

Final Evaluation Report

Your Details	
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Project Title	Validation and Up-Scaling Community Best Practices in Conservation of IUCN Red-listed Wild Orchids in Kenya
Application ID	36278-C
Date of this Report	December 2023

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
Piloting of the data collection tool				Data collection tool was successfully tested and optimised in the field before actual data collection began. The research assistants were trained on testing the validity, reliability, practicability and sensitivity of data collection methods as an effective technique for improving validity in data collection procedures and the interpretation of findings.
Gathering information on effectiveness of community orchid conservation				The team gathered critical information that will be used to evaluate the impact of integrating the local community in the conservation of the IUCN red listed orchids. In addition, the biophysical and biodiversity data were linked with a social survey to help in understanding the effectiveness of community efforts in the conservation of wild orchids.
Forest/field surveys				We assessed the influence of forest degradation regimes on the status of IUCN red listed orchid richness and abundance in the Southwest Mau (SWM) Forest, Kenya. During the surveys the research assistants were trained on setting up field experiments (transects) to determine the conservation/population status of wild orchids. The results indicated that orchid species richness and abundance are influenced by forest degradation status.
Up-scaling project outputs and best practices to reach at least 100,000 households				This is an ongoing activity and will consider and incorporate opinions, concerns and inputs from all the stakeholders. Best practices will continuously be used to improve wild orchid conservation

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

a). Conservation /population status of wild orchids

The results indicated that orchid species richness and abundance are influenced by forest degradation status. Forest destruction leads to the decline on the distribution and diversity of orchids. Therefore, there is need for concerted strategies to minimise the destruction of the forest ecosystem particularly the orchid habitats including their indigenous host trees.

b). Need for wild orchid habitat conservation

The project revealed that forest degradation damages forest canopy cover, which destroys not only orchids but also their habitat, leading to the decline in their diversity and abundance. Based on our results on the influence of forest degradation status on orchid species diversity and abundance, there is a need to interrogate the effectiveness of current conservation strategies with the aim of reversing the decline in orchid populations in disturbed tropical montane forests. In addition, the conservation of orchid host tree species should be given priority in order to secure their habitats.

c). Effectiveness of local community orchid conservation

This project demonstrated that integrating the biophysical and biodiversity data with social surveys is an effective way of helping in understanding the effectiveness of community efforts in the conservation of IUCN red listed wild orchids. This is because local communities are key stakeholders in any conservation project. Therefore, their involvement helps to build a sense of ownership and responsibility making them to develop attachment and pride towards the environment they are helping to protect.

The project has identified the crucial role of creating greater community awareness on IUCN red listed orchids and building a stronger self-belief among communities in terms of being part of the solution to best practices in in-situ and ex-situ orchid conservation. This concept leads to a greater community commitment to conserving the environment resulting in a higher likelihood of success and continuity of the project.

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

Access to the research funds:

There was a delay in accessing/releasing the funds from the university account that interfered with the timely execution of project activities as outlined in the work plan. However, the research team revised the activities to ensure that all project objectives were successfully achieved.

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

The project aimed at validating and up-scaling local community best practices in the conservation of IUCN red listed wild orchids in Kenya. We acknowledged the key

role of the local community as the main stakeholders in this project in achieving the desired outcomes. We worked closely with the local community and prioritised their involvement to support the project success and sustainability. During the implementation of the project, it was noted that effectiveness of community-driven conservation interventions depends largely on the extent of their active integration in project activities. Building on ongoing efforts and learning from their experiences/lessons, the project has up scaled the conservation activities and reached a wider audience. The strategy has reduced pressure on over-harvesting and over-exploitation of wild orchids from the forest. The project therefore has not only promoted orchid conservation but also improved the local community livelihood.

