



THE ALBERTINE RIFT BIODIVERSITY DATA MOBILIZATION PROJECT STRENGTHENING COLLABORATION FOR INCREASED BIODIVERSITY DATA MOBILIZATION ON KEY BIODIVERSITY ECOSYSTEMS OF THE ALBERTINE RIFT REGION

With funding support from the Biodiversity Data for Development (BID) programme

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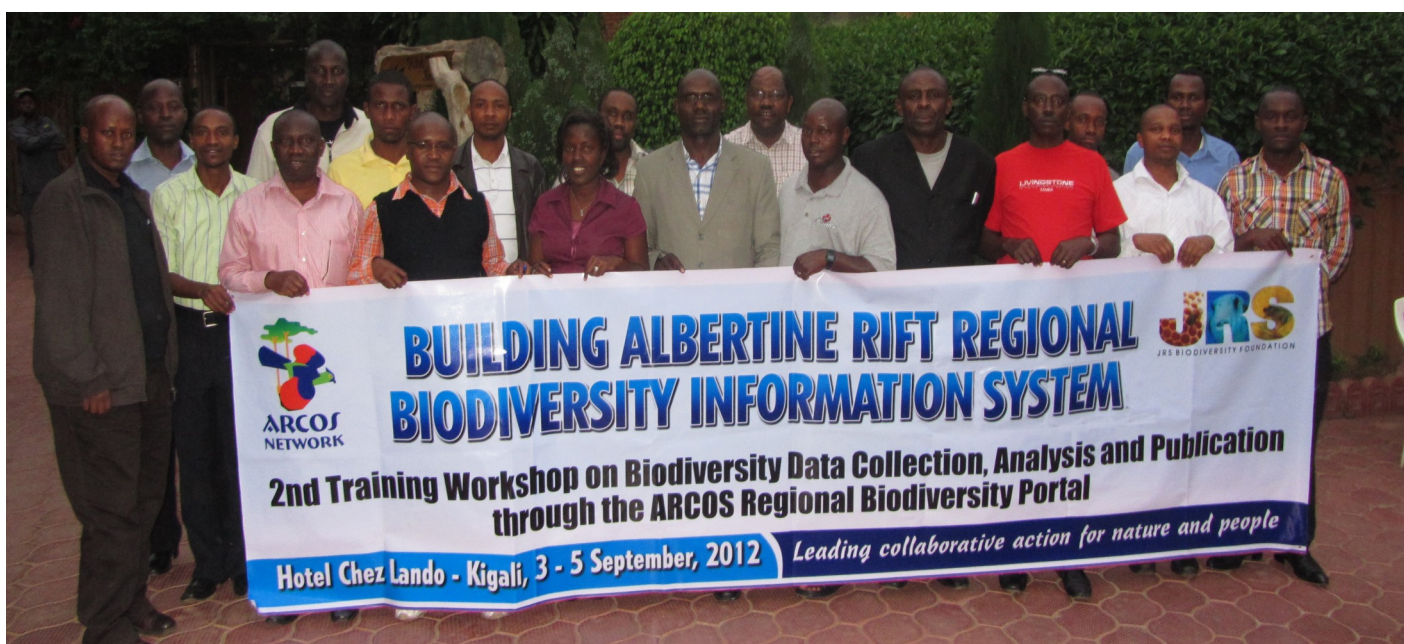
Project Background

All things equal, with reliable data, decisions can be wrong by error or by lack of adequate models; but with bad or no information, decisions can only be right by random chance (Ogui, 2012). In that regard, the Albertine Rift Conservation Society (ARCOS) has been bringing stakeholders together in the Albertine Rift region to establish a platform to share data and exchange biodiversity information in order to support informed decision-making in the areas of biodiversity management and sustainable development. To achieve this goal, the ARCOS Biodiversity Information Management System (ARBIMS) was developed as a means to facilitate this process and currently the system is being used to facilitate sharing of and access to biodiversity data on the critical ecosystems in the region. Given the amount of data required to achieve a truly informed decision-making, the partners under ARBIMS have embarked on a journey to mobilize biodiversity data from different sources to reach the critical mass of data that can be used to produce good information materials that will be used in guiding planning and management of biodiversity and natural resources in the region.

Project Overview

This regional project brings together partners from DR Congo (Centre de Recherche en Sciences Naturelles - CRSN), Rwanda (Centre for Geographic Information Systems - CGIS) and Uganda (ARCOS & National Biodiversity Data Bank - NBDB) and it will support the already on-going efforts to mobilize biodiversity data for critical ecosystems in the region and enhance ARBIMS by expanding and building the capacity of data managers' network in the region.

The project builds on previous effort by ARCOS and its ARBIMS partners where a number of capacity building activities have been conducted with the support from the JRS Biodiversity Foundation and where data mobilization initiatives were carried out including a digitization scheme that was implemented at CRSN Lwiro.



Participants in a training in Biodiversity Informatics posing for group photo, ARCOS brought together a pool of practitioners across the Albertine Rift committed to create and share biodiversity data in the region.



ARCOS Team conducting Bird Surveys in Kagera watersheds, Rwanda. Through its Integrated Landscape Assessment and Monitoring (ILAM) programme, ARCOS conducts regular biodiversity surveys in its focal landscapes. March 2016

Environmental Citizen Science: a solution to cheap biodiversity data collection

Citizen science has been defined as a research technique that enlists the help of members of the public to gather scientific data (Bonney et al., 2009b). Environmental sciences hold a long tradition of using volunteers to collect monitoring data such as bird monitoring projects that work with amateur bird enthusiasts. With today's advent of new ICT tools and widespread use of powerful mobile computers (smart phones), this tradition has gained even more momentum and evolved into a fully fledged research technique. Volunteers are now called "citizen scientists" and the technique is famous for greatly reducing the costs of research and data collection.

