Tropentag, September 11-13, 2024, hybrid conference

"Exploring opportunities …
for managing natural resources and a better life for all"

Ecosystem services and interactions of the local communities in southern Benin community conservation areas: Naglanou forest and Lake Toho

Yasmina Adebi[1], Laurent G. Houessou[2], Waliou A. Abiola[3], Geoffroy Kake[2], Toussaint O. Lougbegnon[4], Sinsin Brice[1]

[1] *University of Abomey-Calavi, Lab of Applied Ecology, Benin*
[2] *University of Parakou, Biomonitoring and Research Unit Conservation of Protected Areas and Wildlife (UR-BiCAF), Benin*
[3] *University of Parakou, Lab. Integrated Production Systems Innovation, Benin*
[4] *National University of Agriculture of Porto-Novo (UNAP), School of Tropical Forestry (EForT), Benin*

Abstract

Understanding the interactions between locales communities and ecosystems is essential for a thorough assessment of ecosystem services provided and the sustainable management of ecosystems. This study aims to assess ecosystem services and the interaction of local populations with the biological resources of two Community Biodiversity Conservation Areas in Sud-Benin (ACCB), namely Naglanou Forest and Lake Toho. Data were collected from surveys of 110 households in 11 riverfront villages of the two ACCBs. Relative citation frequencies were used to determine the most prevalent plant and animal species in the provision of services to the public. Next, organ use values were calculated to identify the most commonly used organs in the two Community Biodiversity Conservation Areas. Finally, local communities' perceptions of biodiversity degradation factors were assessed using a principal component analysis and the Kruskall Wallis non-parametric test. The results showed a diversity of plant species (70 %) and animal species (75 %), as well as the importance of non-timber forest products (fungi (12. 82 %), snails (30. 77 %), honey (19. 23 %) and turtles (7. 67 %)) for local populations. The organs most often removed are the bark (20. 21 %), leaves (39. 76 %) and fruit (21. 38 %) in plants followed by fat (26. 79 %), skin (30. 65 %), feet (16. 84 %) and bones (15. 64 %) in animals. Deforestation, agricultural expansion, wildfires and climate change are the main threats identified to biodiversity. The local population proposed solutions such as the establishment of firewalls (72 %), intensification of agriculture with agro-ecological practices (43 %), reforestation (56. 86 %) and awareness campaigns (51 %) related to ecosystem services relevant to the conservation of this natural environment. It is therefore essential to consider these guidelines from riverfront populations in the planning and implementation of conservation actions within the two Community Biodiversity Conservation Areas (ACCB).

Keywords: Ecosystem services, Lake Toho, local communities, Naglanou Forest

Contact Address: Yasmina Adebi, University of Abomey-Calavi, Lab of Applied Ecology, Cotonou, Benin, e-mail: yadebi@yahoo.fr