



## University of Abomey-Calavi

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## Faculty of Agricultural Sciences

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## Biodiversity Information for Development Projects

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**Thoughts workshop on conservation of priority agroforestry, threatened and medicinal species, control and eradication of invasive alien species**

**Abomey-Calavi, Maison d'Accueil Sainte Anouarite, December 19<sup>th</sup> to 20<sup>th</sup> 2017**



## Report

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## Introduction

Sustainable management of biodiversity requires information about the different organisms that make it up, and their use for decision-making. The Global Biodiversity Information Facility (GBIF) works to mobilize and publish biodiversity data, in order to make them available to users (students, researchers, developers, etc.) to support decision-making.

Benin became member of GBIF since 2004, and has been actively involved in the mobilization and publication of biodiversity data, providing information and training on the importance of these data and their applications in decision-making. In recent years, emphasis has been placed not only on the mobilization and publication of data on agroforestry, threatened, medicinal and invasive species, but also on the modeling of their ecological niches, to support conservation and management decision-making at national level.

In the framework of the implementation of Biodiversity Information for Development (BID) national and regional projects, a list of priority agroforestry, threatened, medicinal and invasive species in data mobilization and publication area has been defined. Thus, many data on the selected priority species have been mobilized and published on the GBIF website. In addition, the modeling of ecological niches on some of the species has been carried out within the framework of the BID national and regional projects.

This workshop, held on December 19th and 20th, 2017 at Maison d'Accueil Ste Anouarite of Abomey-Calavi, is part of the BID national and regional projects. It aims to share the results of the different studies carried out in the framework of the two BID projects. This also provided room for in-depth discussions on the conservation of priority agroforestry, threatened and medicinal species, the control and the eradication of invasive alien species.

The workshop was attended by forty (40) participants. The agenda and list of participants are presented respectively in Appendices 1 and 2.

The workshop was organized into four sessions:

- Opening ceremony ;
- Communications on the modeling of the distribution of some species;
- Works in committees;
- Closing ceremony.

## 1-Opening ceremony

In the opening session, two speeches were delivered respectively by the Deputy Manager of the forest service and the representative of the Dean of the Faculty of Agricultural Sciences of the University of Abomey-Calavi.

### ❖ ***Speech of the Deputy Manager of Water, Forests and Hunting Department***

In his address, the Deputy Manager of the forest service, expressed his pleasure to talk at this workshop about agroforestry, medicinal, and threatened species as well as invasive alien species. Mr. Rémi HEFOUME reminded the importance of agroforestry and medicinal species including the ecological, economic, cultural, worship and health benefits for the populations of Benin. He emphasized the need to preserve agroforestry species given the challenges of climate change that humanity faces today. He also expressed his happiness about the good collaboration between research institutions and the authorities in charge of wood production. Mr. HEFOUME warmly thanked the workshop organizing committee and wished fruitful activities to the participants.

### ❖ ***Opening address by the representative of the Dean of the Faculty of Agricultural Sciences at the University of Abomey-Calavi***

The GBIF-Benin Node Manager and Coordinator of BID national and regional Projects gave the opening speech of the workshop on behalf of the Dean of the Faculty of Agricultural Sciences of the University of Abomey-Calavi. Professor Jean Cossi GANGLO thanked all workshop participants, especially the Deputy Manager of the forest service. He noted the tangible links between the institution in charge of Water, Forests and Hunting and GBIF-Benin. The Dean's representative reminded the history of GBIF-Benin and the key achievements to date. These include the mobilization and publication of more than 300,000 data on biodiversity, the modeling of ecological niches of some species and the unveil of the master's program in Biodiversity Informatics at the Faculty of Agricultural Sciences, this academic year. In addition, Prof. GANGLO indicated that most of the results on ecological niches modeling that will be presented during the workshop, have already been published. The Coordinator of BID national and regional Projects highlighted the important support of the Faculty of Agricultural Sciences in the framework to GBIF-Benin's activities.

## 2-Presentation of the results on models of spatial distribution and ecological niches of some species

Two series of communications were given during the workshop. The first introduced the group works on priority agroforestry, medicinal, threatened and invasive species, while communications of the day 2 fed group works on threatened and invasive plants.

The communications on spatial distribution and ecological niche modeling of priority species of Benin concerned the following species:

1. Potential geographical distribution of *Cissus populnea* Guill. & Perr. in Benin (West Africa)
2. Impact of climate change on the geographical distribution of *Milicia excelsa* Welw. C.C. Berg in West Africa
3. Ecological niche modeling and strategies for the conservation of *Dialium guineense* Willd. in west Africa
4. Spatial distribution and strategies for the conservation of *Chrysophyllum albidum* G. Don (white star apple) in Benin
5. Urbanization, Climate Change and Conservation Strategies for *Garcinia kola* Heckel, an extinct medicinal woody species in the wild
6. Importance of Biodiversity Informatics for the conservation and sustainable management of natural resources: case of *Khaya senegalensis* Desr & Juss and *Hypsipyla robusta* Moore in the future

Those communications are presented in a separate report on data use

## 3- Main threats to Benin's threatened plants and consistent actions to their protection and conservation

This communication on threatened species was given by Mr. Michaël HOUNSA. He established a list of twenty (20) priority threatened species and then enumerated the main threats to these species, including urbanization, exploitation of marine sand, agriculture, cutting of firewood, etc. At the end of the communication, Mr. HOUNSA suggested some interventions for sustainable

conservation for the priority threatened species in Benin. These conservation measures include Introduction of the species into botanical gardens; Undertake research on distribution, ecology, genetic diversity, ethno botany in order to reintroduce the species in natural forests; Promotion of the preservation and restoration of swamp ecosystems; Restoration and strengthening of forest conservation which is the last refuges for some species. A working group took forwards thoughts on invasive alien species and their contributions are presented in a separate report.

