# ENHANCING ACCESS TO LOCAL BIODIVERSITY KNOLEDGE IN THE DELTA: EXPERIENCES OF THE OKAVANGO RESEARCH INSTITUTE LIBRARY

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**Abstract:** The Okavango Delta with its unique ecosystem has attracted its fair share of researchers from all corners of the world, resulting in the creation of a wealth of knowledge. Researchers, environmentalists and policy makers alike acknowledge that the preservation of this fragile ecosystem largely depends on the availability, accessibility and unimpeded flow of information in many formats. The biggest challenge, therefore, is how do we as information specialists/librarians gather this information from the various sources, especially the grey literature and unpublished technical reports, and make them accessible not only for planners and policy makers but for everyone. For a long time, the tendency has been to focus on the published scholarly reports and articles that can be accessed easily. Grey literature has often been relegated to the back burner, and as a result some of it has been lost. This paper looks at several initiatives (both local and international) in which the Okavango Institute Library and some of its partners are involved to enhance access to local biodiversity knowledge. The paper concludes by emphasizing the importance of sharing knowledge in the preservation of this unique ecosystem on which the people of the Delta depend for their livelihood.

**Keywords:** libraries, grey literature, Okavango Delta, biodiversity ecosystems, aquatic science.

## Introduction

The preservation of our natural resources relies on the unrestricted and unimpeded flow of information. Access to this information is fundamental to understanding and coping with the challenges of climate change for example and over-exploitation of natural resources. However, most of this data is found in unconventional forms that are in the form of grey literature. Studies have shown that grey literature remains of the most important sources of knowledge about natural science research and management of our ecosystem (Thatje et al, 2007). This statement is supported by Schopfel (2010), who states that most scientific results are published in reports, working papers, technical notes and factsheets. It was in recognition of the importance of capturing and disseminating research that the Okavango Research Institute was formed to study the ecosystem of the Okavango Delta, and ensure that research findings are made available to communities and government policy makers to assist in decision making and formulating policies regarding the preservation of this ecosystem.

The Okavango Research Institute (former Harry Oppenheimer Okavango Research Centre) was established in 1994 with a mandate to advance scientific knowledge and promote sustainable natural resource management in the Okavango Delta and other Southern African wetlands, river basins, watersheds and the Kgalakgadi wetlands. It has five academic research units:

1. **Land and Water Unit Unit**: aims to enhance understanding of hydrological and biogeochemical processes and landform evolution. Its major initiatives are water quality monitoring and climate change modeling.
2. **Ecosystems Unit**: major initiatives are fish stock assessment, wildlife population dynamics and biodiversity conservation.
3. **Governance Unit**: focuses on environmental management and policy and planning, including trans-boundary water and land resources management and community based natural resources management governance.
4. **Livelihoods Unit**: focuses on research into natural resources use and sustainable livelihoods (including influences like HIV-AIDS and climate change) and how they affect human livelihoods.
5. **Tourism Unit**: studies the environmental, social and economic impacts of tourism, cultural tourism and heritage.

Through these various research activities, information is generated in various forms including grey literature, which takes the form of conference proceedings, technical reports, fact sheets, posters amongst others. So what is grey literature and why should it be given a priority in our library collections?

Several definitions of grey literature have been advanced. At the 6th International Conference on Grey Literature in 2004, it was defined as "that which is produced at all levels by Government, academia, business and industries, both in print and electronic formats but which is not controlled by commercial publishing interests and where publishing is not the primary activity of the organization." Moahi (1995) defined it as "material that is not commercially published and therefore not to be found in the normal channels associated with commercially published literature. Although the definitions might vary slightly, there is one common thread and that is that they do not emanate from mainstream publishing and therefore may not be available through usual channels (Alemma, 2001).

Given its unconventional format, grey literature considered an important source of information for the following reasons:

- Research results are often more detailed in reports. Published work on the other hand is often subject to restrictions such as limited word count (Schopfel, 2010).
- It can be produced relatively quickly and because of that it is often up to date.
- Grey literature is considered the first port of call when reporting important findings (Aina, 2000). An example is the Hydrology section in the Institute, which offers the most updated flood information in the country, and its results are not found elsewhere but on the ORI website.
- In most cases grey literature is distributed in these forms up to 12-18 months before being published elsewhere. In some instances, results are never published anywhere else.

Okoroma (2011), citing a research conducted by Aina (1992), demonstrates the vital importance that grey literature plays. In this paper, the author analyzed the development of literature produced in Botswana over a three year period. His results showed that grey literature constituted 98% of all the developmental literature in Southern Africa. The same researcher also carried out a study in Nigeria on the use of grey literature in agriculture. The study revealed that as much as 14% of grey literature was used for research in agriculture in that country.

