

## JRS workshop report, 25 November 2013

**Date of workshop:** 2-3 October 2013

**Venue:** BGBM, Berlin

**Project:** Mobilizing policy & decision-making relevant biodiversity data<sup>1</sup>

**Participants:** Jean Ganglo; Pierre Radji; Innocent Akampuirira; Baba Ainina; Fatima Parker; Selwyn Willoughby; Hulda Gideon; Joana Ranaivo; Saidou Doimbouya; Lizanne Roxburgh; and Russell Galt.

**Facilitators:** Selwyn Willoughby and Russell Galt

**Summary report author:** Russell Galt

### 1. Introduction

The JRS-funded project, *Mobilizing policy and decision-making relevant data*, entails engaging with multiple African governments and other relevant institutions, to identify, prioritize, standardize and publish biodiversity datasets of strategic importance to the continent's sustainable development, whilst strengthening regional capacity in biodiversity informatics. The project is designed to consolidate the on-going efforts of the African contingent of the Global Biodiversity Information Facility (GBIF) community, who are collectively striving to become the primary data-science interface for the continent, insofar as biodiversity is concerned.

Since 2010, the GBIF-Africa community has met annually to share their experiences, strengthen regional capacity and collaboration, strategize on data mobilization, and take stock of progress. These meetings have taken place in: Entebbe, Uganda (30 Aug. – 1 Sep. 2010); Pretoria, South Africa (13-14 Sep. 2011 and 16-18 Apr. 2013); and Kigali, Rwanda (17-18 Jul. 2012). Within the GBIF-Africa community, much discussion has centred on the need to improve the broader socio-economic relevance of biodiversity data mobilization with a view to applying limited resources to maximum effect. Addressing this challenge takes centre stage within the purview of the JRS-funded project.

### 2. Purpose of the workshop

The GBIF-Africa meeting was organised in Berlin with the following aims:

- ➔ To acquaint participants to the aims, methodology and deliverables of the JRS project;
- ➔ To define policy and decision-making relevant biodiversity data;
- ➔ To identify data-constrained policy areas and relevant case studies linking data to policy;
- ➔ To initiate the mapping of institutional arrangements (i.e. data holders and providers) in African countries and to identify barriers to data mobilization; and
- ➔ To prioritize financial, technical and technological needs for mobilizing data in Africa.

---

<sup>1</sup> For the purposes of this JRS-supported project, data mobilisation is understood to comprise three main activities, namely, collecting, digitizing and publishing.

### **3. Defining policy and decision-making relevant biodiversity data**

At the GBIF-Africa meeting in Pretoria, April 2013, the Node Managers distilled a set of thematic priorities for data mobilization in Africa – namely, marine, freshwater, invasive alien, endangered and genetically modified species. Building upon those discussions, delegates to the meeting in Berlin sought to better define policy and decision-making relevant biodiversity data at a country level.

In order to do so, participants felt a need to better understand the somewhat ambiguous group of policy/decision makers. A distinction was drawn between elected and technical officials:

- Elected officials were described as being focused on “short-term thinking”, and almost exclusively interested in supporting activities that directly contribute to their manifestos, or more cynically, to their popularity. Such realpolitik has important implications for the ‘policy-relevance’ of data and indeed, for fundraising efforts. Participants noted however, that opportunities abound for data-enabled science to broaden the purview of politicians and alter their political manifestos.
- Technical officials were deemed to play a key role in advising elected officials, by interpreting data-enabled science and proposing courses and principles of action. Thus technical officials may exercise considerable power in the formulation of policy. Knowing their needs in terms of data-enabled science, and recognising the opportunities for such science to influence future policy design, can add further parameters to our understanding of ‘policy relevant data’.

Participants were able to cite several examples of policy-relevant data within their respective countries, ranging from malaria-carrying mosquitoes to rare crops. In seeking to characterise such policy-relevant data, the participants fashioned a set of criteria. Specifically they agreed that the mobilisation of policy-relevant data should:

- i) Serve to better inform policy and decision making, either directly or via scientific research;
- ii) Result in discernible improvements in policy and decision-making;
- iii) Contribute towards broader socio-economic development priorities;
- iv) Be scientifically justifiable and defensible;
- v) Support national priorities vis-à-vis biodiversity conservation and research (assuming that such priorities are themselves posited with broader socio-economic relevance).

Additionally, it was suggested that preference should be given to data mobilisation that:

- i) Serves to complete otherwise-incomplete data sets, thereby improving utility in research;
- ii) Necessitates inter-institutional cooperation, thereby strengthening networks.

