INTEGRATION OF FRESHWATER BIODIVERSITY INTO AFRICA’S DEVELOPMENT PROCESS: MOBILIZATION OF INFORMATION AND DEMONSTRATION SITES

Demonstration Project of Gambia River Basin

Project implementation:
Primary results and Lessons learned

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PROJECT IMPLEMENTATION

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Map 1: The Gambia River Basin targeted by the demonstration project

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**1. Background and rationale**

In 2005, IUCN received funding from the European Commission to launch a five-year project to evaluate the status of freshwater biodiversity across Africa, and then undertake a demonstration of the integration of information on biodiversity in four demonstration sites. Freshwater habitats cover less than 1% of the land’s surface and yet they contain more than 25% of all recognized vertebrates, more than 126,000 animal species and nearly 2,600 macrophyte plants. These freshwater ecosystems play a very important role. In fact, they provide many goods and services such as the supply of food, water and building materials, and flood and erosion control. The livelihoods of many communities including the poorest in the world depend on resources taken from freshwater ecosystems. However, despite their importance and role, these ecosystems and the species that live there are hit by a dramatic deterioration related to, among other things, a growing demand for freshwater. The increases in human populations, as well as industrial and agricultural development, exert a strong pressure on freshwater ecosystems. The drainage of wetlands and the channeling of rivers, pollution, introduction of invasive species and overexploitation constitute major constraints to freshwater biodiversity. To the latter are added climate change, increasing scarcity of fresh water, and development goals such as improving access to drinking water. In order to address these multiple threats and better guide the processes of development planning and conservation, it is imperative to better grasp the freshwater species, and their importance but also the functioning of freshwater ecosystems, as well as the threats to them. Thus, IUCN seeks to assess the conservation status of species by gathering information on species distribution, status and population trends, habitat and ecology, threats and their use in a system accessible to all, so as to ensure a better integration of freshwater biodiversity in the planning processes and management strategies of water resources of the basin and country organizations.

**2. Project objective**

The project's main objective is to ensure that the planning and management of water resources in Africa is based on the integration of reliable information on the status, distribution and ecological requirements of freshwater biodiversity. This information pertains to the status, distribution and ecological conditions of freshwater biodiversity for high priority taxonomic groups such as fish, aquatic plants, mollusks,
Odonata (dragonflies), water birds and crustaceans (crabs).

3. Project partners

- The European Commission is the main funder of the project, through the Environment Program in developing countries (Project EuropeAid/ENV/2004-81917 of the European Community).
- IUCN, through its committee “Commission of Species Survival” is the project sponsor.
- Wetlands International Africa is the prime contractor of the project in the West African region.
- OMVG has established a partnership with Wetlands International Africa by signing a Memorandum of Understanding in the framework of the implementation of the second phase activities related to the project in the Gambia River Basin demonstration site.
- Besides the Institute of Environmental Sciences, which took part in the entire process, this second phase was marked by the involvement of a greater number of institutions that did not participate in the first phase. Among these structures, one can mention the Senegalese Agricultural Research Institute (ISRA), the Institut Fundamental d’Afrique Noire (IFAN) (Fundamental Institute of Black Africa), the University Institute of Fisheries (IUPA). Other countries’ public services that share the Gambia Basin (Guinea, Guinea Bissau, The Gambia, Senegal) have also contributed (universities, park services, forestry services, fishery services etc.).
4. Geographic scope of the project

The demonstration project of the Gambia River Basin, targeting the four countries that share the basin (The Gambia, Guinea, Guinea Bissau, Senegal, see Map 1), used the results from the assessment of freshwater biodiversity throughout the West African region (see map 2). It takes into account the different types of freshwater ecosystems of the West African region (rivers, lakes, rivers, streams, marshes, ponds, etc.).
5. Project activities

In the project’s implementation framework, various activities were conducted. The activities that unfolded in two phases included:

