

Final Evaluation Report

Your Details	
Full Name	Josephine Linet Ambaisi
Project Title	<i>Eidolon helvum</i> conservation through Enhanced Citizen Science in Schools in Vihiga County, Kenya.
Application ID	33725-1
Date of this Report	22 April, 2022

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
Enhance awareness among local schools as community educators on ecological roles on bats and their contribution to ecosystems, thus helping demystify long standing harmful local myths and traditions regarding the bats				We have established bat clubs in schools and through the clubs the community appreciates the ecological and economic importance of bats. Besides school bat clubs we have also recruited monitoring scouts from the community who are helping us monitor the bats in our absence.
Improve capacity of local schools to monitor <i>Eidolon helvum</i> and their habitat to pilot establishment of a long-term community-based monitoring protocol to enhance local understanding on ecosystem use/changes vis-à-vis distribution.				It has been a success with students monitoring the species on a monthly basis.
Increase local schools' virtual interaction and sharing of important information/data from periodic monitoring activities to prompt local and support global action for the <i>Eidolon helvum</i> conservation				We have set up digital platforms and social pages where students interact with regards to the population dynamics and conservation of the <i>Eidolon</i> species.

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

- a).** Mapped schools and trained school club leaders and students: We have two schools actively involved in the conservation of the *Eidolon helvum* (Maseno school and Mbale High School) and also aid in the generation of monthly basic bat data bat counts.
- b).** Developed two digital platforms to aid in the conservation of this species,
- Mobile application: We transitioned from manual data entry (use of data sheets) to digital data entry (use of electronic gadgets- phones and laptops).

- A scientific software to aid in monitoring the population dynamics of Eidolon helvum overtime (both locally and globally– (<https://citizenscienceinschoolsforbats.org/research>)).

These has really promoted the interaction between project schools on their experiences as well as enabling the school citizen scientists to upload and share their bat monitoring data. The platforms have enhanced interaction amongst my team, fellow conservationists and global collaborators.

c). Increased local awareness about the importance of Eidolon helvum: at least a greater percentage of the community have appreciated the ecological benefits of bats, we have recorded a decrease in tree cutting and other threats that bats have been facing. We have also included these roost sites in our ecotourism itineraries and with this the local people have changed their attitudes and perception towards bats.

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

- Strict Covid-19 pandemic regulations by the Ministry of Education and Health: some schools withdrew their participation because of the strict rules and regulations imposed by both the ministry of Education and Health for the fear of spreading the virus. We had to recruit local monitoring scouts within some roosting sites to help us monitor this charismatic species to help us educate the community about the ecological importance of E. helvum and the importance of protecting Eidolon helvum and its habitat.
- Changes in the school calendar due to Covid-19 pandemic: There were changes in the school calendar just 1 month after the onset of this project and we had to adhere to the changes, lucky enough we had already mapped out the schools and established school bat clubs. We contacted the school club patrons who contacted the students for the monthly monitoring field work.
- Unpredictable Eidolon helvum seasonal migrations/local shifts: Eidolon helvum temporal and spatial existence has been known to be predictable and their movement can be traced easily but these was not the case in some sites. We had to trace their whereabouts which helped us identify other roost sites i.e. the Maseno colony shifting and roosting at Itando 'new site'.
- Changes in equipment pricing: Equipment price tags at the time of purchasing differed from the prices that I mentioned in the application - the prices had skyrocketed. Angaza Vijiji, the organisation that I work for cheaped in for the success of this project.
- Misinformed association of bats with Covid-19 pandemic:

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

Despite the ecosystem services (seed dispersion, pest control, disease suppression and plant pollination) these bats provide, they often are socially stigmatised group and misperceived in western Kenya. *Eidolon helvum* roosts in tall trees in homesteads, farms, institutions, etc., hence great and direct interaction with local people this called for the involvement of the local people in this conservation project. Most scientists and conservationists believe that the best way to protect and conserve species is to protect the places they live and involve local communities in the conservation activities. Having this species roost where local people reside, we had to involve the locals in our activities by having students and monitoring scouts help demystify myths surrounding bats. We organised meetings within communities where *Eidolon* roosts whereby we educated the local people about the importance of bats and the need to protect *Eidolon* habitats, interacted with them during our monthly bat counts exercises whereby we interviewed them regarding their interaction with bats and these helped us in monitoring their attitudes and perceptions towards bats and finally, we involved the communities in the generation of the action plan that will aid in the conservation of this species.

Benefits:

- Empowered and strengthened the local communities' capacity to participate in the conservation of *Eidolon helvum*- we recruited the monitoring scouts from the communities living within and around the roost sites (Mbale A, Mbale B and Ilwanda) -this has boosted the local economy.
- This project has stimulated positive responses, reducing the negatives in local people's attitudes and perceptions towards bats - this was achieved through regular interactions between us and the local people, at least, now, the community appreciates the importance of bats to them both ecologically and economically.
- Eco tourism enterprise revenue: having included the *Eidolon helvum* roost sites in Angaza vijiji's eco-tourism itinerary, we helped the locals come up with chamas local groupings known as 'Amanyinya'- is a Swahili word meaning 'bats' whereby the revenue generated is directed towards the groups accounts for easy management hence promoting sustainable livelihoods and improved wellbeing, though the groups are still stabilising.
- Protecting and conserving this species helps in curbing deforestation hence preserving biodiversity- this symbolises a healthy environment.

5. Are there any plans to continue this work?

Yes: there's need to continue enlightening these communities about the importance of bats and the importance of their involvement in the conservation of *Eidolon helvum*. *Eidolon* being a Near threatened species there's need to protect their roosting sites which are currently under threat due to habitat loss (cutting down of

roost trees to evict the bats, negative perceptions and beliefs that exert pressure on the household to chase them bats away etc). We also intend to introduce/involve more schools in related Eidolon conservation projects. Lastly bats are voiceless, we bat conservationists are their voice so the need to continue this work.

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

I intend to publish the findings in peer-reviewed journals and also, I have been sharing a lot on Angaza Vijiji's social pages.

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

- I intend to apply for the second grant from Rufford to continue this work.
- I purpose to continue advocating for the conservation of Eidolon helvum through involving more schools in its conservation, recruiting more local monitoring scouts and sensitizing local people on the importance of this species.

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?

No, I didn't use the logo in any materials. Yes, I shared a lot with my fellow master's students who promised to apply once another opportunity arises.

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

Dr Paul Webala: Being one of the Africa's small mammal specialists and a bats expert, Dr Webala has been our project advisor.

Mr Evarastus Obura: He is the founder of Angaza Vijiji CBO and my career mentor. Evarastus has been our project advisor too and through him we have received financial support from Angaza Vijiji.

Owuor Yonny: He is an IT specialist and he has helped us in developing the two digital platforms for this conservation project.

Wildlife School Club patrons '**Mr Momanyi and Mr Eric**': They have been key participants in this project by helping us organize students, monitor Eidolon helvum and disseminate important information to the students and local communities.

Vincent Ojuka: He is an intern at Angaza vijiji and has been an all-round participant.

Schools/students: Maseno Boys and Mbale boys have been actively involved in this project and with the school's bat clubs that we established at least the community is appreciating the existence of bats and their benefits.

10. Any other comments?

Thank you, Rufford Team, for granting me this award, I am looking forward to the 2nd award that will help me continue with this work that aims at protecting and conserving *Eidolon helvum*.