

# Prioritisation of woody plants for conservation in traditional agroforestry systems along Ouémé Catchment in Bénin



Bruno E. Lokonon<sup>1,2</sup>, Essomanda Tchandao Mangamana<sup>2</sup>, Romain Glèlè Kakaï<sup>2</sup> and Brice Sinsin<sup>1</sup> Dep. of Natural resources management, Laboratory of Applied Ecology, Cotonou, Benin

<sup>2</sup> Dep. of Natural resources management, Laboratory of Biomathematics and Forest Estimations, Cotonou, Benin

### Background **Traditional Agroforestry (TA)** Socio-economic - human pressures values to local - climate change people Degradation of woody plants in Ouémé catchment (1) assess woody plants diversity and their use values (2) rank the species according to their **Objectives** priority for conservation (3) inventory local strategies for their conservation.

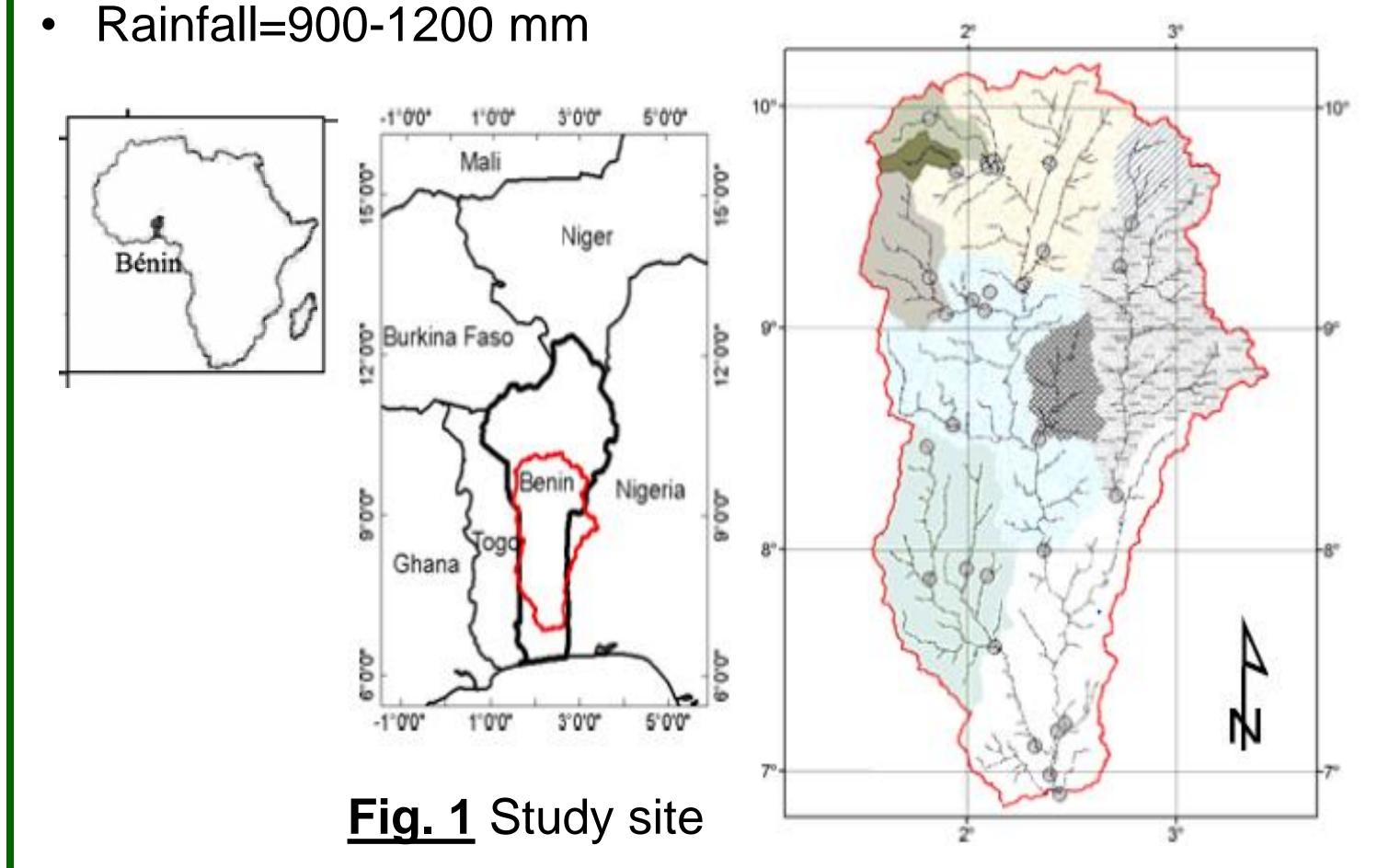