- Capacity building of experts from the sub-region to evaluate freshwater species and regional species, and the publication of assessment results from the first phase
- Identification of important sites for the conservation of biodiversity in inland regional waters and the implementation of activities for a better integration of information on biodiversity in the planning and management of water resources during the project’s second phase
5.1. First phase of the project: Mobilization of information

5.1.1. Capacity building

For each region, training sessions were organized in order to strengthen the capacity of experts in the assessment of species through the use of the IUCN categories and criteria and also the use of an information system on Species or SISDEM.
Photo 3: Crossing the Gambia River for the Sambagalou site
Regional training workshop on the assessment of freshwater biodiversity in West Africa (July 25 – 28, 2005)

Wetlands International Africa organized this first workshop in Dakar with the support of IUCN. The goal was to strengthen the regional capacity for the assessment of taxa by applying the IUCN criteria and categories for the private list and the usage of the IUCN/SSC service information on species (SIS). The training was conducted by experts from the IUCN / SSC Program. Other experts from different countries of the West-African sub-region as well as various state structures (Ministry of the Environment, National Parks Direction, Department of Water and Forests), regional partners (SINEPAD, IUCN-BRAO, WWF) took part in this workshop.

Photo 2: Participants at the training workshop on biodiversity assessment
Regional workshop on the assessment of freshwater plants in West Africa (May 08 – 12, 2006)

This workshop was organized in Dakar. It brought together botanists of the sub-region who came from Benin, Burkina Faso, Ghana, Senegal and Togo. The objectives of this workshop were to validate the list of West-African freshwater plants, share the assessment method and establish a West African network of experts on aquatic plants. At the end of this workshop, all the expected objectives were met: a list of West-African freshwater plants was established, the assessment method shared and a network of experts was established. Moreover, the following recommendations were made:

- Create a Network for the Evaluation of freshwater plants
- Strengthen the documentation with the procurement of basic books on freshwater plants
- Capacity build through the training of young researchers, and the creation / integration of modules on freshwater plants in the Institutes, Universities...
- Publish results on the assessment of freshwater species in international journals

Photo 3: Participants at the regional workshop on plant assessment
GIS training workshop

This workshop on Geographic Information Systems took place in Dakar from September 6th to the 11th 2007. Wetlands International organized it with the support of IUCN-SSC and the International Institute for Geo-Information Science and Earth Observation, ITC, which provided the training.

The main objective of this workshop was the formation of an expert group to plan the management of freshwater biodiversity in the West African sub-region using ArcGIS software. This software should enable the organization, analysis and presentation of data collected on biodiversity in the shape of thematic maps.

This training targeted officials of the state’s technical services and NGOs involved in wetland management.
5.1.2. Work to assess species

Experts from the sub-region conducted an assessment of the risk of the disappearance of freshwater species. For each taxon, the assessment was made on the basis of information on their distribution, populations, habitats, uses, their main threats and their conservation measures.

❖ Targeted taxonomic groups

The assessment targeted the following freshwater taxonomic groups:

- Crabs
- Dragonflies
- Mollusks
- Fish
- Plants

❖ Assessment method and type of data required

The assessment of species was undertaken using IUCN criteria and categories. The distribution and status of all known species of fish, mollusks, crabs, dragonflies and freshwater plants were evaluated with the combined efforts of various experts from the sub region.

The assessment was based on existing data only. These data were collected on all the various freshwater habitats of the sub-region (rivers, lakes, streams, brooks, marshes, ponds, pools, etc.). These include:

- Geographic distribution of species
- Status and general trend of the species population
- Population size
- Threats on the species
- Conservation measures
- Types of use

❖ Management and data analysis
All the information collected in the framework of this assessment was stored in a database developed by the IUCN/SSC. This database also known as service information on species (SIS) enabled the management and analysis of all collected data.

Figure 1: Interface of the information service on species
The data analysis of species evaluated has enabled the development of species distribution maps (when data is available), the status of the threat on the species according to the criteria and categories of the species.