5. Are there any plans to continue this work?

Yes, the sustainability, continuity and the next steps of this project will rely heavily on the active and ongoing partnerships with stakeholders. The main stakeholders include local schools, local communities, Royal Botanic Gardens, Kew, Kenya Forestry Research Institute, Kenya Forestry Service, county governments and Kenya Wildlife Service to ensure the sustainability and continuation of this project beyond this funding phase. Emphasis will be placed on capacity building and up scaling the best conservation efforts and practices.

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

The results of this project will be disseminated through the following avenues:

- Local and national stakeholder workshops/seminars as a platform to share our findings with local community, conservationists, researchers and conservation stakeholders.
- Publications of peer reviewed articles in local, national, regional and international open access journals.
- Oral and poster presentations will be made in national and international scientific conferences.
- Progress, final reports and published papers will be linked to the collaborating institutions websites to be accessed easily by the general public.
- Brochures, posters, technical manuals and information booklets that will freely be made available to local community and public/libraries.
- Publication on digital/social media platforms such as blogs, Twitter, Facebook, online newsletters).
- Using print materials such as orchid brochures, posters, technical manuals, information booklets and publicity materials published for community, schools and libraries.
- Post cards, caps, t-shirts, pens, key holders and calendars to promote orchid conservation awareness.

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

Monitoring and Evaluation

There is need to continuously monitor the progress of the wild orchid and forest conservation activities in Mau Forest, offer technical advice and guidance to the local community and schools. The purpose of monitoring and evaluation will be to ensure that conservation challenges encountered by the local are addressed in time. It will further support the sustainability and enhance ownership of the projects by the locals.

Collaborations and Partnerships

There is need to continuously initiate, sustain collaborations and partnerships with local conservation stakeholders, county conservation officers, community-based organisations, NGOs and other relevant conservation players to support the conservation of wild orchids and forest biodiversity. Increased stakeholder participation in conservation will boost the protection of Mau Forest and its biodiversity.

Training and capacity building

This will involve providing technical advice, guidance and support to the local community in their conservation efforts. In this regard, the project team has volunteered to regularly visit the schools and the community to offer technical assistance every time they are called upon as a follow-up and sustainability strategy. In addition, there will be continuous training, sensitisation and awareness about the importance of protecting wild orchids and their role in biodiversity conservation.

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 well displayed, and the project team acknowledged that the project was supported by The Rufford Foundation Completion Grant. The Rufford Foundation logo was also displayed on all reports, publications, brochures, posters, technical manuals and information booklets. In addition, The Rufford Foundation will be acknowledged on any future publications resulting from this project.

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

The project team consisted of the following members:

Dr. Fanuel Kawaka Project Leader: Dr Kawaka was the project leader and provided overall oversight and leadership during the project implementation, management and deliver timely progress and final reports.

Dr. William Emitaro: Dr William played a critical role in mentoring postgraduate students.

Kenya Forestry Service (KFS): KWS Kenya Forest Service wardens provided access to the forests and security during field surveys.

Dr. John Otuoma: Dr Otuoma supported in-situ and ex-situ conservation activities and up-scaling of best practices in orchid conservation.

Local community and schools: Having participated in our previous projects, the local community provided vital information about their experiences and challenges that improved the conservation of the Mau Forest.

Graduate Students: The students received training on data collection, practical ecological and conservation research.

Humphrey Gaya:

Gaya provided specialized expertise in orchid identification, processing voucher specimen and ensured that orchid germplasm was safely collected and stored.

10. Any other comments?

On behalf of the entire research team, local schools and community, conservation stakeholders and collaborating institutions, I wish to thank Rufford Foundation for the generous financial support to the wild orchid conservation project in the Mau Forest. We look forward to further working closely with The Rufford Foundation and other conservation partners conserving orchids and forest biodiversity.



Community sensitization on the importance of conserving orchids.



A research assistant displaying a potted orchid plant in a community orchid garden.



Engaging the forest community in the conservation of orchids and forest biodiversity in the Mau Forest.



Research team displaying orchids found on logged host trees.