This is a very welcome development in environmental sciences where funding is always scarce and the Albertine Rift Biodiversity Data Mobilization project seeks to pilot this approach as solution to biodiversity data availability in the region.



CGIS Staff training biodiversity practitioners on the use of GPS.



ARCOS staff presenting about ARBIMS during its launch at the Africa Regional Mountain Forum, 2014.

Our approach

The Albertine Rift Biodiversity Data Mobilization Project will contribute to the strengthening of the ARBIMS initiative by enhancing the ARBIMS portal, by cementing and growing the Albertine Rift Biodiversity data managers network and by increasing the number of datasets published through the portal through digitization of herbaria specimens in Eastern DR Congo and mobilization of sample-based data in Rwanda as well occurrence data in Uganda.

Biodiversity data collection is inherently an expensive endeavor. Fortunately, with the current movement of citizen science (the involvement of the public in data collection and analysis) and advances in enabling technologies, researchers can now get rich data and information at very reduced costs.

Citizen science can be an enjoyable and fulfilling activity for those that take part and many participants gain additional skills and confidence as well as increased knowledge and an understanding of the environment in which they live. In that regard, this project will develop a citizen science initiative to collect biodiversity occurrence data via a mobile application targeting the participation of tourists and naturalists.

Moreover, the project will engage EIA practitioners through a network called Albertine Rift Environmental Assessment Leadership Alliance (AREALA) where these practitioners will be encouraged and trained to share data generated through EIA studies in and around key biodiversity areas in the region.

Finally, the project will support a digitization scheme in the herbarium of CRSN Lwiro where it is expected around 10,000 specimens will be digitized and the data will be published through ARBIMS portal.

Data mobilization on the African continent has always faced the challenge of a 'silo mentality' that exists among researchers either as individuals or institutions. To address this issue, innovative solutions to incentivize data holders need to be devised and this project has set out to test the concept of data papers as a way to encourage people to share their data especially in the public domain. Starting with existing published datasets from CRSN Lwiro, the project will support researchers from this institution to prepare and publish data papers for those datasets and we will use that example to stimulate other individual researchers in the region to publish their data and be supported to publish data papers as well.



ARCOS team visiting Centre de Recherche en Sciences Naturelles (CRSN). CRSN is one of the project's implementing partners and has been participating in ARBIMS activities since its development stage in 2009.

Data papers: an incentive for biodiversity data publication

A data paper is a searchable metadata document, describing a particular dataset or a group of datasets, published in the form of a peer-reviewed article in a scholarly journal. Unlike a conventional research article, the primary purpose of a data paper is to describe data and the circumstances of their collection, rather than report hypotheses and conclusions (<http://gbif.org>).

The data publication process involves a lot of steps in terms of data cleaning, standardization and metadata authoring. In that regard, data publishers need an incentive to spend the required resources and time to do so. Data papers therefore come as a solution to this challenge where data publishers gain the double benefit in terms of citation of the published paper, in the same way as with any conventional scholarly publication, as well as the increased visibility, usability and credibility of the data resources they publish.

Project partners

Under ARBIMS, five institutions each representing their respective countries in the region have signed the Albertine Rift Data Sharing agreement. These are Makerere University (Uganda), Tanzania Wildlife Research Institute (Tanzania), Centre for Geographic Information System (Rwanda), the University of Burundi (Burundi) and the Natural Sciences Research Centre of Lwiro (DRC).

This project is now implemented as a consortium of 3 of these ARBIMS partners namely ARCOS, CRSN, GGIS and NBDB under the university of Makerere.

Apart from these implementing partners, the project will also engage a number of collaborators namely:

- ◆ GBIF Nodes in Uganda and DRC: National GBIF nodes in participating countries will be involved in the capacity building activities of the project as well participate in the data publication process through endorsement of datasets from the respective countries;
- ◆ Centre of Excellence on Biodiversity and Natural Resources management (CoEB): CoEB will be involved in the project through mobilization of data held in its hubs around Rwanda.
- ◆ Rwanda Development Board (RDB): RDB is the Rwanda national agency in charge of regulation of Environmental Impact Assessments (EIA). Since EIAs have the potential to generate biodiversity data, RDB will support the project in mobilization of EIA practitioners to share data generated by EIAs they conduct. Moreover, the project will work with RDB to see how EIA guidelines can be improved to put more emphasis on biodiversity data as integral part of EIA studies.

How you can participate

If you hold current or even historical data on biodiversity in the Albertine Rift either as institution of any size or an individual, we invite you to join us in this quest to support informed decision-making in the region through making accurate and readily usable data accessible to the public and decision-makers. The project will support you in gaining the required capacity on the use of international standard data publishing tools and protocols and thus your data will be discoverable worldwide and integrated with others' data for even greater impact.

Come join us and see your locally stored, hardly accessible or rarely used data get transformed into world-class product readily contributing to solving issues that matter both locally, regionally and globally.

About BID

Biodiversity Information for Development (BID) is a multi-year, €3.9 million programme funded by the European Union and led by GBIF with the aim of increasing the amount of biodiversity information available in the 'ACP' nations of sub-Saharan Africa, the Caribbean and the Pacific.

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Dragonfly perched on a tree branch, Dragonfly index is one of the indices used by ARCOS in monitoring freshwater biodiversity in its focal landscapes. New tools have been developed by GBIF to support publication of sample-based data such as the ones derived from these studies

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