Map 3: Distribution of some freshwater aquatic plants

**5.1.3. Integration of information and re-assessment of species**

After the assessment work was carried out by experts in the different countries workshops to integrate and re-evaluate the results were organized. For our West African region, the meeting took place in Accra. This meeting brought together various experts who conducted the first assessment and other IUCN experts who were responsible for supervising the re-assessment work.

In Cairo, an integration of the results from each African region was undertaken. This work served as a reference for the status and distribution of freshwater biodiversity in Africa.
Map 4: Different regions of Africa targeted by the assessment
5.2. Second phase of the project: Demonstration site

The assessment program of freshwater biodiversity aims to ensure that environmental planning for the development of water resources throughout Africa is based on the integration of reliable data on the status, distribution and ecological conditions of freshwater biodiversity. Thus, demonstration sites were chosen from different regions of Africa. For West Africa, the Gambia River Basin was selected. The activities for the site demonstration of the Gambia River Basin will eventually enable the monitoring of the impact of the future hydro-electric dam of Sambagalou on biodiversity. The objective is to establish a formal structure to develop a monitoring system of biodiversity; this will occur owing to the participation of local actors, but also to organizations in the basin such as the OMVG. The creation of an observatory is a priority for this demonstration site in order to cope with the major threats to the river.

Map 5: Demonstration sites in different regions of Africa
5.2.1. The demonstration site: The Gambia River basin

This case study focusing on the Gambia River basin has been implemented in close collaboration with the OMVG in order to develop a program to monitor the impacts of the future Sambagalou hydroelectric dam on the Gambia River that targets, in the long run, the creation of an observatory for the Gambia River basin.

The Gambia River Basin contains about 1,500 species of plants, 80 species of mammals, 330 species of birds, 26 species of reptiles, 150 species of freshwater fish and 481 species found in coastal lagoons. It harbors a great number of species and attracts many other species such as birds; explained by the many services they provide, but also by its diversity of habitats (estuaries, marshes, swamps, mudflats, etc.). These habitats will inevitably be affected by the future development work in Sambagalou. The major adverse impacts on the biophysical environment will be the loss of biological resources and habitats. According to the study report on the environmental and social impact that was completed, “these impacts are related to the modification of the water balance of the wetlands within the reaches of Senegal and The Gambia, the decline in the salt front during the dry season (positive and negative impact), the degradation of the reservoir water quality and downstream thereof, the modification of the estuary’s morpho-sedimentary balance, the gradual depletion of mangroves in the central estuary, the loss of habitat downstream from the dam during the dry season and a significant change in some populations of species”.


5.2.2. Methodology

This second phase should be implemented in different stages:

- Extraction and verification of data across the Gambia River Basin
- Identification of gaps in the data
- Development of a preliminary plan for the monitoring of biodiversity across the basin
- Organization of field trips to supplement missing data, identification of stakeholders for the monitoring of biodiversity, but also identification of their training needs
- Creation of a report on the biodiversity of freshwater of the Gambia River basin
- Development of training modules
- Training of actors in the monitoring of freshwater biodiversity of the Gambia River Basin
- Organization of a meeting to share project results in collaboration with the OMVG
- Development of a strategy for the integration of a monitoring plan as part of an environmental observatory
5.2.1. Meeting to review data across the Gambia River basin

This activity, which marked the launch of the second phase of the project, was held on July 15, 16 and 17 in Banjul. This meeting, which brought together the various national and local actors in The Gambia, Guinea and Senegal, enabled:

- Verification of the data collected during the regional assessment across the Gambia River basin
- Identification of gaps in the data
- Identification of key species and habitats of the Gambia River basin to be monitored
- Development of a draft for a monitoring plan targeting the different taxa
- Establishment of a working group to develop a monitoring plan

The meeting also served to involve grassroots actors from the various countries that share the Gambia River basin.
5.2.2. *Creation of a working group to finalize the work initiated in Banjul*

The high costs for the organization of the workshop did not allow for follow-up work in Banjul. Thus, after Banjul, Wetlands International Africa established a working group for the completion of work begun in the Gambia. This working group was composed of experts on the different taxa studied: Through numerous meetings, the group was able to finalize the gap analysis across the Gambia River basin and finalize a draft of the monitoring plan for freshwater biodiversity across the Gambia River.

