Final Evaluation Report

Your Details	
Full Name	Enangnon Oscar Doré AHOSSOU
Project Title	Reinforce ecological knowledge and alternative initiatives of local communities for the long-term conservation of the Itchèdè-Toffo forest in Southern Benin.
Application ID	38556-1
Date of this Report	May 24th 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
Study structural and ecological dynamics of the Itchèdè-Toffo forest			X	Some delays due to banking procedures, purchase and shipping of research equipment have disturbed our initial schedule. Extending our planning for about a semester as we had to postponed some observations to the next season.
Characterize local people's knowledge and dependences on the Ithèdè-Toffo forest resources			X	This was achieved through an ethnobotanical survey for which we had to include respondents from a third village (Akouho) in addition to the ones from Itchèdè and Toffo villages.
Raise awareness of local people on the conservation needs of the Itchèdè-Toffo forest and reinforce their traditional forest resources-based livelihoods strategy with alternative socio economic initiatives in order to promote the sustainability of the forest.			X	To reach this objective, group activities were organized. However, local authorities involved had preferred that the group discussions and other learning activities be organized for the three villages (Itchèdè, Toffo and Akouho) separately. Adding another delay to the project duration.

2. Describe the three most important outcomes of your project.

a). The structural and ecological states of the Itchèdè-Toffo forest are analysed

To illustrate the structural state of the Itchèdè-Toffo forest, aerial photographs (Annexes 1) of different stands of the forest were taken using a Phantom 4 Pro V2.0 drone (DJI). The aerial photos showed a globally degraded forest with a few well conserved stands. As far as the ecological state of the forest is concerned, Core DS-

4K (Dual Sensors, No Glow) camera traps (Bushnell) were installed in different stands to monitor animals' interactions. The results indicated an average low faunal richness and abundance in the forest stands (Annexes 2). However, human activities were heavily recorded (Annexes 3).

b). Local communities' uses and knowledge of the Itchèdè-Tofo forest resources are documented

Our ethnobotanical surveys indicated that the Itchèdè-Toffo forest offers a wide variety of resources to the local populations. Knowledge of the species, the various products and their uses are well shared among the different ethnic groups and fairly well transmitted through generations, traducing a long history of local people dependence on the forest. In average, local people dependence on the forest resources range from 25% for timber up to 90% for energy wood. Dependence on some food products from the forest were estimated to reach 55%.

Nevertheless, this high dependence of locals on the Itchèdè-Toffo forest resources (Annexes 3) allow them to have perfect views about the state of those resources. In addition, guardians of sacred traditions around the Itchèdè-Toffo forest hold valuable knowledge and solutions for the forest and its resources conservation. Local folk knowledge and ancestral traditional practices of local people in relation to the Itchèdè-Toffo forest can be particularly useful in increasing the sustainability and maintaining the quality of this rare natural habitat.

c). Local people and forest managers' capacities are strengthened through participatory approaches and alternative livelihood solutions are identified

Prior to the group discussions, about 97% of the respondents (ethnoecology survey) recognised that the Itchèdè-Toffo forest and its resources are on a regressive dynamic while many plant and animal species have become rare or inexistent. More importantly, most of the respondents were able to cite and rank different threats to the forest resources. Population increase, firewood collection, illegal hunting, vegetation fires and violent winds appeared to be the major threats.
We start the group discussions (Annexes 4) with a general description of our observations on the forest state and the livelihood activities based on the forest. Then, we let local people express their points of view and solution suggestions. Most of the participants to the group discussions were able to make objective diagnosis of the major causes of the forest degradation state and suggest different relevant solutions and alternatives to the forest resources uses. The proposed initiatives ranged from strengthening the local agroforestry systems and animal husbandry to the development of the artisanal processing industry and local crafts. Additionally, we suggest number of Nature Based Solutions (NBS)among which ecological coal production, development of alternative household fuels (such as palm nut shell), forest tree species nursery and market gardening, extensive fish and snail farming, bee keeping, etc.
Many training sessions on ecological skills were held in the forest (Annexes 4) in order to show direct cases to the participants. These were also interesting opportunities to learn from local people.