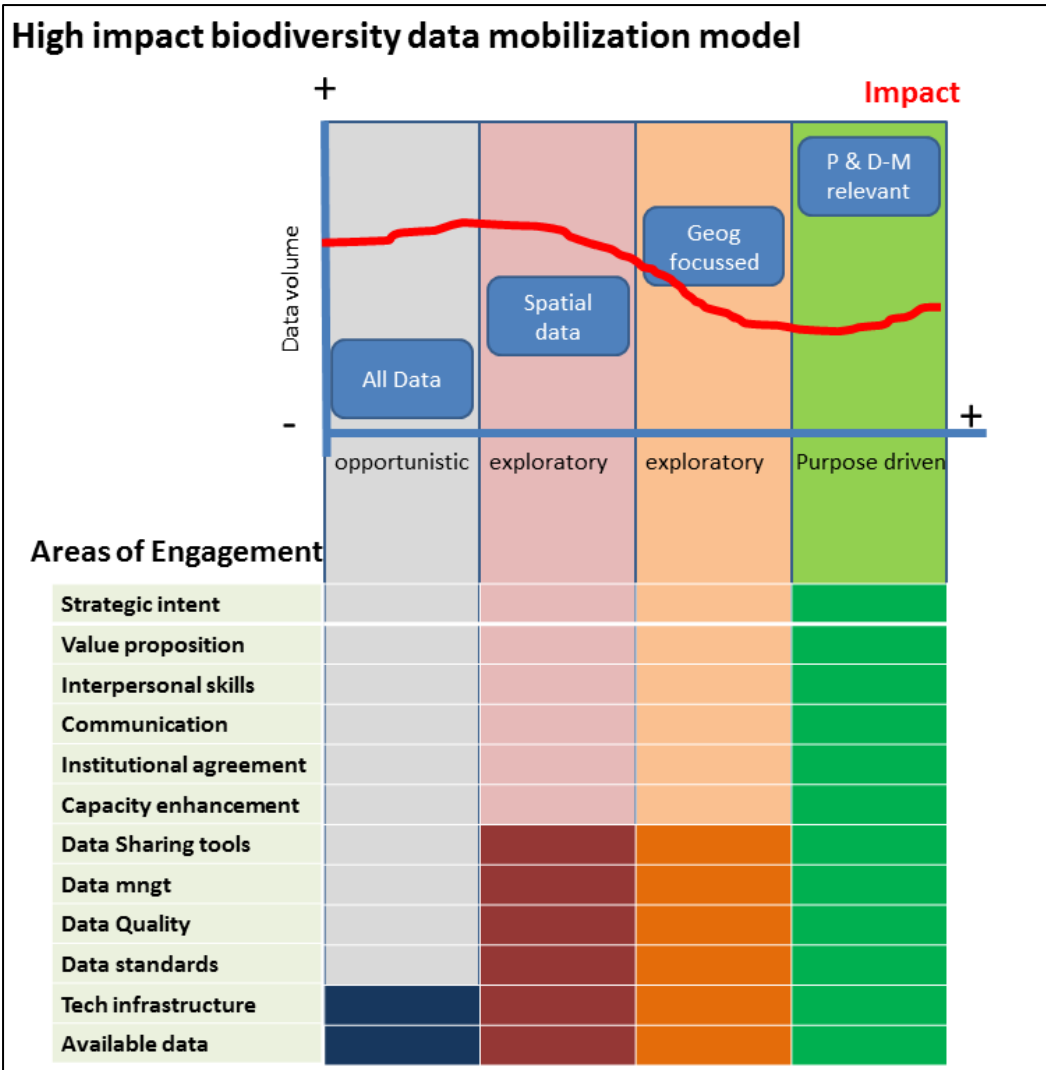
### **4. Identifying policy and decision-making relevant biodiversity data in practice**

Having considered the characteristics of policy/decision makers, identified various examples of policy-relevant data, and fashioned a set of defining criteria, the participants explored a number of

alternative approaches to identifying policy-relevant data in practice. The most suitable approach for any given country was deemed to depend largely on the maturity of data management in that country. These approaches are as follows:

- i) Digitize backlogs of analogue data to complete data sets and enable new scientific research.
- ii) Prioritize analogue data before commencing with digitization.
- iii) Focus on mobilizing biodiversity data from within 'national biodiversity areas' (e.g. protected areas) that are already demarcated for their ecological, social and economic importance.
- iv) Formulate a pressing question concerning natural resource management and identify the data required to address that question.
- v) Work backwards from an established socio-economic development priority through the relevant policies, to the underpinning science (e.g. concerning biodiversity and ecosystem services) and the data requirements i.e. purpose-driven data mobilisation.