The results of this consultation work related to the biodiversity monitoring plan and reporting on freshwater biodiversity in the Gambia River basin were the working papers of the Simenti workshop.

*Photo 7: Site of the future reservoir of the Sambagalou dam*
5.2.3. Simenti meeting and visit to the site of the future Sambagalou dam

This meeting brought together experts from The Gambia, Guinea and Senegal. Staff from the state’s technical services in charge of biodiversity conservation participated in the event. The meeting enabled the presentation of the plan for the monitoring of freshwater biodiversity, and thus the refinement of the methodologies to be adopted.

Training needs for the monitoring of different taxa were also brought up. In addition, the selection of sites where the monitoring should be undertaken was completed. These choices took into account the key habitats of the basin’s different reaches. This meeting also allowed for the presentation of the report on freshwater biodiversity in The Gambia basin, but equally to express the training needs for the implementation of the monitoring plan. To that end, a monitoring committee composed of biodiversity experts from the different countries that share the Gambia River was established. For each country a focal point was designated to organize a national feedback session and the establishment of a national committee for the monitoring of biodiversity in the basin.

At the end, a visit of the future site of the Sambagalou dam was organized. It enabled the different groups of experts to make a quick evaluation upstream and downstream of the site to better assess the biological richness of the site.
6. Project results

The implementation of the project resulted in significant and useful scientific results. These results will also greatly contribute to the development and management of freshwater ecosystems, and especially for West Africa, to an improved consideration of biodiversity in the development of the Gambia River Basin. These results include:

- Development of a list of species of the different taxa studied
- Establishment of a database on freshwater biodiversity
- Knowledge of the threat status of these species and the geographic distribution for some of them
- Capacity building of stakeholders
- Creation of a West African Network for the study of aquatic plants
- Development of a report on the status and distribution of freshwater biodiversity in West Africa
- Development of a preliminary plan for the monitoring of the freshwater biodiversity of the Gambia River Basin
- Creation of a report on freshwater biodiversity in the Gambia River basin
- Strengthening of the collaboration between partners of the Gambia River Basin
- Creation of a working group on biodiversity across the Gambia River Basin
- Strengthening scientific expertise across the Gambia basin and the enlargement of the working group to other institutions (IFAN, ISRA, IUPA)
- Development of training modules for the monitoring of freshwater biodiversity
- Involvement of the OMVG in all phases and activities of the demonstration project
- Sharing and transfer of all project results to the OMVG
- Involvement of other key actors (national parks, forestry service, etc.)

6.1. List of freshwater species in West Africa

A list of freshwater species of the studied taxonomic groups was developed for West Africa but also across the Gambia River basin. These groups focus on plants, crabs, dragonflies, fish, birds and mollusks. In total, more than a thousand species of fish, birds, crabs, mollusks, odonata, and aquatic plants have been identified for West Africa.
<table>
<thead>
<tr>
<th>Taxonomic groups</th>
<th>Number of species identified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crabs</td>
<td>2</td>
</tr>
<tr>
<td>Mollusks</td>
<td>38</td>
</tr>
<tr>
<td>Odonata</td>
<td>114</td>
</tr>
<tr>
<td>Birds</td>
<td>103</td>
</tr>
<tr>
<td>Plants</td>
<td>503</td>
</tr>
<tr>
<td>Fish</td>
<td>308</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1068</strong></td>
</tr>
</tbody>
</table>