## Material and methods

#### (1) Study site:

- Ouémé catchment located from central to southern Benin
- Size: 49,256 km<sup>2</sup>
- Population: more than 12,000 people

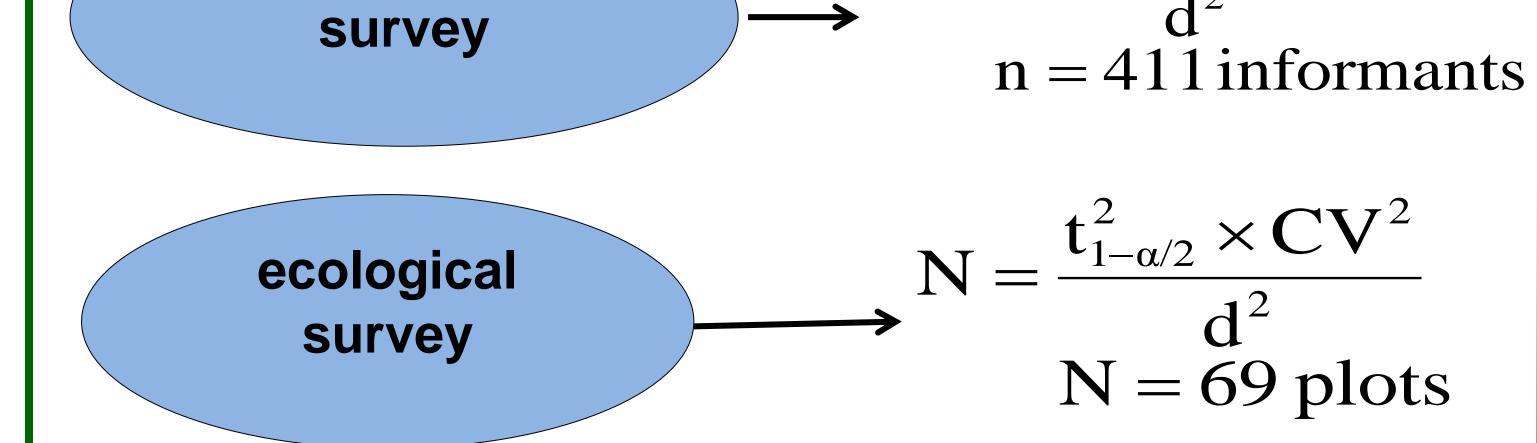
#### Climate

•  $\theta$ = 24 to 31 °C



#### (2) Sampling and data collection

ethnobotanical



 $n = \frac{U_{1-\alpha/2}^2 \times p(1-p)}{1-\alpha/2}$ 

#### (3) Data analysis

(a) Use value 
$$UVs = \sum Us.n^{-1}$$

$$Relative \ density = \frac{\text{Number of individuals of the species x100}}{\text{Number of individuals of all the species}}$$

(b) Prioritisation index (LCPI): (Oliveira et al. 2007)

LCPI = 0.5(BS) + 0.5(RU) BS=Dx10, D is a score RU is risk of use score

- Category1: LCPI ≥ 85: high priority for conservation
- Category2: 60 ≤ LCPI ≤ 84: moderate priority
- Category3: LCPI < 60: low priority</li>

## Results and discussion

- (1) 46 species belonging to 21 families
- (2) Use values in fig. 2.

