Local people's perceptions of forest and trees ecosystem services: Case of Kalounaye managed forest

Antoine Sambou[1*], Boubacar Camara[1], Arfang Ousmane Kémo Goudiaby[1], Abou Coly[1], Abdou Badji[1]
[1:] Department of Agroforestry Assane Seck University of Ziguinchor
[*:]corresponding author: tonysambouegos@yahoo.fr

Introduction

Human use of vegetation has a long tradition in semi-arid West Africa, and local people highly appreciate the goods and services provided by woody plants in the Casamance region of Senegal. Forests and woodland surrounding rural settlements supply vast ecosystem services.

Objective

The main objective of this study is to identify the different types of ecosystem services provided by the Kalounaye managed forest.
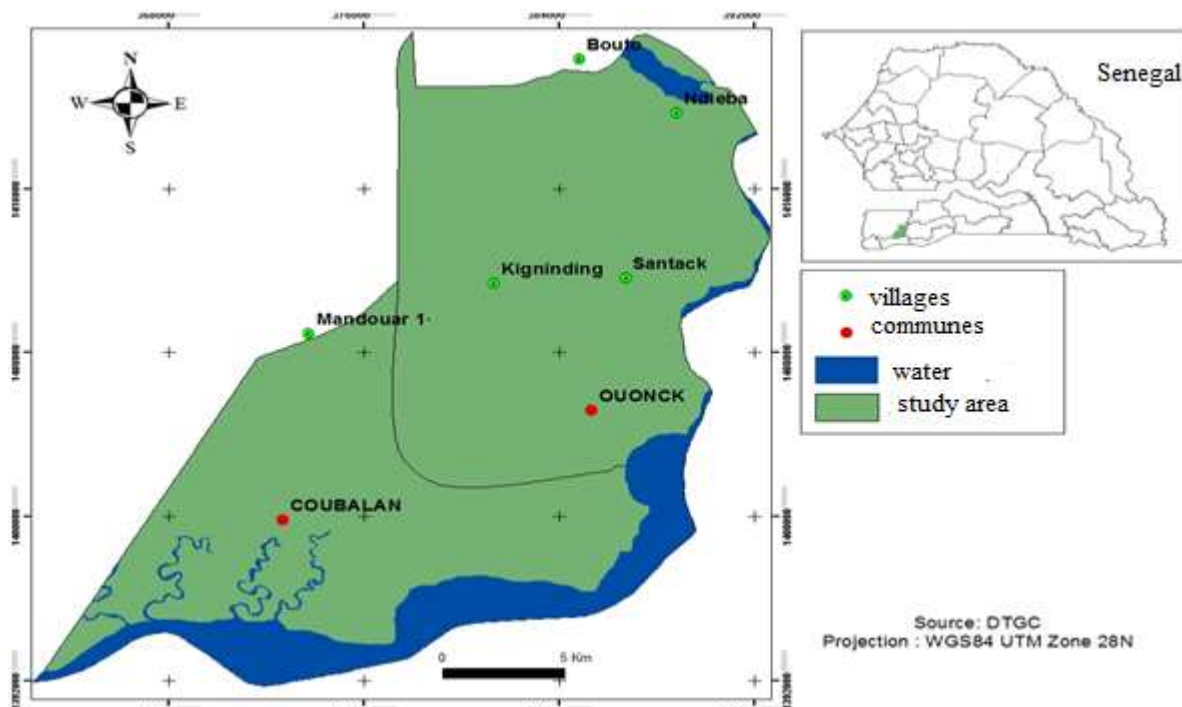
Methods

▪**Study area**

Fig 1: Location of the six villages (Ndiéba, Santack, Ouonck, Bouto, Kigninding and Mandouard 1) in Ouonck and Coubalan communes, Bignona district Ziguinchor Province in Senegal

▪**Data collection**

Surveys based on individual interviews and focus group discussions and field observations were carried out. 179 individual interviews and 12 focus group discussions were done. A semi-structured with free-listing approach was used to collect ethno botanical and ecosystem services data. The relative importance and the use of ecosystem services by rural people were assessed. The importance attributed to each category of ecosystem services and species was evaluated using use value (UV), informant consensus factor (ICF) and citation frequency (CF).

Results

Table 1: Use value and informant consensus factor of ecosystem services

Ecosystem services	UV(%)	Number of Species	ICF(%)
Provisioning	79.40	27	99
Regulating/supporting	8.10	18	97
Cultural	12.50	6	99

Table 2: Use value and informant consensus factor of provisioning ecosystem services

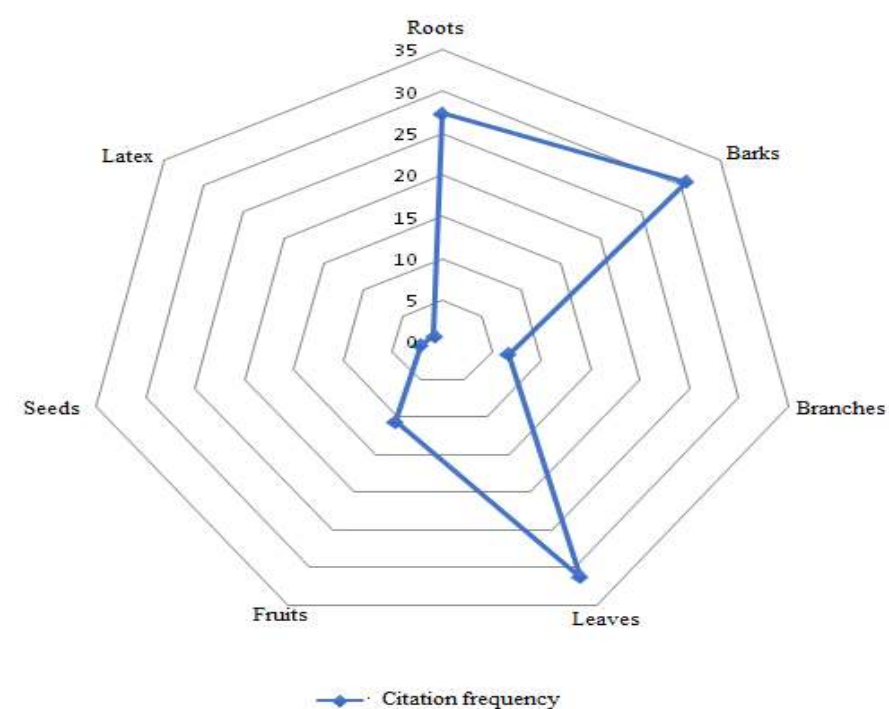| Provisioning services	UV(%)	Number of Species	ICF(%)
Food	36.29	16	99
Medicinal products	23.76	19	98
Firewood	14.34	11	98
Wood	7.66	6	98
Construction	5.92	4	98
Timber	1.31	3	96
Fodder	10.69	7	98

Fig 2: Citation frequency of using plant parts for medicine

Table 3. Use value and informant consensus factor of regulating/supporting ecosystem services

Regulating/supporting services	UV(%)	Number of Species	ICF(%)
Protection	37.38	10	95
Climate regulation	19.56	11	89
Precipitation	11.74	9	86
Water purification	3.91	4	84
Fertilisation	11.74	5	93
Carbone sequestration	15.65	18	78

Table 4. Use value and informant consensus factor of cultural ecosystem services

Cultural services	UV(%)	Number of Species	ICF(%)
Sacred	41.7	4	99
Leisure	34.47	5	98
Rituals	23.83	2	99

Conclusion

The managed Kalounaye forest is rich in very important species that provided provisioning, regulating/supporting and cultural services for the surrounding populations.