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

Our first difficulty was about the beginning of the project activities. We were not able to start earlier the ecological monitoring activities with the camera traps as they were delivered almost two months after the grant release. As these activities were planned to cover a whole year, we had to extend the project duration for about three months.
Another surprising fact was that a third village with an important population has been added to our ethnobotanical surveys and the related activities. In fact, the forest was named Itchèdè-Toffo because different authorities and forest scientists in Benin have recognized only two neighbouring villages (Itchèdè and Toffo) to this forest. However, during the first group discussions with the local people we realised that there is another village (Akouho) with an important population depending on the forest resources. We have then to involve them in the project.
In addition, the different local authorities involved preferred that the group discussions and other learning activities be organized for the three villages separately. However, we managed to hold a few group activities for leaders from all the three villages.

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

The overall socioeconomic situation of local people in Benin is quite precarious in this ongoing context of climate change and the related periodic shortages in food products. As usual, local people in Benin are open to potential solutions to their challenges from governmental institutions, NGOs and researchers.
The present project was welcome with a very high consideration from local leaders and authorities and with a great enthusiasm and hope by the different communities. Although, they had welcome number of similar initiatives in the past without concrete actions at the end, they showed great interest and full commitment to our present project. Especially women were very active during the discussions and ecological training sessions with very relevant suggestions as they know better the reel needs of their communities.
Through this project, our approach offered a rare opportunity to the populations around the Itchèdè-Toffo forest to feel more responsible of the future of their resources, transforming their mind from simple resources harvesters to potential resources managers. Many suggestions of alternative activities by local people were analysed and considered to be developed in the eventual coming projects. This made most of the participants proud and more hopeful for the future.
In addition, this first project has brought some more benefits to the Itchèdè-Toffo forest dwelling populations. A part of the project budget was spent in the three villages in the organisation of the different group discussions and trainings. Also, field assistants from the villages have been paid during the forest monitoring activities.
Beyond all these considerations, we believe that this first project had initiated a new point of view from the local people toward their natural resources. They have good confidence in the potential of the alternative activities and the Nature Based Solutions suggested. This fact reinforces our commitment into the long-term

conservation of the Itchèdè-Toffo forest and we are looking forward to having more concrete actions soon.

5. Are there any plans to continue this work?

As stated in the above section, this first Rufford Foundation project in the Itchèdè-Toffo forest has lighted up hope for a better socioeconomic future for local people and for a healthy ecological environment for their common natural resources. As far as we (the scientific team) are concerned, this first grant has raised our ambition to do the best to improve socioeconomic and environmental conditions of these humble communities.
We are then planning for a next project to take the different identified alternative socioeconomic initiatives and the suggested Nature Based Solutions from simple concepts to practice.

6. How do you plan to share the results of your work with others?
A photo catalog on forest-people interactions in the Itchèdè-Toffo forest was compiled. A second photo guide on animals' interactions in the Itchèdè-Toffo is in progress. As we have recorded a few animal species so far, we are still using the camera traps on the field in order to cover all the corners of the forest. Also, for the short term, one fact sheet and two policy brief papers are in progress on our different findings summarised in the previous sections. With the aerial photographs, an updated map of the Itchèdè-Toffo forest will realised in order to picture different management actions to be undertaken in different forest stands. These will be presented through a peer reviewed paper.

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

We initiated through the present project a first step (of appropriate knowledge acquisition) in a long-term process of community-based forest management and conservation. The next important steps should include actions that promote natural resources regeneration while local actors can rely on alternative livelihood activities, reducing thus harvesting pressures on the forests' ecosystems.

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?

The Rufford Foundation logo figures on our different posters and are present on all the documents in progress for publication (fact sheets and policy briefs). Also, the Rufford Foundation was presented to the local authorities and communities. Importantly, we will thank The Rufford Foundation in our scientific publications.