As data management matures within a particular country, such that greater use is made of available technology, standards, tools, and networks, it can be expected that data mobilisation will become more demand-driven, strategic and policy-focused. Figure 1 illustrates this progression towards 'high impact' data mobilisation.



**Figure 1.** Progression towards high-impact data mobilisation: from opportunistic to purpose driven. As data management matures, new areas of engagement are entailed. The red line indicates that progressing in this manner could potentially reduce the total volume of data mobilised, owing to the need to divert resources to additional areas of engagement. However it is anticipated that as the ‘business case’ for data mobilisation is better articulated in a mature data management environment, it will be easier to leverage greater resources to support activities, thereby returning data volume to higher levels. (Figure credit: S. Willoughby)

## 5. Institutional engagement and collaboration

Another task of the workshop was to map the landscape of data-holding institutions and other relevant stakeholders in each participating African country with a view to identifying opportunities for collaboration and data-sharing. In this pursuit, participants formed break-out groups to discuss their experiences in identifying and cooperating with data-holding institutions. Specifically, they were asked to distinguish significant barriers and pragmatic solutions to data-sharing, drawing from their respective country-level experiences. These barriers and solutions are summarized below.

### 5.1. Barriers to data-sharing

The Node Managers cited a diversity of reasons why certain institutions and/or individuals may be reluctant to share their data. These reasons, which may be crudely categorised as either concerns or inadequacies, are listed as follows:

- 1) Concerns that data will be misappropriated to support the work of other researchers without due credit;
- 2) Concerns that data-sharing will somehow undermine the authority of data-holders;
- 3) Concerns that data quality may be inadequate for publishing;
- 4) Concerns that imperfect data will be subjected to heightened scrutiny;
- 5) Inadequate incentives for data-sharing, or at least doubts over the professed benefits;
- 6) Inadequate tools (including hardware e.g. scanners);
- 7) Inadequate skills and training, especially in languages other than English;<sup>2</sup>
- 8) Inadequate human and financial resources; and
- 9) Inadequate policy framework that is not conducive to data sharing.

### 5.2. Solutions for data-sharing

The Node Managers were able to quickly identify the above barriers to data-sharing with relative ease and confidence. However, greater difficulty was encountered in their task to identify potential data-sharing solutions. Discussions on solutions were relatively protracted and case-specific. Clearly, there is no 'silver bullet' to overcome all data-sharing barriers, but the following experience-based solutions, distilled from the Node Managers, provide some useful insights.

- a) **Assure the data-holding institution/individual that they will retain ownership of their data, regardless of how widely it is shared, and that they will be appropriately credited whenever the data is used.**
  - i) The Institute of Traditional Medicine in Tanzania was reluctant to share its data, fearing it would be used by others without giving due credit. TanBIF showed the Institute that similar data was already online and appropriately credited. TanBIF

---

<sup>2</sup> On the issue of communication, some francophone delegates expressed concern that the project may be too Anglophone-centric, and requested that special effort be made to address this bias particular vis-à-vis the development of an academic module on data mobilization.

argued that by withholding data, the Institute was forgoing valuable recognition. Thus, the Institute agreed to publish its data.

**b) Draw attention to the potential adverse implications of withholding data, insofar as the data-holding institution and its interests are concerned.**

- i) The South African National Parks (SANParks) was initially unwilling to share its data. However, the organisation's stance shifted after being alerted to the potentially adverse implications of withholding data: not least that doing so would encourage those in want of the data to utilise informal channels, thereby undermining the authority of SANParks. Additionally, it was highlighted that conservation research of direct importance to the national parks, could suffer if confined to using inferior data sources. The matter remains unresolved.

**c) Assure the data-holding institutions that data can be upgraded after being published to quell their concerns over data quality and scrutiny.**

- i) The Botany Department of the University of Dar es Salaam, held a large amount of data without GPS coordinates and was thus initially reluctant to share it. However, after assurances were given that data could later be upgraded, once the GPS coordinates were ready, the Botany Department agreed to publish.
- ii) The Transvaal Museum in South Africa was also reluctant to publish its data owing to concerns over data quality, until SANBI reassured the museum that the data did not have to be perfect to be shared online, and could later be updated.

