

## Final Evaluation Report

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Your Details	
<b>Full Name</b>	Dedan Ngatia
<b>Project Title</b>	Quantifying costs and benefits of domestic dogs for restoration of the globally-endangered African wild dog
<b>Application ID</b>	34247-D
<b>Date of this Report</b>	27 <sup>th</sup> December 2023

**1. Indicate the level of achievement of the project's original objectives and include any relevant comments on factors affecting this.**

Objective/hypotheses	Not achieved	Partially achieved	Fully achieved	Comments
In search of water, pastoralists and their cattle will penetrate further into private ranches during hotter days, drier days, or both, thereby increasing contact with African wild dogs.				Domestic dogs, African wild dogs and cattle all ranged close to water sources during dry and hot days. This created huge opportunities for overlap between the three species.
Domestic dogs that accompany pastoralists and their cattle will reduce the probability of livestock depredation by African wild dogs.				Contrary to our expectation, presence of domestic dogs in a way tends to attract African wild dogs. The main reason behind this is still unknown but the assumption is that African wild dogs get curious when domestic dogs are close.
Domestic dogs will increase the probability of disease transmission to African wild dogs, regardless of whether those domestic dogs accompany pastoralists and their cattle.				High overlap between African wild dogs and domestic dogs, particularly when it's dry, suggests a big opportunity for disease transmission between both species.
Community awareness and outreach in local communities				I ran eight conservation plays in four community ranches. In addition, I invited disease experts and ecologists for a disease workshop in Nanyuki town. Together, we agreed on various ways of managing diseases in our study area.
Continued rabies vaccinations				We vaccinated >15,000 domestic dogs within the study period.

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

- a) I showed that domestic dogs and wild dogs get to close proximity by ranging close to water when it's dry and hot. As a result, this creates huge chances for disease transmission and conflict between African wild dogs and domestic dogs.

- b) We recorded zero rabies and canine distemper deaths to African wild dogs during the period of this project. The ultimate goal of my project is to fully protect wild dogs, domestic dogs, people and all other animals from rabies outbreaks. It's working! Similarly, not even a single human rabies case was recorded during the period of this study.
- c) We received very positive responses from communities during the performance theatre arts. Through these, we were able to reach out to >5000 people, and we can clearly show positive perception shifts to African wild dog conservation. In addition, we held the first ever species-specific disease management workshop. From this, we intend to develop a local disease management plan specific to our threats and our local African wild dog population.

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

My project is a progression from my other research work spanning over the past >6 years. Therefore, whereas I faced many challenges while setting up my first Rufford funded project in 2015, my projects have been well settled thereafter. I did not encounter any serious difficulties apart from lack of rabies vaccines in the country. Here, we engaged the County Government and other partners who were able to import some 10,000 doses of rabies vaccines for us.

Secondly, we continue to work to find a solution on how to handle canine distemper outbreaks in wild dogs. So far, it seems like vaccinating wild dogs themselves might end up being the most feasible solution. Getting permission to vaccinate wildlife in Kenya is complicated and takes a lot of time. We continue to negotiate with Kenya Wildlife Service on this, and we hope to come up with a solution soon.

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

Local communities were fully involved in this project in various ways:

1. We continued with the vaccination efforts in communities all over Laikipia. In total, we covered ~6,000 km<sup>2</sup>, stretching to 35 community ranches. We vaccinated >15000 domestic dogs, protecting people and wildlife. While running the vaccinations, we as well hired seven community guides per week for 7 weeks.
2. We run participatory theatre plays to educate communities on rabies and wild dog conservation. Through these, we reached out to four community groups, totalling to >1000 individuals.
3. We continued to work with five fully hired community guides for our project. Apart from developing their intellectual capacity through training for project work, they continue to benefit financially through salaries and allowances

paid to them. These benefits normally trickle down to the communities since the guides support various families and friends within the communities.

4. To date, and since we started running the vaccination work, we have recorded zero-rabies cases to human beings in our study area which a massive output from this work.

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

Yes – we have identified rising temperature as a very important threat to African wild dogs. Although this has been ignored for many years, our results show that:

1. African wild dogs are dying more from diseases and persecution by people when temperatures are high.
2. There's more overlap between domestic dogs, cattle and African wild dogs when temperatures are high.
3. Rising temperatures might thus be impacting African wild dogs in ways that we might not be aware of.

Over the past >10 years of research work in Laikipia on African wild dogs, we have identified the main threats to African wild dogs, and similarly worked to handle them through: (1) vaccinations aimed at disease eradication, and (2) community awareness, education and training aimed at promoting co-existence between African wild dogs and people. The next goal is to now work to handle the new found threat, rising temperatures, by first understanding how African wild dogs are: (1) directly affected by rising temperatures, (2) how they might cope with this, and (3) what the future hold for African wild dogs considering the continued threat of global warming.

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

I am in the data analysis stage of my work. I plan to publish two peer reviewed papers from this work. In addition, we continue to share these results on day-to-day basis as we interact with communities and other stakeholders. In addition, we expect that our results will be incorporated in the forthcoming update of the African wild dog's management strategy by the Kenya Wildlife Service.