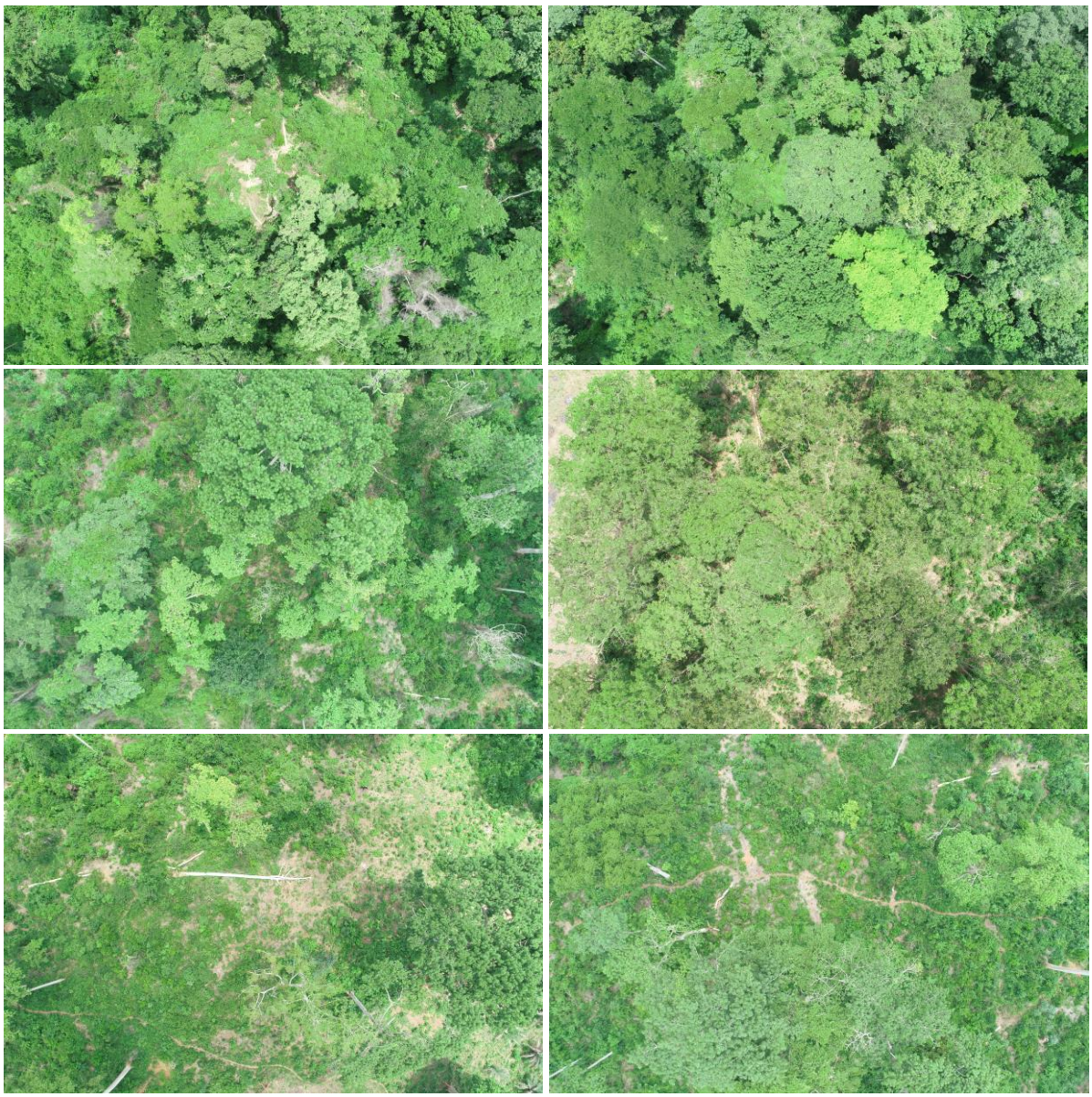
9. Provide a full list of all the members of your team and their role in the project.

Noris YANCLO: Assistant, responsible of camera traps installing and related activities
Julien DANHOSSOU: Assistant in charge of ethnobotanic surveys (questionnaires etc.)
Renaud SINSIN: Assistant in forestry and ecology question
Sébastien KOUTA: Expert in cartography
Fulbert KAKPO: Main field assistant in charge of participants mobilisation and logistics

10. Any other comments?

We are grateful to the Rufford Foundation for supporting our research activities and for its great contribution to the local communities' wellbeing. Many thanks.

ANNEXES



Annex 1: Aerial photographs of the Itchèdè-Toffo forest stands (using a Phantom 4 Pro V2.0 drone). Dense forest stands (upper photographs), moderately degraded forest stands (middle photographs) and degraded forest stands (lower photographs).

Annex 2: Photos obtained by camera traps of major mammals in the Itchèdè-Toffo forest. Top photo: Grimm's duiker (*Sylvicapra grimmia*), down photo: Civet (*Civettictis civetta*). Photos obtained from videos records using Core DS-4K (Dual Sensors, No Glow) camera traps (Bushnell). Other photos of rodents (squirrels, cricetoma) and birds are presented in the catalogue.

Annex 3: Human activities in the Itchèdè-Toffo forest. Photos obtained from videos records using Core DS-4K (Dual Sensors, No Glow) camera traps (Bushnell).

Annex 4: Photos of group discussions and training sessions with local populations around and in the Itchèdè-Toffo forest.