



# How Quantitative Ethnobotany Involves Biodiversity Conservation: an Approach on Wari-Maró Forest Reserve (Benin)



seit 1558

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## Background

- How quantitative ethnobotany researches can contribute to guide biodiversity conservation is questionable these two last decades;
- This study used quantitative ethnobotany approach involving conservation of useful tree species;
- Such approach combined the popularity, the versatility and the ecological availability of the useful tree species;
- The study has been carried out on Wari Maro forest reserve, a forest that is experimenting huge degradation in Benin (West Africa).

## Research questions

- What are useful tree species that are mostly popular and versatile?
- What are more popular and versatile useful tree species that are not or weakly ecologically available in that area?

## Methods



- The study was carried out in the Wari Maro Forest Reserve located in Sudano Guinean zone of Benin (Figure 1).
- It is situated between 8°50' and 9°10' N of latitude and 1°55' and 2°25' E of longitude.

Figure 1: Wari Maro Forest Reserve and investigated localities

- Random sampling of 149 people belonging to four main socio cultural groups (Bariba, Nagot, Fulani and others);
- Semi-structured Interviews with focus some group discussion;
- Vegetation surveys along ten transects (long of 2000 m and large of 1000 m at least) from edge to core of the forest;
- Correspondence Canonical Analyze (CCA) was used to analysis simultaneously popularity and versatility of useful tree species
- Data were processed using ethnobotanical and ecological indices to highlight conservation priorities useful tree species

## Results

- A total of 79 useful tree species grouped into 70 genera and 32 families were cited as useful tree species by socio cultural group.
- The prominent families were Leguminosae, Moraceae and Combretaceae with respectively 25%, 10% and 08% of species.

## Acknowledgement

- Research funding through International Foundation for Science (IFS) at <sup>1</sup>Laboratory of Applied Ecology, University of Abomey Calavi, Benin.
- Conference attendance through Humboldt Research Fellowship at <sup>2</sup>Institut für Spezielle Botanik, Friedrich-Schiller-Universität Jena, Germany.

- Variation of useful tree species according to species families (Figure 2) and Use categories (Figure 3) are presented below.



Photo 1: *Cussonia arborea*

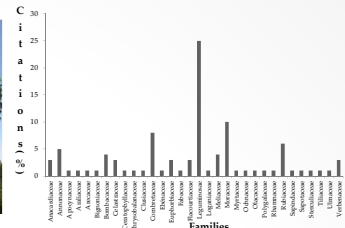


Figure 2: Citation of useful tree species per family



Photo 2: *Kigelia africana*

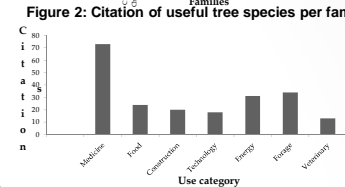


Figure 3: Citation of useful tree species per use category

Photo 1 & 2: Two conservation priorities useful tree species

- Useful tree species that are mostly popular and versatile according to interpretation of CCA axes, are summarized in table 1

Table 1: Popularity and versatility of inventoried useful tree species

Socio cultural group	Species	Use categories
Bariba	<i>Ximenia americana</i> , <i>Adansonia digitata</i> , <i>Borassus aethiopicum</i> , <i>Strychnos spinosa</i> , <i>Ceiba pentandra</i> , <i>Diospyros mesailliformis</i> , <i>Dialium guineense</i> , <i>Vitex doniana</i> , <i>Detarium microcarpum</i> , <i>Uvaria chamae</i> , <i>Piliostigma thoningii</i> , <i>Bridelia ferruginea</i> , <i>Lannea acida</i> , <i>Milicia excelsa</i> and <i>Sarcocephalus latifolius</i>	Food, Technology, Medicine and Energy
Fulani and Nagot	<i>Azela africana</i> , <i>Burkea africana</i> , <i>Pterocarpus erinaceus</i> , <i>Syzygium guineense</i> , <i>Vitellaria paradoxa</i> , <i>Pseudocedrela kostchyi</i> and <i>Parinari curatellifolia</i>	Energy, Construction and Veterinary.
Others	<i>Spondias mambin</i> , <i>Daniella oliveri</i> , <i>Flacourtia Indica</i> and <i>Parkia biglobosa</i>	Technology and Veterinary
All socio cultural groups	<i>Anogeissus leiocarpa</i> , <i>Ficus spp.</i> , <i>Annona senegalensis</i> , <i>Sterculia setigera</i> , <i>Blighia sapida</i> , <i>Khaya senegalensis</i> , <i>Isobreria doka</i> , <i>Hymenocadia acida</i> and <i>Pericopsis laxiflora</i>	Forage, Medicine and Energy

- The approach identified useful tree species such as *Adansonia digitata*, *Cussonia arborea*, *Kigelia africana*, *Milicia excelsa*, *Tamarindus indica*, *Annona senegalensis*, *Borassus aethiopicum*, *Vitex doniana*, *Ceiba pentandra*, *Khaya senegalensis*, *Azela africana*, *Daniellia oliveri* and *Ficus spp* as more popular and versatile useful tree species that are not or weakly ecologically available. Then, there would be priorities for conservation actions.

## References

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