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

As we work towards recovering the population of African wild dogs, it is important that following few steps are taken:

1. It's critical that disease management efforts continue in our study area.
2. It's crucial that we keep working with communities, and mostly ensure that the community guides are constantly used as ambassadors and links between us and the surrounding community.

3. It's as well important that we work to handle other recently identified threats to African wild dog. Although at the preliminary stage, we have evidence that rising temperatures are affecting African wild dogs, but before we lay out strategies to combat this, we need more research to identify exactly how this is happening.

**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?**

We constantly published our work on various social media channels and equally ensured that RSG's logo was consistently used in all these.

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

My proposed work was conducted in collaboration with the Kenya Rangelands Wild Dog and Cheetah Project, and overseen by my PhD supervisors **Dr Jacob Goheen** (University of Wyoming) and Prof Rosie Woodroffe (Zoological Society of London).

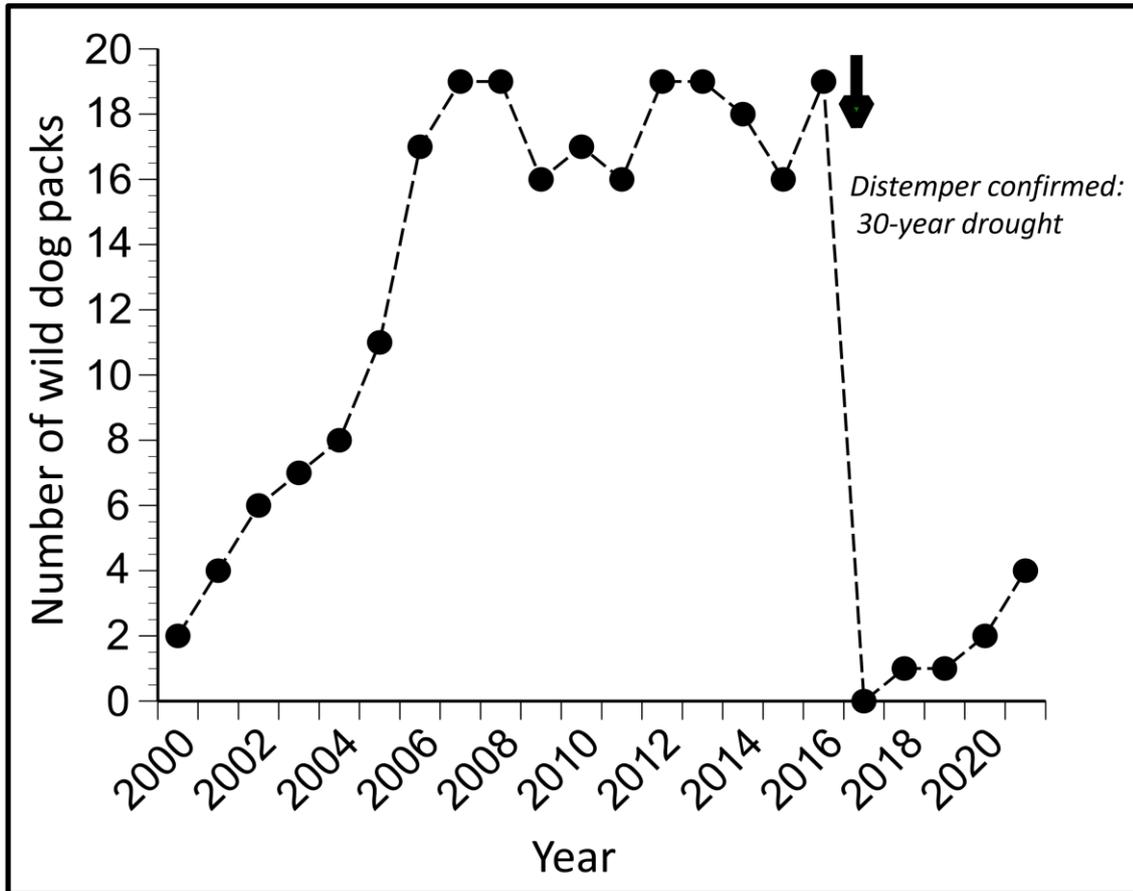
**Dr. Mathew Mutinda** (Kenya Wildlife Service) oversaw the immobilization and collaring of African wild dogs, in accordance with Kenya's Wildlife Management and Conservation Act (2012).

My work on domestic dogs entailed continued partnership with the Laikipia Rabies Vaccination Campaign, a project based at Mpala Research Centre. I also established collaborative agreements with seven community conservancies where my work was conducted.

My work benefited from field expertise of **Simon Lima** who worked as my main research assistant. Simon has worked on various projects at Mpala Research Centre for the past 10 years.

**10. Any other comments?**

No other comment.



African wild dog population on the rise in Laikipia County.



Participants of a Disease Management Workshop, Nanyuki, Kenya.



**Wild dog collaring with Rosie Woodroffe, Jacob Goheen & Dedan Ngatia.**



**Training for School Children, Nanyuki, Kenya.**