### 6.2. Creation of a species database

Thanks to the species information system developed by the IUCN, all information relating to freshwater species and their habitats have been compiled. This database provides a variety of information that includes:

- **Systematic and taxonomy of the species**
- **The ecology of species**
- **Geographical distribution**
- **Uses of the species**
- **The threats to them**
- **Conservation measures they are subject to**
- **Conservation status according to the IUCN criteria and categories**

### 6.3. Red list of species

Based on all the information related to the species and their habitats and with the use of the IUCN criteria and categories, the assessment of the species’ conservation status took place. The species of the different taxa targeted have been classified in different IUCN categories. The red list is accessible via the website [http://www.iucnredlist.org](http://www.iucnredlist.org).

### 6.4. Capacity building of actors
The organization of training workshops over the course of the project’s implementation facilitated a strengthening of the experts’ capacities in the sub-region on the assessment of species using the IUCN method. These sub-regional training workshops were attended by experts from various African countries that ensured the assessment of the different targeted species.

In addition, the organization of exchange and information sharing via workshops helped to ensure better assessment, but also reinforced collaboration between experts.

### 6.5 Creation of a West African network for the study of aquatic plants

At the Dakar training session, a workshop on the assessment method for freshwater plants, a working group for the study of aquatic plants in West Africa was established. However, the working group was not functional due to a communication problem and the lack of financial means. Nevertheless, the assessment work was perpetuated by some members of the working group.

### 6.6 Creation of a network of experts across the Gambia River basin

The Gambia and Simenti workshops enabled the mobilization of a large network of researchers who will work with the three national focal points of the Gambia, Guinea and Senegal that have been established.
6.7. Strengthening of the collaboration

In the framework of the project’s implementation, Wetlands International Africa worked closely with research organizations, NGOs, local collectives in the sub-region (University Cheikh Anta Diop of Dakar, INRA of Burkina Faso, the University of Abdou Moumini of Niamey, the Environmental Research Center of Guinea, the National Environmental Agency of The Gambia, OMVG, CSE, GREP, etc.). WIA thus laid the groundwork for a future collaboration between these different structures specifically in the case of the Gambia River basin where a working group on biodiversity across the basin has been established. This group should work closely with the OMVG in order to assist the organization in undertaking studies on biodiversity and more specifically, to determine the baseline on biodiversity before the establishment of the dam.

The report developed by the IUCN at the end of the assessment work is a synthesis of results from the project’s first phase. It provides information on the distribution, conservation status and ecology of 1,395 species of fish, crabs, mollusks, odonata and aquatic plants. This report, which is open and accessible at [http://www.iucnredlist.org](http://www.iucnredlist.org) gives a description of the main habitats of aquatic ecosystems and threats to these habitats and their species.

**6.9. Development of a preliminary plan for the monitoring of freshwater biodiversity in the Gambia River basin**

A preliminary plan for the monitoring of freshwater biodiversity in the Gambia River Basin was developed. This report, which is currently available, provides information on key species and habitats of the different taxa studied thus, it is a reference document for the future observatory.

**6.10. Writing of a report on freshwater biodiversity in the Gambia basin**

A report entitled "Freshwater Biodiversity in the Gambia River Basin" was developed. It is based on the results of the project’s first phase related to the assessment work. It provides information on species richness of different studied taxa and the habitat diversity of the Gambia River Basin.

**6.11. Development of training modules for the monitoring of freshwater biodiversity**

Training modules on the monitoring of the different taxa studied have been developed. These are monitoring methodologies for crabs, mollusks, plants, fish and odonata. These modules are intended for managers and technical officers in charge of the conservation of biodiversity in the different targeted countries.

In addition, a training module entitled “IUCN Assessment System for the Conservation Status of Species” was developed at the Institute of Environmental Sciences for graduate students. It aims to
ensure a wide dissemination of the IUCN assessment method and to raise awareness of the IUCN red list. This unexpected result is linked to the involvement of the ISE throughout the project’s implementation.

