

Final Evaluation Report

Your Details	
Full Name	Sandy Oduor
Project Title	Assessment of physiological stress in African elephants in the greater Laikipia/Ewaso ecosystem, Kenya.
Application ID	27717-1
Grant Amount	4,998
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Date of this Report	

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 train local scouts and security guards in Kojja Group ranch on preparation of catalogue recognition file for monitoring elephants.				A total of 20 security guards were targeted. However, only 14 security guards were able to receive training. Additionally, two more security guards were training while accompanying the researchers in the field. The security officers will assist in faecal sample collection on known individuals in the next phase of the project.
To assess how physiological stress levels of African elephants at Mpala and Kojja group ranch with different land use, anthropogenic disturbance and management systems differ.				A total of 124 elephants were observed with information on 65 individuals being captured in the catalogue recognition file for monitoring elephants. The known individuals will be targeted for faecal samples collection with the catalogue recognition file being continuously updated.
To build the capacity of local stakeholders on the need to carryout longitudinal studies of endocrine monitoring on threatened species through workshop training.				The ongoing Covid 19 pandemic resulted in the government enforcing a ban on any form of social gathering which hindered achievement of the objective. Additionally, changes were made in the budget as a result of this.

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

Several challenges were encountered while undertaking this study which included:

1. Most of the elephant families were terrified and running away from vehicle presence. As a result, most of the individuals within the group were not fully identified. As a result, a better camera lens was bought to assist in preparing

a catalogue recognition file which improved our capacity to take photos of individuals and prepare a catalogue recognition file.

2. There were poor road conditions with rugged terrain making accessibility to the elephant families quite difficult. A better 4X4 vehicle was hired which increased the cost.

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

1. Local scouts and security guards from Koija group ranch and Naibung'a wildlife conservancy were successfully trained on individually recognising elephants for faecal sample collection. This included differentiating between different sexes, aging elephants and using ear marks and tusk to distinguish individuals.



Figure 2: An interactive session with security guards during the training workshop which was held at Naibung'a group ranch headquarters.



Figure 3: A group discussion with both local scouts and security guards on aging elephant calves to be used in the catalogue recognition file.



Figure 4: A group photo session with participants during the workshop.

2. A catalogue recognition file for monitoring elephant families and adult bulls at Koija was prepared. This included 12 family groups and five bulls. This will be used in identifying individuals for sample collection during the next phase of data collection. A sample of a catalogue recognition file for family group and adult bulls is shown in figure 4 and 5 respectively.

AE2- Emily
AE2.19

AE Family



Updated: 13/02/2020

Figure 4: A catalogue recognition file for monitoring elephant family group at Koija group ranch. The ID consists of the second eldest female in the AE family (named as Emily in the ID) with a young calf that was born in 2019, labelled as AE2.19 in the catalogue. Emily (AE2) is identifiable by the inverted "V-shaped" cut on the left ear.

Denis- B 005



Updated: 27/02/2020

Figure 5: A catalogue recognition file for monitoring adult bulls at Koiya group ranch. The ID consists of the 5th bull to be identified labelled as Denis – 005. The bull is identifiable by a hole on the right ear and jagged left ear.

Overall, a total of 124 elephants were observed with information on 65 individuals being captured in the catalogue recognition file for monitoring elephants at Kojja. Due to elephant's reactivity to vehicle presence, information on 59 individuals were not captured in the catalogue recognition file for monitoring elephants. This is shown in Table 1 below.

Table 1: Demographic profile of individuals observed in Kojja group ranch from November 2019 to March 2020.

Age group	Demographic profile of Kojja elephants				Total
	ID captured in elephant database		ID uncaptured in the elephant database		
	Male	Female	Male	Female	
Juvenile	12	7	8	13	40
Sub-Adult	8	12	7	9	36
Adult	5	21	4	18	48
Total	25	40	19	40	124

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

The local scouts and the security guards were the focal point of involving the local community in this project. Through this, the local scouts and the security guards were trained on preparing catalogue recognition file for monitoring African elephants. This involved, distinguishing between different sexes, aging elephants, and using tusk, ears and other physical deformations to distinguish between individuals. This will assist in preparing a catalogue recognition file to assess the demographic status of elephants visiting communal ranches and also collect faecal samples from known individuals.

5. Are there any plans to continue this work?

There are plans to continue with the work. The first phase of this project laid down the foundation for this work where elephant families were identified and will be targeted for faecal sample collection. Additionally, local communities (security guards) were trained on individual recognition of elephants and will assist in faecal sample collection from known individuals. Additionally, security guards will be involved in elephant monitoring and preparation of catalogue recognition file to determine the demographic status of elephants living within community conservancies for management planning.

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

The catalogue recognition file for monitoring elephants in Kojja will be shared with the security guards and local scouts who will assist in updating individuals within the family group for faecal sample collection during the next phase of sample collection.

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

The grant was to be used over a period of 7 months of field work. The grant was however used over a period of 5 months of field work.

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
Communication	40	40		
Research permit	108	108		
Vehicle hire for team members	2307	3077	+770	
Tubes for collecting samples	23	102	+79	
Cost for organizing 1-week workshop	1150	231	-919	
Allowance for the team members	600	600		
Laboratory cost for analysis	770	280	-490	
Camera for preparing and updating elephant ID		560	+560	
Exchange rate which was trading at Ksh120 for £1 at the time the grant was awarded. The amount also covered administrative fee and printing the catalogue for community.		454	+454	The amount was also used to print the catalogue recognition file for use by rangers in updating the catalogue.
TOTAL	4998	5452	+454	

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

The next step will involve faecal sample collection from known individuals at both Mpala Ranch (private ranch) and Koiya group ranch (communal ranch) to determine how land use system and the anthropogenic activities therein affects the physiological stress levels of African elephants for management mitigation.

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 Foundation logo was used during training of security guards and local scouts as shown below.



IDENTIFYING AFRICAN ELEPHANTS AT KOIJA GROUP RANCH

Oduor Sandy

Figure 6: Template containing the Rufford logo used during the workshop.

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

Sandy Oduor – Principal investigator of the study

Peter Piranto Ole Mosian: Conservancy Manager, Naibung'a Wildlife Conservancy. He was very critical in mobilizing security officers for the training and providing armed security to the team during preparation of catalogue recognition file.

Godfrey Ramato: Community member and field assistant. He was very critical in locating elephants for identification.

Monica Ng'aske: She was a team member and involved in data collection and data entry.

12. Any other comments?

We would like to take this opportunity to thank The Rufford Foundation for their support and funding this study. Their support has laid down the foundation to start faecal sample monitoring for elephants traversing both communal and private

ranches to understand how land use types and anthropogenic activities therein affects the physiological stress of African elephants.