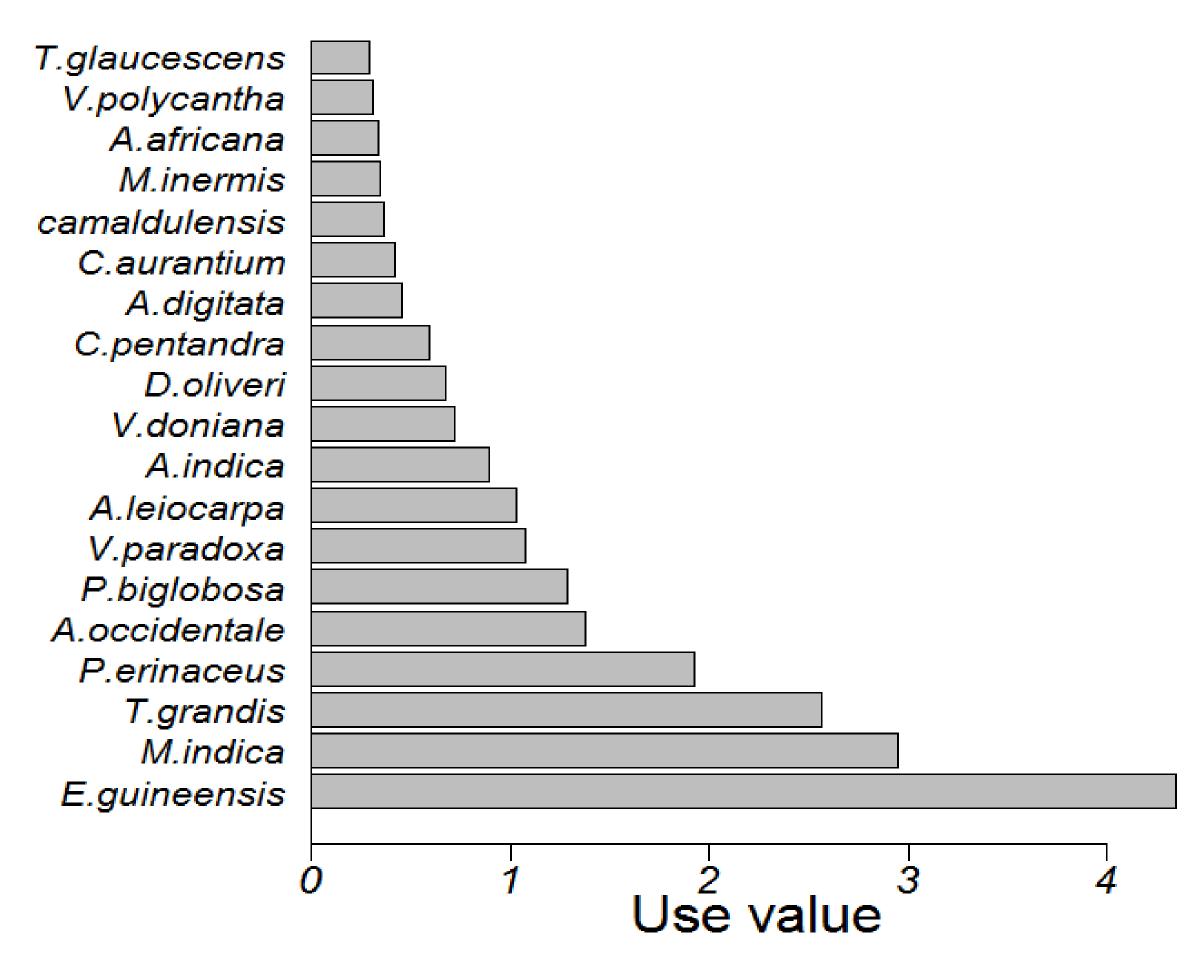


Fig. 2. Mean use values of the most valuable woody species

#### (3) **Table 1.** Priority index of the woody species

Species	RD	D	RU	LCPI
Afzelia Africana	0.16	10	85	92.5
Milicia excelsa	0.16	10	75	87.5
Prosopis africana	0.16	10	75	87.5
Parkia biglobosa	2.44	7	100	85
Pterocarpus erinaceus	2.93	7	100	85
Khaya senegalensis	1.60	7	100	85

- (4) Local conservation policies and actions:
- seedlings protection in farms;
- reduction of harvesting of sensible organs;
- practice of apiculture favouring pollination;
- conservation of some useful seeds in jar.

## Conclusions and Perspectives

Next investigations will focus on regeneration status and seedling growth dynamics of the six prioritized species along the catchment.

Contact authors at: <a href="mailto:brunolokonon@gmail.com">brunolokonon@gmail.com</a>





Local people are thanked for their generous hospitality