However, although it is accepted or acknowledged that grey literature is an important source of information, it is difficult for librarians to find and collect because of its unconventional publication methods, most being conference proceedings, research findings and government documents (Boukacem-Zeghmouri 2006). Secondly, there is too much being generated, making it difficult to keep track, especially when one considers studies commissioned by governments, research reports of conferences etc. Because of poor bibliographic control, it is transient and sometimes its availability depends on where it is produced.

In light of this, ORI Library and its partners has come up with the following initiatives to ensure that grey literature is preserved and made accessible to the community at large:

**University of Botswana Research, Innovation and Scholarship Archive (UBRISA)**
According to Maahi (2009), the creation of UBRISA was closely tied to the University of Botswana's goal to become a research-intensive university by 2021, and its policy is to ensure that all research outcomes published should be deposited in this Institutional repository. Its objectives are:
- To promote and encourage dissemination of research results; and
- To preserve UB's intellectual heritage for the future.

Research output can be accessed on http://ubrisa.ub.bw:8080/xmlui.

**Okavango Delta Information System (ODIS)**
Information System (ODIS) is the web based geospatial information repository of the Okavango Research Institute and brings together geospatial/non geospatial scientific data, reports and maps. Established in 2005, one of its original objectives was to provide maps to people unfamiliar with GIS to support the planning and implementation processes of the Okavango Delta Management Plan (ODMP). ODIS houses much of the data and documentation generated to support the ODMP process. The "spatial search" function of ODIS produces a series of thumbnail images of the digital maps and reports available. The map viewer shows various maps with boundary maps of the

Okavango Delta as a RAMSAR site, veterinary cordon fences, Wildlife Management Areas, district boundaries, national parks boundaries, political constituencies and Controlled Hunting Areas; geoscientific information on geology and soils, archaeological information on sites and rock art, cultural information on languages, maps of gazetted settlements and villages and village survey results on several indicators. ODIS can be accessed at http://odis.orc.ub.bw/odis.

Because the Okavango Basin covers three states, namely Angola, Botswana and Namibia, access to water resources data is very important in trans-boundary waters shared by 2 or more states. According to Gerlak, Lautze, and Giordanol (2011), this helps diffuse "perceived conflict potential." This fact has been recognized by international bodies such as the 1997 United Nations Convention on the Law of Non-Navigational Uses of International Water Courses, which called for regular sharing of hydrologic and other environmental data and forecasts, information on planned measures and prior notification to countries that might be impacted by planned projects. These efforts have also been supported by Global Environmental Facility (GEF) International Water Programme, which sees data and information exchange as the first step to achieving cooperation and joint management of shared water. UNESCO also funds workshops with the objective of sharing available data on trans-boundary courses (Gerlak, Lautze, Giordano, 2011).

The Okavango-Cubango Knowledge for the River Group was created by one of ORI Library's partners, OKACOM. The group's aim is:

- To ensure that data, information and codified knowledge created and manipulated by these institutions are generated, documented, preserved, analyzed and shared to better inform and support decisions.
- To ensure access, capture, sharing and preservation of materials from key projects.
- To avoid duplication of work and ensure more effective reuse of existing information.
- To recommend standards for the description of collections of information to facilitate exchange.
- To share knowledge of other existing initiatives and new management tools.
- To encourage good practice in the management of operational information, including records and documentation of projects.
- To support the development of a strong community network of practice of knowledge management and information professionals in the region (https://groups.google.com/forum/knowledge-for-the-river**).**

**Botswana Environmental Information System**

Although local information systems are fairly recent developments, they are important in the sharing of local data and they provide depth and insight on subjects of interest. The EIS was established as a national data and information system for use in the management of the natural environment. The system contains a number of components including environmental indicators, state of the environment reviews as well as environmental assessment. Its provision of coherent and timely information on the Botswana environment helps in the development of management policies and strategies. The EIS also addresses the need for environmental data and information resources that can be used to evaluate the state of Botswana's environment. It is also a mechanism with which key environmental data are identified and information made widely available to various stakeholders http://www1.eis.gov.bw/EIS.

**Aquatic Sciences and Fisheries Abstracts (ASFA)**

Studies have shown that much of the knowledge and information produced by researchers will never appear in any form except grey literature. Databases like ASFA provide institutes with an opportunity to deposit this type of literature because of the recognition and increased value that they have awarded to grey resources and the improvement of their availability and dissemination. For a long time, reports, proceedings and other types of grey literature have been under-represented (Banks, 2006). The ORI library joined as a National ASFA partner in 2010 and through its monitoring of serial titles, the visibility of and access to grey literature have been enhanced. Ezema (2011) bemoans the fact that despite number of publications from Africa, most of them are not accessible outside the institutes in which they are published.

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