

Final Evaluation Report

Your Details	
Full Name	Deo Tarimo
Project Title	Lion demography and conservation education to villages adjacent Mkomazi National Park
Application ID	28025-1
Grant Amount	£5000
Email Address	mkomazicarnivore@yahoo.com
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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
To determine the location of African lion and understand ecological factors that influences its occurrence in Mkomazi National Park.				We have successfully identified lion distribution in and outside the park through several methods, such as using playback, opportunistic sighting, spoor track, and collaring. So far, we have come to know that we recognise four groups and a total of 31 lions. We are still making efforts to find more in every part of the park and outside. The distribution map is drawn.
To estimate abundance and population density of African lion in Mkomazi National Park				We have managed to get a total of 31 lions in four different prides. There are nine adult females, four adult males, six juvenile females, five juvenile males, four female cubs and three male cubs. The work is still in progress, and we consider there are more prides that we do not yet know.
Conducting education and awareness program to schools and local community in order to raise their understanding on the value of conservation and to improve good relationship with park management.				We have successfully held nine meetings with villagers about livestock predation. We have educated them more about how to build a stable livestock shelter to prevent predation. We have also established three wildlife clubs in two primary schools and one secondary school. On every last Friday of the month, we meet with students and teach them about wildlife conservation and the environment. There have also been video shows about carnivores where so far, they have watched four videos.
To assess of local community perception and attitudes towards Lion conservation in Mkomazi National Park.				We also know that the villagers' attitude towards conservation is negative due to the harm they are experiencing in wildlife. All these works have been done in only one of the six districts surrounding the park, so we need to spread education to all the districts surrounding the park.

2. Please explain any unforeseen difficulties that arose during the project and how these were tackled.

Finding the lions was very difficult. For the first three weeks from morning till evening, I did not see a lion. It was challenging for me as a lion specialist, where I was asked a lot of questions by the park. In the fourth week I decided to look for lion's day and night, and I succeeded after following them all night until dawn. After that, it wasn't a big problem because I already knew all of the locations where they were found.

Getting a veterinary officer on time is a challenge that hinders work. A vet is responsible for darting the lion to wear a collar. Due to having a lot of responsibilities, he is not in the park most of the time as he serves many parks. Therefore, the exercise of fitting a lion collar was not done in a timely manner during the dry season, whereas during the rainy season the access to the lions was difficult, and the roads were not easily accessible. There are times when I would search for a lion to collar and find them, but the vet was not available, and when the vet was available, the lions were not found. So, it took a long time to complete this task. I sought out a vet and told him the importance of this activity, and we set up a month-long schedule where he and his team we spend in the field during the night and day in search of lions, and we managed to find a lion and put on a collar.

The field vehicle was frequently broken, meaning a lot of time was spent in the garage for repairs. It happened in the first two months and was due to the car not being used for a long time. So, it took a while to figure out all the problems we had. We decided with the technician to complete all the repairs, and from then on, it was no longer a problem even though it cost more than we expected. It is currently a stable vehicle and is best suited for fieldwork. And fortunately, those costs did not affect the project work.

Some community members fail to distinguish between the prints of lions and dogs in the village area. We received a report that a lion's footprint had been spotted in the village, so we decided to follow up. This was six hours from the park. Upon arriving at the scene, we discovered that it was not the lion's footprint but that of dogs. We requested a meeting with the village the next day and educated them further on how to distinguish wildlife tracks by showing them pictures. Pictures of carnivore's footprints were posted in the village office

3. Briefly describe the three most important outcomes of your project.

Thirty-one individual lions have been identified, which are in four prides. It has helped to draw a distribution map. Most of the data has been obtained through a VHF collar where one pride is placed, and it has become easier to observe lions. In the past, the number of lions was not known at all. Our study has been the first project in the park.

Conflict hotspots have been identified. In the Same district, we have been able to find out that carnivore and human conflicts are found only in the Vumari ward. We also know the season in which there are more conflicts. Also, through the meeting, we found out the villagers' attitude towards carnivore conservation is negative.

The relationship between the villagers and the park increased, with the establishment of school wildlife clubs. Since the start of the project, there has been a positive relationship as villagers have been voicing various information on predation incidents where they previously refused to report and that they vowed to kill lions. Conservation education carnivores are also widespread where through wildlife clubs and video shows, they bring community members and conservationists together.

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

Communities living alongside the park, especially in the Same district of the Vumari ward, have been involved and benefited from the project in various ways. First of all, they have been involved in reporting the presence of invasion incidents in the villages; they have also reported carnivore footprints in the community. These villagers have also been giving us a history of these incidents that, in the past, there were not as many as now. They are also very concerned because we have found their perspective on the conservation of carnivores. The benefits they received were getting an education on how to build a stable livestock pen, educated about the behaviour of carnivores, and how to differentiate the footsteps of carnivores. We have been attending village meetings and contributing to various development ideas.

