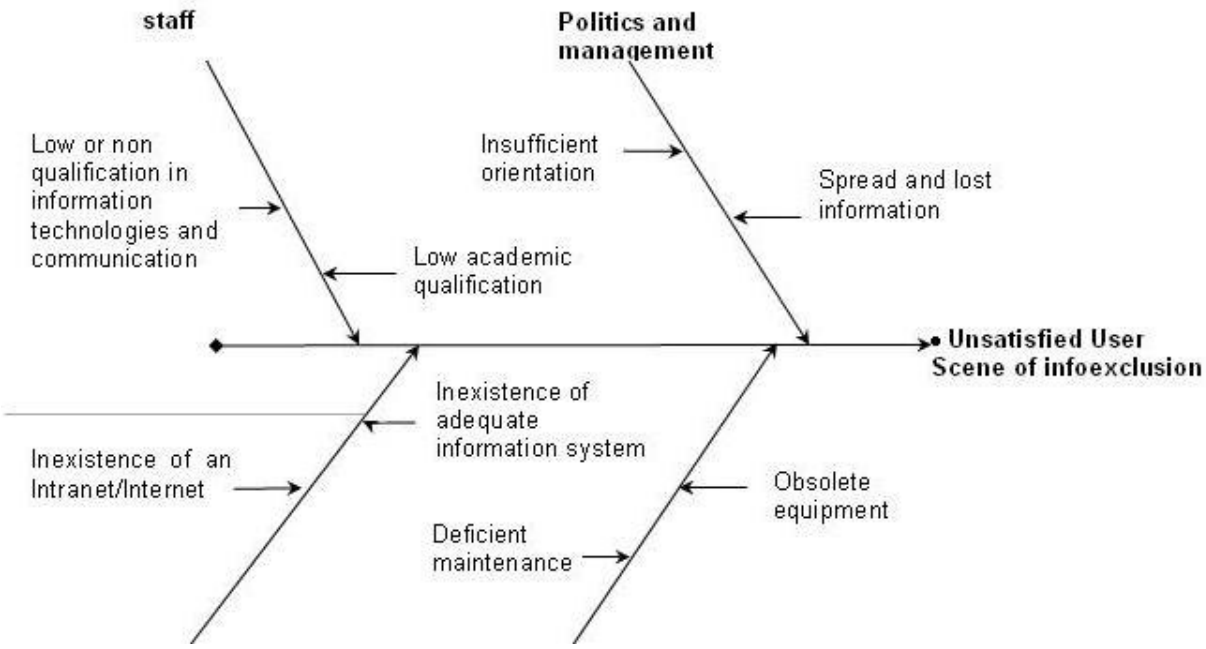

Fig. 2: Diagram of cause and effect

Project goal

In order to democratize access to information for the academic community and to stimulate the integration of research institutions and production, a web-based system will be constructed to facilitate the exchange of information of national interest. The project will define and implement a standardized methodology for the collection of scientific and technological information in veterinary medicine and related areas.

The specific objectives are the following:

- To define the gathering and receiving policy, the type of information to be made available, and the quality control methods;
- To define and establish parameters for a local intranet and internet server, in order to make available the digital contents generated from the web system;
- To develop and establish a decentralized acquisitions system (software) for the database of products and services related to different areas of veterinary science;
- To define and set up standards for construction of digital collections with complete text, monographs, dissertations, thesis, reports and other types of documents;
- To define and establish mechanisms for diffusion and spread of information to the targeted community;
- To define and establish evaluation mechanisms (web metering) for the services offered by the library web system.

Expected results

In general, the development and establishment of a model for the collection, spread of scientific and technological information in veterinary medicine and similar areas will produce the following results:

- A gateway to the scientific information in veterinary medicine and similar areas;
- A decentralized acquisitions web system (site) with different access levels to ensure the safety of the information;
- A virtual library and/ or digital collections with full text of theses, monographs, articles, reports and other documents;
- A reference list of databases, research institutions, national and international academics and researchers, and other entities dealing with veterinary science;
- A model to generate and disseminate digital contents which can be used in similar institutions elsewhere;
- A collected database that will help with determining veterinary science production / output)
- A determination of the information needs of the user community of the system by applying web metering methods that will be part of the web information system that has been developed and installed.

Final remarks

The implementation of this project in the library of the Veterinary Faculty of the Eduardo Mondlane University will facilitate the process of collection and dissemination

of scientific products developed by national researchers and/or other researchers working in Mozambique. At the same time the system will serve as the means for scientific and cultural dissemination at international level because access to the system will be made available for all through the worldwide net of computers – the Internet.

By making published information available on the Web, enabling it to be consulted and used in any part of world, we believe that the use of information technologies to create the digital collections proposed in this work, will contribute towards decreasing the social and economic inequalities, as well as eliminating the problem of "info-exclusion."

From a cost-benefit point of view, the system of recovery of information based on a database developed for the web environment would seem to be the best solution for developing countries, such as Mozambique. Once it has been designed and established the system will facilitate access to information for the communities situated in areas without access to physical collections. These communities should have at least one computer connected to the Internet.

Thus, this project is in compliance with the Mozambican Information Technologies Policy and the Strategic Plan of the Higher Education, which emphasize the improvement of the quality of teaching through promotion and spread of scientific products, including the development and the application of new and computer-based technologies.

References

1. DERTOUZOS, Michel. 1997 O que será: como o novo mundo da informação transformará nossas vidas. Tradução. Celso Nogueira. São Paulo: Companhia das Letras. 47 p.

2. JEFFE, S. 2002 Back to África: cover story – yes, it's possible to do science in Africa, but it's not that easy. *The Scientist*, v.16 (23), Nov. 2002. Available in: www.the-scientist.com/yr2002/nov/pro_021125.html. (Accessed 19/01/2003 and November 2006)

3. LE COADIC, Y.F. 1996 A Ciência da Informação. Brasília: Briquet de Lemos/Livros. 119p

4. MEADOWS, A.J. 1999 Comunicação científica. Brasília: Briquet de Lemos/Livros.

5. PONJUÁN DANTE, Glória.1998 Gestion de informacion en las organizaciones: principios, conceptos y aplicaciones. Santiago, Chile : Centro de Capacitación en Información, Universidad de Chile.

6. ZIMBA, H.F.2003 A pesquisa sobre medicina veterinária em Moçambique: análise do desenvolvimento da produção cientifica 1947-2002. Brasília: UnB/CID. Master's Dissertation

7. ZIMBA, H.F. and MUELLER, S.P.M. 2004 Parcerias na ciência: instituições estrangeiras e a pesquisa na área de Medicina veterinária em Moçambique. DataGramaZero: *Revista de Ciência da Informação*, v.5, n.1 fev. 2004. Available in: www.dgz.org.br/fev04/Art_04.htm. (Accessed: 30/10/2004)

8. ZIMBA, H.F. and MUELLER, S.P.M.2004 Colaboração internacional e visibilidade científica de países em desenvolvimento: o caso da pesquisa na área de medicina veterinária em Moçambique. *Informação & Sociedade: Estudos*, v.14, n.1 2004. Available in: www.informacaoesociedade.ufpb.br/artigos3009/arquivo%203.pdf. (Accessed: 30/10/2004)