



## PROJECT PROGRESS

**Project Title:** Promoting the Conservation of Critically Endangered *Callulina laphami* Through Conservation Education to Communities around Kindoroko and Minja Forest Reserve, Tanzania

**Grant ID:** 46957-1

**Project Leader:** Geoffrey Samson Mugini

### **Activity 2: Assessing Communities' Knowledge, Perception and Attitude toward Amphibian Conservation**

We perfectly conducted household surveys and focus group discussions in the villages surrounding Kindoroko and Minja Forest Reserve to assess the community's knowledge, perceptions, and attitudes toward amphibian conservation, with particular focus on *Callulina laphami*. A total of 225 respondents from 9 villages (Ndorwe, Chomvu, Lomwe, Kindoroko, Kirongwe, Mshewa, Ngagheni, Thereni and Usangi) around Kindoroko and Minja Forest Reserve were included in the interview. This study revealed that 81.1% of respondents reported that amphibians have no importance to them instead the mountain land for cultivation, indicating a critical gap in awareness of their ecological roles. 92.3% highlighted that they had never received any conservation education related to amphibians.

However, 60% of respondents were aware that deforestation and conversion from natural forest to plantation as well as cultivation of Banana and Sugar cane and Cardamoms toward the forests are major threat to amphibians, suggesting some understanding of habitat-related challenges. These findings underline the critical need for focused conservation education and awareness campaigns to modify perceptions and promote management of and its habitat. A more detailed qualitative analysis of the focus group discussions indicated that negative perceptions were frequently grounded in cultural myths and a concern that amphibians are toxic. Interestingly, a minority of elder generations (approximately 23.5%) maintained traditional, favorable beliefs, associating frogs with rain and agricultural fertility, which may serve as a valuable cultural entry point for our educational initiatives. On the other hand, 22.7% of adolescents had a limited grasp of the relationship between amphibians, habitat composition, and habitat dynamics, as they were able to identify how any change in vegetation could contribute to the extinction of this species. The poll also identified farmers and fuelwood collectors as the major stakeholder groups whose activities

most directly interface with the frog's ecosystem, allowing us to tailor future measures more effectively.





**Plate 1.** Project leader assessing community’s awareness, knowledge and perception to local villagers of the Kindoroko and Minja Forest Reserve

### **Activity 3: Development of a Species Action Plan**

After completing the knowledge evaluation, we began the preliminary task of droughting a Species Action Plan for *Callulina laphami* and other herps present in the forest. This project is in progress and focusses on inclusive stakeholder participation. Tanzania Forest Service (TFS), conservation officers, herpetologists, non-governmental organizations (like Green Horizon Foundation, and the WWF-Tanzania which works extensively in the northern part of Tanzania including the Pare Mountains), and community representatives have all begun to engage. Preliminary threat mapping has revealed important threats to the species and its habitat, such as conversion of the forest into plantation, agricultural expansion, deforestation for lumber and fuelwood, and low conservation awareness in nearby communities.

The central element of the species action plan is the development of a clear strategy for integrating its recommendations into local government policies and the existing Kindoroko and Minja Forest Reserve management plan, thereby ensuring institutional ownership and long-term sustainability beyond the project lifespan. The draft framework also explores viable sustainable livelihood



alternatives, including beekeeping and native tree nurseries, to reduce community dependence on forest resources, recognizing that conservation outcomes are closely linked to local economic realities. Overall, the draft action plan emphasizes habitat protection and restoration, community-based conservation initiatives, conservation education and outreach, and long-term monitoring of *C.laphami* and other herps populations. The species action plan is intended to serve as a practical guiding document for authorities and communities to implement effective and sustainable conservation actions with the aim of protecting herps of the Kindoroko and Minja Forest Reserve.

#### **Activity 4: Training Sessions and Awareness Campaigns**

To address the gaps revealed during the surveys, we conducted training workshops and awareness sessions for communities around Kindoroko and Minja Forest Reserve. Sessions targeted local leaders, farmers, women groups, and youth. The training emphasized the ecological importance of amphibians, their role as bioindicators, and the critical status of *C. laphami*. Leaflets and brochures were designed and distributed, highlighting the threats facing amphibians and practical ways communities can contribute to conservation. School visits and public meetings were carried out to reach a wider audience. Initial feedback suggests an increasing appreciation of amphibians' ecological value. These interventions have started to bridge the knowledge gap and create a foundation for community-driven conservation of *C. laphami* and other amphibians in the Pare Mountains. To ensure the messages were culturally resonant, we employed local facilitators and used participatory methods, including storytelling, to demystify amphibians and dispel myths. We also established Community Conservation Committees in two villages, comprising respected local leaders and enthusiastic volunteers. These committees will act as permanent liaisons, monitor human activities in the forest periphery, and help sustain the momentum of the awareness campaign long after the formal project concludes. Furthermore, educational materials were translated into Kiswahili and the local Pare language to maximize accessibility and impact.



**Plate 2.** Workshop session which was conducted between team member, village youths and TFS'S Youths officers discussing on amphibians' ecology and measures to be taken.



**Plate 3.** Team leader providing education during the training session

## **5. Challenges and Mitigation**

The project's implementation faced two major hurdles. First, some community members were hesitant to prioritize protection of small species like frog over more pressing economic demands like land for cultivation, and farms for plantation as well as water source. This problem was met with a long-term and patient discussion that emphasized amphibians' greater ecological value as well as the clear links between healthy forest ecosystems, reliable water sources, and sustainable natural resources for local residents.

Second, logistical constraints were a major barrier throughout education and awareness initiatives. The initiative runs in two separate forest reserves-Kindoroko and Minja Forest Reserves-that are linked to different settlements located at great distances from one another. The great distances between villages raised travel time and costs, limited the frequency of outreach initiatives, and curtailed opportunities for joint community meetings. These physical constraints hampered the delivery of consistent conservation messages and necessitated additional planning to assure equitable participation of all target populations.

## **6. Conclusion**



The project has achieved substantial progress in evaluating community perceptions, initiating the development of an action plan, and increasing awareness of amphibian conservation. Initial findings highlight a continued need for sustained education and deeper stakeholder engagement, while also demonstrating encouraging levels of interest and willingness among communities to learn and actively participate in conservation efforts. Support from the Rufford Foundation has been instrumental in enabling these accomplishments, and we aim to build on this momentum to deliver long-term, sustainable conservation outcomes for the critically endangered *C. laphami* and the other herps of the Pare Mountains.

The next phase of the project will prioritize the completion and formal adoption of the Species Action Plan, the expansion of capacity-building efforts for Community Conservation Committees, and the implementation of a pilot habitat restoration initiative in a degraded forest-edge area in which native plants will be established in both Kindoroko and Minja Forest Reserves. Also, the next phase is planning to provide beehives to community around the forest as alternative source of income, therefore reduce dependency on the forest resources. In parallel, we are exploring the establishment of a citizen science monitoring programme to actively engage community members in data collection, thereby strengthening local stewardship and ownership of conservation outcomes. The foundational support provided by this grant has successfully stimulated local interest; the forthcoming objective is to translate this momentum into tangible, measurable actions that secure the long-term survival of *C. laphami*