5. Are there any plans to continue this work?

Our project is a long-term project that has now given us a complete picture of what we are supposed to do and where to start. The existence of this project has helped to obtain data for the research project for Postgraduate Diploma in International Wildlife Practices, Oxford University, WildCRU 2020. The main plan is to collect data by conducting a survey interview in all the districts surrounding the park. There are six districts around Mkomazi National Park, so the main goal is to identify human-carnivore conflict hotspots and prioritise mitigation efforts while continue to monitor lion. The data will help keep with the Masters study at the University of St. Andrews course of Statistical Ecology 2021/2022.

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

First of all, I did one presentation at Oxford University, WildCRU. The presentation was about lion conservation in Mkomazi National Park, where I addressed all the work done by the project, such as lion monitoring, conflict identification, and awareness-raising. I also prepared a poster where I was going to do a presentation in Cambridge at the Student Conference on Conservation Science, but the conference was postponed due to COVID-19. I also prepared a research result where I was to make a presentation at the IUCN SSC Task Force Conference on Human-Wildlife Conflict. Through project social media and websites such as Facebook and Twitter, we have been sharing multiple events intending to spread awareness on lion conservation.

7. Timescale: Over what period was the grant used? How does this compare to the anticipated or actual length of the project?

The Rufford fund has been used throughout the project year, and much helped to make the project successful.

8. Budget: Provide a breakdown of budgeted versus actual expenditure and the reasons for any differences. All figures should be in £ sterling, indicating the local exchange rate used. It is important that you retain the management accounts and all paid invoices relating to the project for at least 2 years as these may be required for inspection at our discretion.

Item	Budgeted Amount	Actual Amount	Difference	Comments
Emergency for rechargeable battery and first aid kit	50	150	+100	Covered by IdeaWild
Car maintenances for two cars for 10 months	1300	1300		The car broke down from time to time, but we tried to make repairs within the budget
Transport costs when doing familiarization and introductions to village government offices for (7 days)	140	140		Public transport
Fuel (Diesel) cost for two cars for 10 months	1720	2200	-480	Mkomazi National Park
Accommodation costs when looking for a research permit for 5days	50	50		We spent two days not as we thought it would be five days
Accommodation costs when doing familiarizations and introductions to village government offices for (14 days)	140			We spent five days not as we thought it would be 14 days
Accommodation during Actual household surveys costs for 2 months	600		-600	We tracked all incidents of livestock raids that occurred in the past and present
Stationary costs (leaflets, posters, teaching materials)	300	300		It was used to print the Rufford logo and Mkomazi carnivore project logo for

				field vehicle stickers. Also, some educational materials
Communication costs for me, two interviewers, and seven field assistants for six months	100	100		Make contact with the field research assistant while they are in the field
Allowances for two assistants (interviewers) for 2 months	600	600		Payment for field research assistant for the entire duration of the project
TOTAL	5000	4840	-160	

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

Purchase at least four GPS collars that will help to understand the home range and movement of lions. This will help to identify current migratory routes of prey and dispersal corridors for lions to nearby other lion

Collect data at all five districts around the park and initiating / developing a survey to understand local communities' perceptions about the conflict situation and their needs in solving the human carnivore conflict issue villages adjacent Mkomazi National Park, Tanzania.

Establish an education awareness programme for student schools around the park in all five districts. Promoting children's understanding of large carnivore in schools near Mkomazi National Park, Tanzania. Conservation education programmes directed toward children have proved to be crucial for not only acquiring personal knowledge but also influencing the attitudes and behaviour of their parents.

10. 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 has been used in my presentation and in the poster. The project vehicle also has a Rufford logo on the doors on each side.

11. Please provide a full list of all the members of your team and briefly what was their role in the project.

I am the team leader and was responsible for making this project work – from data collection to data analysis, including planning, reporting and logistics.

Nancy Felix - She has assisted in the data cleaning and inserting it into the Excel for analysis.

Prisca Sima- Supervise community conservation activities and provide education at wildlife clubs and village meetings.

Elijahidi Mmbaga- Collecting data on the incident of carnivore invading livestock and educating the community.

Ulrick Kyara - He has helped track the lions in and out of the park using a VHF collar, playback, and spoor.

12. Any other comments?

I am very proud of Rufford grant as it has achieved my long-held dream of becoming an independent researcher where, without this support, it would not have been possible to start this career. This fund has been the basis for my research and conservation work at Mkomazi and has opened doors for other donors and boost my CV.