Despite these numerous achievements, some scheduled activities could not be realized. These are the training of trainers on the monitoring of freshwater biodiversity in the Gambia River basin and the development of a strategy to establish an observatory integrating the biodiversity monitoring plan. The organization of a meeting to share project results was only between the actors and the OMVG at the Simenti workshop.

### 6.11. Creation of a team to coordinate and monitor biodiversity in the Gambia basin

This team is composed of one representative from each of the three countries. They will be responsible for facilitating coordination at the country level to maintain the network, which will be part of the observatory. One of the main tasks of this network will be to support the observatory in the mobilization of scientific information.

### 7. Difficulties encountered during the implementation

Various types of difficulties were encountered throughout the project’s implementation. These difficulties are mainly related to the use of SISDEM, a problem of regional coordination, momentary interruption of project activities, a communication problem, inadequate financial resources.
7.1. Difficulties related to the use of SISDEM

From the start of the project’s implementation, difficulties related to the use of the Information System on Species (SISDEM) delayed the assessment process. The experts took time to become familiar with this tool. This is partly explained by the fact that the software was in English, which was a constraint especially for our West African region where most countries are francophone.

7.2. A sub-regional coordination problem

A failure was observed in the regional coordination work of the species’ assessment. The working group that was set up was not functional due to a communication problem, but also due to insufficient financial resources.
7.3. The momentary interruption of the project’s activities

On many occasions, the project activities were suspended. This led to a failure in the assessment work of the first phase. This break also led to a readjustment of the activities of the second phase focusing on the demonstration site of the Gambia River Basin. These interruptions were related to the administrative management of the project.

7.4. Insufficient financial means

The insufficient budget lines for the scientific work were a major constraint for the proper execution of consulting work. As a result, certain experts lost their motivation.

7.5. Difficulties accessing information

Access to information was a major constraint for the assessment of the species. This difficulty is related to various elements: first, the insufficient quantitative data relating to freshwater biodiversity and poor access to information at the national level, but in particular at the regional level. Other constraints are related to the collection of geographic coordinates for the distribution maps of species distribution.

Moreover, to compensate for the lack of information, some documents were purchased during the first phase but due to the distance, some researchers could not benefit from them, whereas others took full advantage of them.

Photo13: Participants at the site of the future Sambagalou dam
8. Consequences of the constraints on the project’s implementation

These numerous problems noted in the project’s implementation had a negative impact on the duration of the project and the achievement of certain expected outcomes.

➤ Extension of the project’s duration

The temporary interruption of project activities, the problem of coordination and communication have contributed to an extension of the duration of the demonstration project which was to start in 2007 and could not start until 2008. However, it should be noted that the project’s duration had been underestimated given the number, and nature of activities that were planned.

➤ Expected outcomes not achieved

Some results were not achieved because of the difficulties mentioned above. The most important is the failure to start the implementation of the preliminary monitoring plan of freshwater biodiversity in the Gambia River basin. In this case, field missions had been planned, the training sessions for trainers organized, and early preliminary monitoring of key habitats and species in the Gambia River Basin foreseen. Yet in the end, a single guided visit was made on the site of the Sambagalou dam where researchers in small groups were able to make a quick assessment of the biological richness upstream and downstream of the site, but also on the future reservoir.

The involvement of the OMVG however, from the beginning to the end of the implementation process of the demonstration project, facilitated the transfer of results at the Simenti workshop where a brilliant presentation of the Sambagalou site was done during the field visit.
Photo 14: Site visit to Sambagalou by experts and the OMVG

Photo15: Visit of Sambagalou site
9. Lessons learned from the project’s implementation

The project "Freshwater Biodiversity Assessment" has achieved remarkable results including an assessment of the conservation status of several freshwater species, the production of distribution maps of these species, the establishment of a database on freshwater species, the publication of scientific reports, the development of a plan for the monitoring of freshwater biodiversity in the Gambia River basin and capacity building in assessment. These results were achieved despite some difficulties. Therefore, it is important to draw from the lessons learned in the implementation so that other projects can benefit from them: what have we learned from the implementation of the project? The answer is obtained through an analysis of positive and negative aspects of the process at different levels. This analysis took into account the answers
given by the resource persons who participated in the implementation of the project, through an interview guide was administered to them.

