

## Final Evaluation Report

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We ask all grant recipients to complete a project evaluation that helps us to gauge the success of your project. This must be sent in **MS Word and not PDF format**. We understand that projects often do not follow the predicted course but knowledge of your experiences is valuable to us and others who may be undertaking similar work – remember that negative experiences are just as valuable as positive ones if they help others to learn from them.

**Please DO NOT fill in and submit this form until the project has been completed.**

Complete the form in English. Note that the information may be edited before posting on our website.

Please email this report to [jane@rufford.org](mailto:jane@rufford.org).

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Your Details	
<b>Full Name</b>	Enoka Munduka John
<b>Project Title</b>	Promoting the Conservation of Critically Endangered Kanga Warty Frog Through Conservation Education to Communities Around Kanga Forest Reserve, Tanzania
<b>Application ID</b>	45301-1
<b>Date of this Report</b>	18 <sup>th</sup> November 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
Data on population size, distribution and habitat condition				<p>The project team successfully collected ecological data on <i>C. kanga</i> and its habitat characteristics using the Visual Encounter Sampling. We documented the species' occurrence with detailed data such as GPS coordinates, tree height, perpendicular distance, and habitat conditions (elevation, canopy cover, under-story, temperature, and humidity). The project established three sites in four different elevation zones (farmland, lowland, sub montane and montane forest) making total 12 sites. The project team recorded only four individuals of <i>C. kanga</i>. These findings provide a robust understanding of the species' distribution within the reserve. We collected extensive ecological data that will help us understand the habitat characteristics influencing the abundance and distribution of <i>C. kanga</i>. While the field data collection is complete, a full analysis is ongoing. These results will provide critical insights for future conservation efforts.</p> <p>Next step: The project team is working to prepare and publish a manuscript detailing all the findings related to the abundance, distribution, and</p>

			<p>habitat characteristics of <i>C. kanga</i> in Kanga Forest Reserve, contributing to the scientific literature on this species. The distribution map will be produced on the manuscript.</p>
<p>Communities' perception, knowledge and attitude towards the conservation of amphibians in Kanga Forest Reserve</p>			<p>The project team successfully conducted 112 household surveys and four focus group discussions with eight participants in four villages surrounding Nguru Mountains and Kanga Forest Reserve to assess the community's knowledge, perceptions, and attitudes toward amphibian conservation, with particular focus on <i>Callulina kanga</i>. These findings helped us to guide to provide conservation education and awareness programs to alter perceptions and promote stewardship of <i>C. kanga</i> and its habitat.</p> <p>A deeper qualitative analysis of the focus group discussions revealed that negative perceptions were often rooted in cultural myths and a fear of amphibians being poisonous. Interestingly, a small minority (approximately 15%) from older generations held traditional, positive beliefs, associating frogs with rain and agricultural fertility, which could provide a potential cultural entry point for our education campaigns. The survey also identified farmers and fuelwood collectors as the key stakeholder groups whose activities most directly interface</p>

			with the frog's habitat, allowing us to tailor subsequent interventions more effectively.
To develop species action plan			The project team identified agricultural activities, firewood collection, and burning of forest as major threat to <i>C. kanga</i> . Brochures and posters were produced and used effectively during awareness campaigns, the comprehensive action plan for <i>C. kanga</i> conservation is still in development. We plan to expand the project to include all warty frog within the South Nguru Mountain landscape. This expanded scope will ensure that the action plan covers the conservation of <i>Callulina hanseni</i> , <i>Callulina meteora</i> , <i>Callulina cf. krefftii</i> as well, addressing the conservation needs of all warty frog species in the region.
Training sessions, and workshops to raise public awareness and conservation education to the local communities around Kanga Forest Reserve			The project team successfully printed and disseminated 250 brochures, posters, and other materials aimed at promoting the conservation of <i>C.kanga</i> among students, local communities and authorities. These materials were instrumental in raising awareness and fostering a better understanding of the species and its ecological importance. The team successfully carried out awareness raising campaigns including workshops, training sessions, talks, and BioBlitz in three environmental village committee and two primary schools, engaging students, teachers and local authorities. A total of 102