**d) Strengthen the incentives for data-sharing, highlighting the value of collaboration, citations, co-authorship, policy-relevance, and the strategic importance of the dataset.**

- i) The Animal Demography Unit of the University of Cape Town was initially reluctant to share its data, but eventually agreed to publish it all after being convinced by SANBI of the strategic importance of the data and of the positive exposure and recognition that publishing would bring to the unit.
- ii) In Madagascar, GBIF funding provided six data-holding institutions with training and computers. Technicians were also paid for their time. This culminated in the publication of over 25,000 records.
- iii) In Guinea, a number of data-holding institutions including the National Herbarium, were persuaded to share their data in return for new hardware to support data capture, and additional staff training on Réseau Informatique des Herbiers Africains (RIHA).
- iv) In Benin, the National Herbarium was engaged in data mobilisation efforts, by way of installing a scanner and server in the facility. In Benin, the opportunity to associate with a credible international organisation and the consequent potential to leverage additional resources was found to provide data-holding institutions with a powerful incentive to share data.

**e) Engage data-holding institutions at the highest appropriate level where sufficient decision-making power to authorize data-sharing is vested.**

- i) South Africa's Department of Agriculture, Forestry and Fisheries (DAFF) is unable to share fish species data online, given that it is used to calculate fisheries quotas and is therefore sensitive. In order to publish this data, authorisation must be received from the upper echelons of government.

- ii) A GBIF Secretariat staff member reiterated this point, indicating that a “change of organisation culture” is needed, and that such change can be most effectively instituted by senior officials.
- f) Convene data-holding institutions to identify common ground, build trust, and establish a national network.**
  - i) In Mauritania, 9 data-holding institutions were invited to participate in a conference on biodiversity informatics, and to give presentations on their respective datasets. High level representatives eventually signed agreements to share their institution’s data.
- g) Communicate the strategic importance and multifarious benefits of data-sharing in a culturally, linguistically and technically appropriate manner.**
  - i) The ‘lingua franca’ of the GBIF community, including the GBIF Africa Group, is English. Although most of the GBIF Africa Group have a working knowledge of English, the fact that so many GBIF tools, guidelines, and other materials, are not yet available in French, creates additional challenges for francophone Node Managers when promoting data-sharing.
  - ii) The GBIF Node Manager of Togo stressed the importance of communicating effectively in order to engage, inform and persuade data-holding institutions to share their data.
- h) Foster a policy framework that is conducive to data-sharing.**
  - i) In Guinea, a number of data-holding institutions were identified and invited to convene at a biodiversity informatics meeting. A template memorandum of understanding was signed by over 15 different organisations at the meeting, thereby enabling data-sharing.
  - ii) In Togo, 8 different institutions have signed an agreement to share and publish data on mushrooms.
  - iii) In Mauritania, the Diawling National Park authority signed an agreement to share biodiversity data pertaining to the Senegal River.
- i) Provide staff training on biodiversity informatics to build competence in data-holding institutions.**
  - i) The GBIF mentoring projects have served to successfully capacitate several African nodes and should be extended to engage additional data-holding institutions.
  - ii) In Madagascar, Benin, and Mauritania, the provision of training has provided a powerful incentive for data-holding institutions to cooperate.

## **6. Way forward**

In light of the meeting in Berlin, the immediate next steps to be taken are:

- ➔ Re-examine and where appropriate, restructure the project work plan and timeline;
- ➔ Prepare the quarterly project report (for donor);
- ➔ Follow up bilaterally with the GBIF-Africa Node Managers to acquire more detailed information on specific case studies and institutional arrangements;
- ➔ Develop a toolkit to determine policy and decision-making relevant data;

- ➔ Refine the country level reports on priority data for mobilization; and
- ➔ Consult the Node Managers to schedule dates and secure venues for sub-regional workshops.

## **7. Conclusions**

Although not all of the GBIF-Africa community could attend the meeting in Berlin, much was still achieved. Together, the group articulated the characteristics of policy and decision-making relevant data and identified a number of alternative approaches to identifying such data in practice. The group also managed to initiate the mapping of institutional arrangements within their respective countries and drew from personal experiences to highlight common barriers and pragmatic solutions for data-sharing. In doing so, various case studies came to light, which can serve to inform the development of tools and guidelines under the JRS project.

There were however two shortcomings of the workshop, both of which can be attributed to time-constraints. Firstly, the discussion on policy and decision-making relevant data yielded relatively few case studies. Secondly, it was not possible to meaningfully prioritize financial, technical and technological needs for mobilizing data in Africa. Nevertheless, these matters will doubtlessly be afforded significant attention as the project progresses, not least through bilateral exchanges and sub-regional workshops.