#### 4-Main actions to control and / or eradicate invasive alien species that threaten natural aquatic and terrestrial ecosystems in Benin

The second communication of Mr. HOUNSA was about invasive species. The form of presentation was similar to the first one. On the basis of the literature review carried out, a list of forty (40) invasive alien species has been established. Damages caused by invasive alien species have also been addressed by the communicator. Among others, there were: Development of monospecific stands; bottlenecks to any alternative process of indigenous colonization; Competition with native species; Monopoly of vital resources: nutrients, soil water and light, space; Soil alteration.

The last part of Mr. HOUNSA's communication dealt with the control and eradication of invasive species. Different methods were suggested: mechanical control, chemical control, biological control, and raising the awareness of the population. A working group took forwards thoughts on invasive alien species and their contributions are presented in a separate report.

#### 5-Closing ceremony of the workshop

Two speeches were delivered during the closing ceremony of the workshop. In his address, Colonel Rémi HEFOUME thanked all participants for their contributions to the achievement of the objectives of the workshop. He also appreciated great effort that is being done by the node manager of GBIF-Benin for the conservation of biodiversity in Benin. Mr. HEFOUME at the end of his speech made two recommendations: include species used in wood production in Benin and involve the country's leaders in workshops organized by GBIF-Benin.

The closing address was delivered by Prof. Jean GANGLO representing the Dean of the Faculty of Agricultural Sciences. In his speech, he expressed his gratitude to all participants of the workshop. Furthermore, the BID national and regional project Coordinator appreciated the very valuable results achieved and promised to make them available to policy makers. He thanked the Deputy Manager of forest service for his support. Professor GANGLO acknowledged also Dr. AKOUEHOU, the Organizing Committee of the workshop, European Union, GBIF before closing the workshop.

## Conclusion

The objectives of the workshop on the conservation of priority agroforestry, threatened and medicinal species, and the control and / or eradication of invasive alien species, within the framework of BID national and regional projects, were achieved. During the workshop, in-depth thoughts were conducted to suggest strategies for the conservation of agroforestry, threatened and medicinal species. Measures to control and eradicate invasive alien species have also been recommended. The different institutions and their expected roles in the defined strategies have been identified.

## Appendix: Program of the workshop

<b>Time</b>	<b>Activities</b>	<b>Responsible</b>
	<b>Day 1 : Tuesday, December 19, 2017</b>	
<b>Session 1</b>	<b>Opening</b>	
08:30–9:00	Welcome and installation of participants	<b>Organizing Committee</b>
09:00–09:50	- Speech of the Manager of Water, Forests and Hunting Department - Opening address by the Dean of the FSA-UAC	Facilitator
09:50–10:00	Introduction of participants	Facilitator
<b>10:30–11:00</b>	<b>Family photo</b>	<b>Organizing Committee</b>
<b>Session 2</b>	Summary of studies on climate change and on the conservation of priority agroforestry, medicinal, threatened and invasive species	Jean C. GANGLO Sunday Kakpo Michael HOUNSA Géoffroy DJOTAN
10:00–10:30	Summary of studies on species distribution modeling done in the framework of BID national and regional projects	Jean C. GANGLO Sunday Kakpo Michael HOUNSA Géoffroy DJOTAN
<b>10:30–11:00</b>	<b>Coffee Break</b>	<b>Organizing Committee</b>
11:00-11:30	Discussions	Facilitator
11:30-12:30	Works in committees	Facilitator
12:30-13:00	Restitution of the results of committees' works	Facilitator
<b>13:00–14:00</b>	<b>Lunch Break</b>	<b>Organizing Committee</b>
14:00–14:30	Summary of studies on species distribution modeling done in the framework of BID national and regional projects	Jean C. GANGLO Sunday Kakpo Michael HOUNSA Géoffroy DJOTAN
14:30-15:00	Discussions	Facilitator
15:00-16:00	Works in committees	Facilitator
16:00-17:00	Restitution of the results of committees' works	Facilitator
	<b>Jour 2 : Wednesday, December 20, 2017</b>	
08:30-09:30	Main actions to control and eradicate invasive alien species that threaten natural aquatic and terrestrial ecosystems	Michael Hounsa
09:30-09:45	Discussions	Facilitator
09:45-10:30	Works in committees	Facilitator
<b>10:30–11:00</b>	<b>Coffee Break</b>	<b>Organizing Committee</b>
11:00-11:30	Restitution of the results of committees' works	
11:30-12:00	Main threats to threatened species in Benin and consistent actions for their conservation	Michael Hounsa
12:00-12:15	Discussions	Facilitator
12:15-13:00	Works in committees	Facilitator
<b>13:00–14:00</b>	<b>Lunch Break</b>	<b>Organizing Committee</b>
14:00-15:00	Restitution of the results of committees' works	Facilitator
15:00-15:30	Synthesis of the workshop	Facilitator
15:30–16:00	Evaluation of the workshop	Michael Hounsa



Time	Activities	Responsible
<b>Session 3</b>	<b>Closing</b>	
16:00–17:00	<ul style="list-style-type: none"> <li>- Speech of the Manager of Water, Forests and Hunting Department</li> <li>- Closing address by the Dean of the FSA-UAC</li> </ul>	Facilitator