

Project Update : May 2025

Project Title : Ecological Importance of large old native trees in the sustainable management of sacred protected areas : Implications for the Conservation of Floristic and Faunal Biodiversity in Benin (West Africa)

Name of leader : ATINDEHOU Massogblé Marc Lucrèce

ID : 44309-1

Large old trees (LOT) species are important ecological structures for maintaining ecosystems. They are mostly present in sacred forest and holy sites. But they are currently facing enormous anthropogenic pressures, and most are mainly red-listed species in the "endangered" and "vulnerable" categories. The objectives of this report were to i) document the diversity and priority LOT species for conservation in sacred protected areas of Benin, ii) assess ecological role of LOT as shelter of faunal and flora biodiversity through sacred protected areas.

Activities

1. Documentation of the diversity and priority LOT species for conservation in sacred protected areas of Benin

This activity lasted two (02) months, from October 10, 2024 to November 26, 2024. Data was collected from 500 informants, identified in twenty (20) villages spread around the Sacred Forests of the three cultural landscapes of Ouidah, Dassa and Nikki. The informants cited twenty (20) species, including cultural priorities species as *Milicia excelsa*, *Ceiba pentandra*, *Khaya senegalensis*, *Vitellaria paradoxa*, *Azizah africana*, *Antiaris toxicaria*, *Gmelina arborea*, *Irvingia gabonensis*, *Blighia sapida*, *Ficus umbellata*, *Chrysophyllum albidum*, *Pterocarpus erinaceus*, *Zanthoxylum zanthoxyloides*, *Tamarindus indica* that are in decline in the sacred forests of the furrowed areas. The main reasons for the decline of these species are diverse, including: logging due to the characteristics of their stems (accessibility, durability, resistance and commercial value), erosion of traditional beliefs, urbanization, poor regeneration, intensive agriculture, etc. The photos below illustrate some semi-structured individual interviews.

Source : (20+) 🌿 Évaluation de la diversité et priorisation... - SOS Biodiversity | [Facebook](#)



Photo 1 : Semi-structured individual interviews with selected informants and traditional chiefs

2. Assessment of the ecological role of LOT as shelter of faunal and flora biodiversity through sacred protected areas

The project team has inventoried 15 sacred sites at the rate of five sites per cultural landscape from December 06, 2024 to February 16, 2025. An exhaustive inventory of old native trees have been carried out in sacred forests of Fita (Dassa-zoumè), Kpassè (Ouidah) and Serowendiro (Nikki). A targeted sampling approach has been adopted for data collection. In each sacred site, through various line transects of 2km the following data on each old native tree were recorded : species name, geographical coordinates, diameter at 1.30 m above ground level, total height, crown diameter, sacralization indices, diversity of epiphytes/plant parasites, avian colonization, number of habitat cavities of small mammals/batrachians, diversity of tree sprouts under the crown, tree protection, signs of vandalism, access path. The photos below illustrate the data collected and the anthropic pressures recorded on threatened species in the sacred forests.

Source : <https://www.facebook.com/share/p/1BW7YpNzy9/>



Photo 2: Measurements of dbh1.30m and some old native trees of *Khaya senegalensis* and *Adansonia digitata* found cut during data collection.

Table 1 : List of biodiversity dependent on species with old native trees in sacred forests

Species types	Scientific names	Family	IUCN Statut
Epiphytic plants	<i>Momordica charantia</i>	<i>Cucurbitaceae</i>	LC
	<i>Diaphananthe ceriflora</i>	<i>Orchideae</i>	LC
	<i>Phyllanthus reticulatus</i>	<i>Euphorbiaceae</i>	LC
	<i>Jasminum dichotomum</i>	<i>Oleaceae</i>	LC
	<i>Cissus petiolata</i>	<i>Vitaceae</i>	NE
	<i>Ipomea beninensis</i>	<i>Convolvulaceae</i>	LC
Parasitic Plants	<i>Striga hermonthica</i>	<i>Orobanchaceae</i>	LC
Birds	<i>Streptopelia hypopyrrha</i>	<i>Columbidae</i>	LC
	<i>Perdix perdix</i>	<i>Phasianidae</i>	LC
	<i>Hirundo streptopelia</i>	<i>Hirundinidae</i>	LC
	<i>Hirundo leucosoma</i>	<i>Hirundinidae</i>	LC
	<i>Streptopelia senegalensis</i>	<i>Columbidae</i>	LC

Mammals- Rodents	<i>Bubulcus ibis</i>	<i>Ardeidae</i>	LC
	<i>Accipiter erythropus</i>	<i>Accipitridae</i>	LC
	<i>Thryonomys swinderianus</i>	<i>Thryonomyidae</i>	LC
	<i>Apanteles taragame</i>	<i>Braconidae</i>	LC
Insects	<i>Apis mellifera</i>	<i>Apidae</i>	DD
	<i>Epiphora vacuna</i>	<i>Saturniidae</i>	LC
	<i>Mantis religiosa</i>	<i>Mantidae</i>	LC



Photo 3 : Some pictures of species reported on old native trees: a) bee hive observed in the cavity of *Adansonia digitata* at Damandoudoue sacred forest (Dassa), b: *Bubulcus ibis* present around an old tree, c : presence of *Thryonomys swinderianus* droppings at the foot of an old tree, d : *Streptopelia senegalensis* present on a branch of *Ceiba pentandra* old native tree_ Some epiphytic species_ e : *Diaphananche ceriflora*, f : *Momordica charantia* g : *Jasminum dichotomum*, h : *Trichillia pleeana* (Source : Atindehou pictures, 2025).

ACKNOWLEDGMENTS

We are grateful to the Rufford Foundation for giving us the opportunity to carry out these activities through the funding granted. These activities are of great ecological interest for the knowledge of old native trees in degraded sacred forests through various cultural landscapes in Benin. Our thanks also go to the Laboratory of Applied Ecology (LEA) at the University of Abomey-Calavi, our home institution, for providing us with field equipment and assistance. Our thanks also go to the NGO SOS BIODIVERSITY, Sirs Esquillin Balt HOUNDOFIN, Chrisologue HOUNDJEMON, the field guides, farmers, traditionnal village chiefs, loggers, forestry agents and local authorities of eacg cultural landscape for accepting the project and contributing to the success of the activities.

