

## Integrating Freshwater Biodiversity Information to Guide Informed Decision-making in Rwanda

### FACT SHEET

Freshwater biodiversity is critically understudied in Rwanda, and there is no efficient mechanism to integrate freshwater biodiversity information and make it accessible to decision-makers, researchers, private sector or communities, where it is needed for planning and management and the implementation of the National Biodiversity Strategy and Action Plan. A framework to capture and distribute freshwater biodiversity data is crucial to understand how economic transformation and environmental change is affecting freshwater biodiversity and resulting ecosystem services. To optimize conservation efforts for freshwater ecosystems, detailed information is needed regarding current and historical species distributions and abundances across the landscape. From these data, specific conservation concerns can be identified, analyzed and prioritized.

The goal of this project is to establish and implement a long-term strategy for freshwater biodiversity data mobilisation, sharing, processing and reporting in Rwanda. The outcome of the project will support the achievement of the mandate of the Rwanda Environment Management Authority (REMA), the national agency in charge of environment monitoring and the implementer of the Rwanda's National Biodiversity Strategy and Action Plan (NBSAP) together with the Center of Excellence in Biodiversity and Natural Resources Management (CoEB). The specific objectives for this project include:

- 1. Organizational structure, technology platforms and workflows for biodiversity data capture and mobilisation in Rwanda are enhanced to promote data availability and accessibility to improve Rwanda's NBSAP and support other decision-making processes.** The CoEB has a national mandate to lead on biodiversity data mobilisation and implementation of NBSAP with REMA. This includes digitizing data from reports and conducting analysis and reporting for policy and research as indicated in Rwanda's NBSAP. The collation of data will use international standards and be published on the internet for wider access and use both nationally and international. Moreover, CoEB aspires to become a node of Global Biodiversity Informatics Facility (GBIF), strengthening its capacity to mobilize biodiversity data. The data mobilized will be organized using GBIF standards and the project will leverage the tools developed in the auspices of GBIF to facilitate data publication.
- 2. Build capacity of technical staff from relevant government and non-government institutions in biodiversity informatics.** The project technical team is composed of five staff from the collaborating organizations: CoEB, Albertine Rift Conservation Society (ARCOS), and REMA. Through this project, CoEB will have its capacity strengthened to achieve its mission as a biodiversity knowledge management center for the Government of Rwanda. The project will also provide an opportunity for ARCOS to strengthen its collaboration with CoEB as part of its endeavor to establish a regional network for biodiversity data management in the Albertine Rift.
- 3. Digitise data currently available in non-digital form and prepare it for its publication using international standards through ARCOS Biodiversity Information System (ARBIMS).** ARBIMS provides access to data published through the ARCOS Integrated Publishing Toolkit, including occurrence data and species checklists for the Albertine Rift region. All the data mobilized under this project will be published through ARBIMS to ensure the data is accessed by relevant users both nationally and internationally. It is anticipated that at least five datasets will be published: 3 on the Kagera River Basin, 1 on freshwater macro-invertebrates of the Congo and Nile Basins, 1 from the RDB archive of research reports done in protected areas.
- 4. Produce the first national State of Freshwater Biodiversity Report, a document which will describe the status of biodiversity in freshwater ecosystems in Rwanda and present socio-economic conditions affecting human interactions with this biodiversity.** Despite their value, many lakes, rivers and wetlands are being severely degraded by human activities and are declining at a much faster rate than terrestrial ecosystems. Using Rwanda as a case study in the African great lakes Region, this project will provide up-to-date information to guide development of strategies for integrated freshwater ecosystems management in the region.

**What tools will be used to manage the project and coordinate team members?**

We will create a group e-mail for the technical group. And as all team members are based in Rwanda, most of time we will do project activities in a team and report regularly. We will use a standard template sheet for reporting.

**What equipment / resources are needed for the project and are such resources available?**

The project needs computers, internet, camera, communication and transportation means. All partners have access to these resources for the functioning of their institutions and these will be used for this project also.

**How will the mobilised data be made accessible to stakeholders?**

Publication of mobilised data will be made through ARBIMS portal which uses GBIF's IPT. Production and release of Rwandan Estate of Freshwater Biodiversity Report.

**Explain how will the data be updated and maintained into the future (e.g., if changes in information related to the specimen, such as a re-identification, are made, how will this be carried into the publicly accessible record?).**

ARCOS runs an initiative called Integrated Landscape Monitoring and Assessment (ILAM). ILAM is a rapid assessment tool that helps to regularly collect and analyse data on biodiversity, ecosystem services and social economy at landscape level. ARCOS will continue to mobilize data to update the data currently available and expand the geographical scope of the landscapes covered. CoEB is planning to be a National Biodiversity Information Facility. As mentioned in the NBSAP, CoEB will be strengthened as the lead for biodiversity data mobilisation, analysis and reporting for policy and research in Rwanda. CoEB is committed to establish a coordinated effort to support open access and use of biodiversity data, advance scientific research, and promote technological and sustainable development in Rwanda using biodiversity information.

**How does this data curation and access plan relate to similar efforts in sharing biodiversity data in your country?**

The published NBSAP has specific details of each institution involving in biodiversity conservation including REMA, CoEB, RDB and ARCOS. The CoEB has been pointed to be the lead organisation for biodiversity data mobilisation, analysis for policy and research in Rwanda. ARCOS has already initiated data mobilization and publishing in Rwanda through its portal and this project builds on ARCOS' strengths and achievements

**How is this project supported?**

This project was developed for the African Biodiversity Challenge (ABC), a competition coordinated by the South African National Biodiversity Institute (SANBI) and funded by the JRS Biodiversity Foundation. The competition follows the JRS-funded project, "Mobilising Policy and Decision-making Relevant Biodiversity Data," and supports on-going efforts to further enhance the Biodiversity Information Management activities of the Global Biodiversity Information Facility (GBIF) Africa network. This project also aligns with SANBI's Regional Engagement Strategy, and endeavours to strengthen both emerging biodiversity informatics networks and data management capacity on the continent in support of sustainable development. Four teams were selected across Africa (Ghana, Malawi, Namibia and Rwanda). The Rwanda Team, comprised of the CoEB, Albertine Rift Conservation Society and the Rwanda Environment Management Authority

**If you would like to know more about this project or to share data, please send us an email at [CoEB@ur.ac.rw](mailto:CoEB@ur.ac.rw).**