Final Evaluation Report

Your Details	
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Project Title	Contribution to the conservation of fungal diversity in the Kou classified forest in western Burkina Faso
Application ID	43554-1
Date of this Report	20th June 2025

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
Diversity of wild macromycetes in the Kou Forest				Fungi were collected along transects 1 km long and 10 m wide, using the opportunistic sampling approach described by Mueller et al. (2004), taking into account the random distribution of basidiomes and species. We collected 50 samples during prospecting and collection trips. Following morphological characterisation, we identified 32 species, divided into edible and medicinal species. It should be noted that the inventories were not completed because the funding was granted later than planned. Collections will continue this year, between August and September 2025, in order to compile a complete catalogue of the Kou classified forest. The project was implemented over 12 months. Mushroom prospecting and collection began in August 2024 and lasted 2 months (60 days). The surface area of the Kou classified forest is 115 hectares. The second phase of the survey took place from February to March 2025. This survey lasted 45 days. The average daily distance was 40 kilometres. Our institution is located more than 300 kilometres from the site of the classified forest. Stratified routes were chosen by following the transects in order to estimate fungal richness and diversity. Each basidiome was collected with a knife from different substrates. Part of each specimen was preserved in Eppendorf tubes containing cetyltrimethylammonium bromide (CTAB). A morphological description of the specimens was carried out in accordance with the method of De Kesel et al (2002). The

				specimens were labelled, wrapped in aluminium foil and placed in a collection basket. After collection, a technical photograph of each sample was taken. The GPS coordinates of the collection points were recorded. The samples were then dried in an electric desiccator (Dorrex) at 45°C for 24 hours and placed in hermetically sealed mini-grip bags. Finally, we used fungal identification keys (De Kesel et al., 2017; Dai, 2010) and checked the nomenclature of the fungal species using the Index Fungorum (https://www.indexfungorum.org/). A catalogue of species from the Kou classified forest was drawn up after the fungi were described morphologically. This catalogue was created to serve as a guide for mycology students. A total of 32 species were identified. These include both edible and medicinal species.
Documenting the traditional knowledge of the Bobo people regarding the use and conservation of macromycetes in the Kou classified forest.				The ethnomycological study described by Ndong et al (2011) involves exploring traditional mycological knowledge. This includes the consumption of different species, the names that are used for them, whether they are edible, the best times of year to harvest them and how to preserve them. Surveys were conducted in villages surrounding the FCK to evaluate the socio-economic significance of mushrooms within households. Three villages were selected at random. Semi-structured interviews were conducted using questionnaires. A total of 30 people was interviewed in each village. The data were entered and processed using an Excel spreadsheet, and then analysed using R4.1.2 software (R Core Team, 2021). The aim of this approach is to provide a concise identification of the processes by which mushrooms are used and their importance in local communities. A questionnaire was distributed to local

				residents near the Classified Forest of Kou, revealing that mushrooms are more familiar to the elderly and are frequently incorporated into recipes by women fulfilling traditional roles. The locals classify mushrooms based on criteria such as morphology, consistency, taste, and ecology. Notably, edible mushrooms like "Tutugu minlè" and "vontugu" are distinguished by size and colour, while "Klanglui", "Tortutugu", and "Sumuni-tangakoro" are classified as 'broad-capped fleshy mushrooms', 'mushrooms linked to *Berlinia africana* (tar), and 'monkey stool', respectively. These mushrooms serve various purposes, including culinary, medicinal, and cosmetic applications.
Raise awareness about the involvement of the local community in macromycete conservation strategies				Local communities were made aware of the importance of preserving the Kou classified forest, which is a natural sanctuary for macromycetes, through the use of leaflets and posters. Group discussions were organised with three groups of 20–25 people per village, led by young volunteers willing to accompany us. The people who moderated and above all facilitated the interpretation during the exchanges were guides. Their representative lives in Kokorowé, not far from the classified forest. The local indigenous population to whom the questionnaire was addressed were mainly farmers. The local people showed keen interest in the awareness campaign and made recommendations. A large number of recommendations were made by local people, but the most important were as follows: ➢ Organise training to strengthen forest protection, ➢ Raise community awareness of climate

				change issues, ➢ Train communities to preserve mushroom habitats, ➢ Hold training sessions on mushroom cultivation.

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

a). A catalogue of the macromycetes of the Kou classified forest has been compiled through to the sample collection missions that took place. Nearly thirty species of macromycetes that are particularly important for food or medicinal purposes were identified. This is the first result of its kind, as existing mycological data on this forest was fragmentary. However, it should be noted that this result underestimates the true number of macromycetes. Further studies are therefore needed to produce a complete mycological flora of the forest, which is estimated to contain almost 200 species of fungi.

b). The classification and edibility of macromycetes is well understood locally. The Bobo people, neighbouring the Kou classified forest, have a long-standing tradition of gathering and consuming these mushrooms, making them familiar with edible macromycetes. Mushroom nomenclature is based on morphological aspects such as shape, colour and woody plant partners, as well as the place of harvest. Small edible macromycetes are called 'tutugu minlè', meaning 'small mushrooms', while ectomycorrhizal species associated with *Berlinia grandiflora* are called 'tortutugu', meaning '*Berlinia* mushroom. Most uses species have named and are well known, whereas the other species is not wide common in the community and did not have any specific vernacular name.

c). People were made aware of the harmful effects of anthropogenic actions on vegetation degradation and its repercussions for fungal biodiversity conservation. At the end of the well-received awareness-raising session, the rural populations made a community commitment to play an active role in protecting the Kou classified forest, carrying out reforestation work and setting up a village forest monitoring committee. Furthermore, the communities expressed their joy regarding the mushroom conservation project, which is the first of its kind in their area.

