

Final Evaluation Report

Your Details	
Full Name	Komo Mbarga Yves
Project Title	Assessing the population status and promoting the conservation of the Vulnerable African ebony tree <i>Diospyros crassiflora</i> Hiern (Ebenaceae) in the Campo-Ma'an National Park (South Region, Cameroon)
Application ID	39479-1
Date of this Report	26-07-2024

1. Indicate the level of achievement of the project's original objectives and include any relevant comments on factors affecting this.

Objective	Not achieved	Partially achieved	Fully achieved	Comments
Identify the main uses of <i>D. crassiflora</i> by the local population surrounding the Campo Ma'an National Park;			X	Five categories of uses were cited by the populations, namely (crafts, timber, energy, pharmacopoeia, animal feed and ritual).
Evaluate the impact of anthropogenic factors on regeneration, structure, and population dynamics of <i>D. crassiflora</i> in the National Park;			X	Methods of collecting organs by local populations such as slaughter and debarking are the cause of the reduction in small diameter individuals
Assess the potential seed dispersers of <i>D. crassiflora</i> ;		X		Using camera traps, we were able to identify potential spreaders, but the test on the viability of the grains coming from the animal tract was not carried out due to the absence of fruits on the adult plants of the ebony.
Sensitize local the population on the importance of <i>D. crassiflora</i> plays in maintaining the ecological balance of the forest ecosystem;			X	During ethnobotanical surveys, we took the opportunity to address the ecological role of ebony (carbon storage, keeps the food chain in balance).
Make recommendations on strategies to sustainably manage ebony wood exploitation in the study			X	Promote the practice of partial debarking of ebony trees. Launch an ebony

area.			reforestation operation. Ensure that the cutting diameter (DM=60 cm) is respected by forest operators. Fight against the practice of poaching.
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2. Describe the three most important outcomes of your project.

a) This study made it possible to present the local management of ebony populations in the peripheral areas of Campo-Ma'an Park (Akok, Bifa, Biyan, Mabiogo, Messama III, Mvini, Nnemeyong and Oveng). All parts of the plant are used. The techniques used in the collection of organs are slaughter and shelling with restive frequency as Citation Frequency $F_c = 49.1$ and 20.4%. The ebony vulnerability index is very high in the localities of Akok and Mvini with $I_v = 2.5$.

b) The inventories made it possible to identify 269 mature individuals (diameter ≥ 10 cm) i.e. a density of 1.27 stems/ha and 90 juvenile ebony individuals i.e. a density of 0.42 stems/ha in Campo Park over an area of 212 ha. The least rich localities in terms of ebony individuals are Biyan (39 individuals) and Mabiogo (25 individuals).

c) The use of camera traps made it possible to identify nine species (*Cephalophus silvicultor*, *Philatomba monticola*, *Tragelaphus spekii*, *Mandrillus sphinx*, *Genetta servalina*, *Hystrix cristota*, *Herpestes naso*, *Erythrocebus patas* and *Loxodonta cyclotis*) as potential disseminators of the seeds of the ebony.

3. Explain any unforeseen difficulties that arose during the project and how these were tackled.

The carrying out of this study encountered certain difficulties such as:

- On a financial level, we encountered a lot of difficulty in obtaining cash. The money was transferred to the University of Maroua account on April 21, 2023, but we had access to this money 2 months later.
 - We were unable to compare the germination potential of seeds from the tract of dispersing potentials. Ebony being a dioecious plant, only female individuals produce fruits. Additionally, these individuals do not produce fruit every year.
- We also encountered access difficulties in the campo park due to poor road conditions.

4. Describe the involvement of local communities and how they have benefited from the project.

These surveys also made it possible to inform the populations about the concept of the authorised cutting diameter in Cameroon (60 cm) and also that the exploitation of ebony wood is done through the issuance of a special permit. cutting issued by the Ministry of Forests and Wildlife.

The inventories on the distribution of ebony in the Campo-Ma'an park made it possible to: identify and establish an ebony distribution map with the participation of professional foresters (Menye, Nkel, Miassé Théophile and Aboui); to train local guides on the collection of dendrometric parameters and on the distinction between male and female ebony plants. Ultimately, the funding for this project made it possible to train local guides and even an eco-guard on the use of camera traps.

5. Are there any plans to continue this work?

Yes.

1. Ebony conservation strategies in Campo-Ma'an Park

- . Educate local populations in peripheral areas of the park on the ecological value of ebony.
- . Show the importance of dispersal potential on the ebony seed germination process.
- . Reforest ebony in the peripheral areas of Campo-Ma'an Park.

2. Research on the ecology of ebony in the Eastern, Central and Littoral Regions (Cameroon):

- . Evaluate ethnobotanical importance.
- . Educate local populations in peripheral areas of the park on the ecological value of ebony.
- . Establish the distribution structure for ebony.
- . Set up an ebony distribution map.

6. How do you plan to share the results of your work with others?

We work in collaboration with the conservation service of Campo-Ma'an National Park. We will use the information gained from this research as a basis for the development of an educational programme on the role of ebony in preserving the balance of rainforest ecosystems. The results of this work were presented during the doctoral seminar (November 2023) of the Faculties of Sciences of the University of Maroua. The manuscript has been submitted for publication in the peer-reviewed journal (*Tropical Conservation Science*).

7. Looking ahead, what do you feel are the important next steps?

The next important steps will be:

- Ebony conservation strategies in Campo-Ma'an Park.
- Show the importance of dispersal potential on the ebony seed germination process.
- Reforest ebony in the peripheral areas of Campo-Ma'an Park.

8. Did you use The Rufford Foundation logo in any materials produced in relation to this project? Did the Foundation receive any publicity during the course of your work?

Yes. I used the logo in a brochure of the project to explain the purpose of the project to the local communities in and around the park. The Rufford Foundation logo was used during the doctoral seminar (November 2023) of the Faculty of Sciences of the University of Maroua.

9. Provide a full list of all the members of your team and their role in the project.

The ethnobotanical surveys were carried out by: Komo Mbarga Yves, Miassé Théophile and Aboui.

The inventories of ebony feet in Campo Park were carried out by: Komo Mbarga Yves, Miassé Théophile, Aboui, Menye and Nkel.

The installation of the camera traps was done by: Komo Mbarga Yves and Menye, Nkel.

The final report was written by: Komo Mbarga Yves and Bakwo Fils Eric.

10. Any other comments?

I would like to thank the Rufford Small Foundation for providing funds to start this project and for contributing to the conservation of *Diospyros crassiflora* in Cameroon.