		<p>students and 34 villagers were reached through this training. Local assistants were trained to become conservation ambassadors, and educational materials such as brochures and posters were distributed in schools and communities. The campaign has been effective in raising local awareness about <i>C. kanga</i> and its conservation needs.</p> <p>Next step: A manuscript is being prepared to detail the entire conservation awareness process, including the methodologies used and the impact of the campaign on the local communities and schools. This will provide a blueprint for similar future efforts in the region.</p>
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**2. Describe the three most important outcomes of your project.**

**a). Sighting the *Callulina kanga* in two new localities species in its natural environment:**

One of the most exciting outcomes was physically sighting *C. kanga* in two new localities of its natural habitat. This personal achievement reinvigorated my commitment to ensuring the survival of this species and underscored the importance of continued research and conservation efforts. This experience highlighted the need for community engagement and education to foster local support for conservation initiatives. It also emphasized the importance of habitat preservation and the potential benefits of establishing protected areas to provide safe environments for *C. kanga* populations. These combined efforts are crucial for the long-term sustainability of the species and for maintaining ecological balance.

**b) Improved ecological knowledge of *Callulina kanga*:**

Through field surveys, we collected significant data on the population size, distribution, and habitat characteristics of *C. kanga* within Kanga Forest Reserve. This information will contribute to the species' conservation status and help guide future conservation actions.

**c) Increased conservation awareness among local communities:**

We conducted awareness-raising campaigns in three primary schools, educating students about the importance of frog conservation. Pre - and post-campaign

questionnaires showed increased awareness among students, and local assistants were trained to continue spreading conservation messages. Through this project, we established two Community Conservation Committees with 10 people in Difinga and Kwabeku to protect *C. kanga*

**d) Discovery of two new localities of *C. kanga* in Kanga Forest Reserve**

Interestingly, during the ecological survey, while previous studies noted just two individuals at elevations of 760 m.a.s.l. (5° 58' 37.67" S, 37°41'57.28" E) and 1,140 m.a.s.l. (05°55'00.4" S, 037°42'20.1" E) documented by Michele Menegon and Frontier-Tanzania, respectively, this project has excitingly noted four individuals of *Callulina kanga* at two new localities other than those documented before. Two at the elevation of 1027 m.a.s.l. (05°57.894" S, 037°42.058" E), and two at 1064 m.a.s.l. (05°57.888" S, 037°42.029" E).

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

One of the unforeseen challenges was the difficulty in sighting *C. kanga* in areas outside the reserve, particularly in the farmlands of villages we surveyed. Despite efforts to confirm the species' presence based on community interviews, the species was not observed in these areas. This challenge underscored the need to focus conservation efforts within protected areas and improve habitat monitoring. To adapt, we concentrated on surveying the areas within the reserve and adjusted our outreach methodology accordingly. The remote location of some survey sites made it difficult to access, especially during the rainy season when trails became muddy and impassable. Adverse weather conditions, including heavy rains and storms, disrupted fieldwork schedules, affecting our ability to conduct surveys consistently over planned periods. Another challenge was the complexity of engaging all stakeholders to develop an action plan. Although progress has been made, a comprehensive understanding of the extent of human activities and their impacts on amphibians is still needed. This will be a major focus in our next project phase.

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

The local communities benefited from both direct employment and engagement in conservation activities. We hired two field assistants and two porters from villages around Kanga Forest Reserve. The project provided one-year health insurance for the team members, ensuring their well-being during fieldwork. By involving the local people in conservation activities, the project helped foster a deeper cultural connection with the amphibian species and its habitat. We expect that successful conservation efforts will increase tourism potential and provide new economic opportunities for the local community through cultural exchange and the sale of natural products.

**5. Are there any plans to continue this work?**

Building upon the achievements of this project, the project intends to broaden our research and conservation initiatives to include *Callulina hanseni*, *Callulina meteora*, *Callulina cf. kreffti*, in addition to *C. kanga*. In our second Rufford grant application, we will concentrate on exploring the interactions among these three species, evaluating their ecological relationships, and formulating a conservation strategy

that addresses the needs of all warty frogs within the South Nguru Mountain landscape. We aim to finalise a comprehensive action plan that incorporates the conservation of all four species, fostering a more integrated approach to habitat preservation and species survival. Furthermore, we plan to sustain our education and outreach programs to ensure ongoing engagement of local communities in species protection efforts. With additional funding, we aspire to develop supplementary educational materials, expand our workshops, and enhance collaboration between conservation scientists and local stakeholders.