The Supervisory Board is in constant contact with us as we manage the project. We have a meeting scheduled for August 2025. Community awareness-raising and monitoring activities are therefore underway.

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

This project has been straightforward to carry out. However, as the project was approved in August 2024, we began work on macromycete inventories in the Kou

classified forest. However, the late acquisition of the grant, due to administrative formalities, considerably reduced our momentum. Additionally, the mushroom harvesting season in the forest is between July and September. Consequently, we had very little time for collection. Nevertheless, planning the collection for August and September 2024 enabled us to compile a database on the macromycetes of the classified forest of Kou. We also intend to extend the collection period in the second phase to take stock of the hidden fungal biodiversity of the forest.

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

People living near the Kou classified forest were involved in this project. During the ethnomycological surveys in the Bobo communities, the local people appointed an interpreter in each village. These interpreters guided us throughout the activities. During the awareness-raising sessions, 15 volunteers, including five from each village, relayed advice and good practices for conserving forest ecosystems. These volunteers supervise the collection of mushrooms and indicate the optimal time for harvesting macromycetes.

5. Are there any plans to continue this work?

There are prospects for continuing this work, particularly through increased prospecting and collection to create a comprehensive catalogue of macromycetes in the Kou classified forest. Additionally, as the riverbanks are in a state of advanced degradation, we intend to collaborate with local communities to replant ectomycorrhizal species along the riverbanks. This will help protect the forest and boost its capacity to produce wild macromycetes. Furthermore, to empower local communities, training sessions on cultivating certain fungal species, such as oyster mushrooms and *Agaricus*, will be organised during the second phase of the project.

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

The results of our work will be shared with NGOs that focus on ecosystem conservation, as well as with government policies and structures related to water and forests. This will be done through participation of symposium and other scientific activities at national and regional level. Additionally, posters and leaflets on the macromycetes of the Kou classified forest will be printed and distributed to tourist guides and cultural leaders for use with tourists and other visitors of the Kou classified forest. The results will be published in a peer-reviewed journal with open access to make them accessible to all. Data on the macromycetes of the Kou classified forest will be published via our Facebook, and ResearchGate accounts on social networks. Finally, a master's student in Biodiversity and Management of Tropical Environments at the University Norbert Zongo will use the data on the diversity of macromycetes and the Bobos' endogenous knowledge and conservation of macromycetes for his dissertation.

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

We have not yet completed the present study. In fact, the study of macromycete diversity in the Kou classified forest is ongoing, meaning that further collection trips are required to identify as many species as possible before they become extinct. The pressure exerted on the forest by human populations constitutes a serious threat to fungal species. This is why COREJEC (the Regional Youth Coordination for Environment and Climate), in collaboration with the Mouhoun Water Agency, has organised the villages surrounding the Kou Forest into market gardening production groups. Agricultural land have been set up for market gardening in the three concerned villages. This support from the youth organisation is in line with the vision of protecting the forest and its ecosystem. One of the key recommendations of people living near the forest is to organise reforestation sessions and training for groups so they can effectively protect the forest. Training in forest protection and the sustainable harvest of non-timber forest product is also planned.

A strategic plan for the conservation of the fungi of the Kou classified forest is currently being drawn up, with the following strategic objectives:

- To preserve the diversity of macroscopic fungi,
- Enhance the traditional knowledge and uses of mushrooms,
- Strengthen local capacity for the sustainable management of forest resources,
- Create local economic opportunities via a sustainable mushroom production chain.

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 logo was use in our activities as soon as the project to conserve fungal diversity in the Kou classified forest was accepted. In fact, the acceptance of our project was announced on our WhatsApp social network bearing the Rufford logo. Our leaflets, posters to raise awareness among local people, ethnomycological survey sheets and the catalogue of Kou mushrooms also bore the Rufford logo.
We did not use the Rufford logo for any other publicity.

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

Sanon Hyppolite. Our focal point and guide, he knows the Kou Forest and its mushrooms inside out. A native of Kokorowé, he speaks the local language, Bobo, fluently. He has also played a key role in raising awareness of the importance of conserving macromycetes in the forest.
Hien Satassa. PhD student in plant biodiversity and conservation. He is specialist in ethnobotanical and ethnomycological surveys. He designed the survey sheets and carried out the surveys among the local people. He also took part in the collection of macromycetes.
Bernard Sawadogo. A postdoctoral researcher in the Life and Earth Sciences laboratory. He took part in the survey and collection of macromycetes in the Kou classified forest alongside us.

10. Any other comments?

We would particularly like to thank the Rufford Foundation for the grant obtained for the project on Contribution to the conservation of fungal diversity in the Kou classified forest in western Burkina Faso.