Photo 17: Site of the future reservoir of Sambagalou

The Lessons are drawn from various perspectives:

- Scientific that is to say in relation to the methodological approach used during the project implementation process and the results obtained
- Administrative and financial: focusing on issues related to administrative management of the project and the allocation of financial resources.
9.1. Scientific

a. On the methodological approach

- Identification and selection of experts to ensure the evaluation work will be done well before the training starts.

- The involvement of research institutions in the process to identify and select researchers in order to ensure a stronger management of the consulting work.

- In the selection criteria of experts, in addition to the skills, it is also important to take into account their availability.

- To ensure a good assessment of the species, it is essential to have a strong information base that enables experts to properly carry out the assessment work.

- Several training sessions are needed to allow the experts to properly assimilate the technical assessment of the species.

- In addition to the coordinators for the taxon, the establishment of coordination at the national level is needed to facilitate the assessment work.

- It is important to undertake national level assessments that can greatly facilitate regional level assessments.
a. On the methodological approach (Continued)

- Ensure that each country is represented among the group of experts responsible for regional assessments. This can also facilitate access to information.

- The establishment of a mechanism to share information can be very helpful in the assessment work.

- It is important to consider the language barrier during training sessions.

- The involvement of database technicians during training sessions can greatly assist evaluators in learning how to use SISDEM.

- The implementation of a project of this nature requires much more time.

b. On the results

- The results gathered are baseline information that can assist decision makers in the planning and management of water resources.

- The freshwater ecosystems of the West African region contain an important biological richness.

- The information on freshwater biodiversity is disparate.

- The West African freshwater biodiversity is not well known.

- The West African freshwater biodiversity is seriously threatened by various factors.

- The quantitative data on West African freshwater species are scarce;

- The Gambia River Basin contains an important part of the West African freshwater species.
9.2. Administrative and Financial

- It is important to review the administrative procedures thereby avoiding certain delays that have contributed to the extension of the project’s duration.

- A project of this nature calls for the establishment of a coordination team, which can ensure the smooth functioning and continuity of project management.

- The need for personnel and financial resources in such a project must be better assessed.

The implementation of a project of this magnitude requires more financial means and better budgeting.
10. Conclusion and recommendations

Despite the difficulties encountered during the project’s implementation, significant results were obtained and prospective collaboration between Wetlands International Africa and the OMVG in association with the network of researchers is promising. Ultimately, the following recommendations can noted:

- Ensure greater involvement of the basin organizations particularly the OMVG
- Ensure the dissemination and sharing of project results
- Ensure the continuity of the project with a training of trainers, which stands as an important step in the implementation of the monitoring plan
- Capitalize this experience of assessment by establishing a working group for the evaluation of species
- Strengthen regional expertise in the evaluation of species by training young researchers and creating/integrating training modules on the evaluation of species into the Institutes, Universities...
- Ensure that the documentation garnered during these projects is shared
- Encourage studies on freshwater ecosystems in order to ensure a better grasp of them
- Establish the baseline of biodiversity before the set-up of the dam, as this information will serve as data for the future OMVG observatory
Transfer the results to the OMVG and strengthen collaboration so as to lay the groundwork for a strategy to set up an observatory for the Gambia River Basin.

Ensure the dissemination of project results with other river basin organizations and policymakers.
Annex: List of participants from the sub-region who have contributed to the implementation of the project’s second phase.

Annex 1: List of participants at the Simenti workshop

Annex 1: list of participants at the workshop

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