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

We plan to disseminate our findings and raise awareness through multiple channels, including submitting our research for publication in peer-reviewed journals and conservation reports. Specifically, a manuscript on the ecological findings of *C. kanga* in the South Nguru Mountains will be published soon. We will present our work at local, national, and international conferences, such as the upcoming African Canines in Conservation Conference, and Africa-Europe CoRE in Integrative Conservation Biology provide opportunities to share knowledge and collaborate with conservation experts. We will engage local communities via schools, village meetings, and workshops to promote awareness and participation in conservation efforts, including follow-ups with schools and communities involved previously. Our project updates, results, and ongoing progress will also be shared through the Green Horizon Foundation website and social media channels, reaching both local and global audiences to foster support for warty frog conservation.

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

As we move forward, several key steps are essential to ensure the continued success of our conservation efforts for the warty frog in the South Nguru Mountains:

i) Our next grant proposal will broaden the focus to encompass all warty frog species in the South Nguru Mountains. This expansion is vital for understanding their ecological interactions and assessing the conservation statuses of *Callulina hanseni*, *Callulina meteora*, and *Callulina cf. krefftii*. By integrating these species into our research framework, we aim to develop a comprehensive conservation strategy that addresses the needs of all warty frogs in the region.

ii) Strengthening community engagement by sustaining and enhancing community engagement through education and awareness campaigns will be crucial for fostering a long-term conservation ethic among local populations. Our efforts will aim to empower communities with knowledge about the ecological significance of amphibians, promoting their involvement in conservation initiatives. Through my experiences, I have learned that conservation awareness must start at the local level and expand to a national scale. Many local community members lack basic knowledge about amphibian conservation, yet they exhibit a strong eagerness to learn and participate in conservation efforts.

iii) Community empowerment, through the upcoming conservation projects, should also consider the impacts on local livelihoods. We aim to identify and implement alternative, environmentally friendly activities that can serve as alternative income

sources for local communities. This approach is vital to reducing reliance on natural resources, particularly forest ecosystems. In our surveys, we observed that communities surrounding the Nguru Mountains depend heavily on the forest for their livelihoods, as evidenced by the presence of farms and pit-sawing operations within the reserve. By providing sustainable alternatives, we hope to mitigate the pressures on these critical habitats while enhancing the socio-economic well-being of residents.

**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, the Rufford Foundation logo was prominently displayed on all project materials, including brochures, posters, and awareness-raising banners used in schools and community workshops. The Foundation received publicity through presentations to local authorities and social media posts documenting our project's progress. We printed and disseminated 250 brochures in Swahili, 6 posters, 2 rolling banners, and 25 T-shirts to raise awareness about the conservation status of *C. kanga*. These materials were instrumental in educating students and local communities about the importance of conserving this species and its habitat, ensuring that the Rufford Foundation's support was clearly recognized throughout our outreach efforts.

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

The project comprises the following team members:

- i) Enoka Munduka: Project leader, responsible for overseeing research, coordination, community outreach activities and reporting.
- ii) Catherine Miraji: Contributed to projects implementing participatory natural resources management projects, particularly on issues regarding community forests and rural livelihood. She helped in designing conservation education and awareness campaigns.
- iii) Silabi Lusekelo: Facilitating permit acquisition and liaising with local authorities.
- iv) Eva Ayaro: Field assistant, contributing to species surveys and habitat assessments.
- v) Thoba Athuman: Local guide, assisting with field navigation and community engagement.
- vi) Peter Costa: Local porter, supporting field operations.

Overall, the entire team, including the main applicant, participated in all field activities at the project site.

**10. Any other comments?**

The discovery of the new locality for *C. kanga* represents a significant opportunity for future research and conservation. Expanding the scope of this project to include these species will help fill critical knowledge gaps and ensure a more holistic approach to conserving warty frog in Tanzania.

Furthermore, assessing the status and ecological interaction for all warty frog species in the South Nguru Mountains is vital. With further support, we can continue to work toward preserving these unique species and their habitat for future generations.

**ANNEX – Financial Report**  
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