



Department
for Environment
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Darwin Initiative Main: Final Report

To be completed with reference to the “Project Reporting Information Note”:

(<https://www.darwininitiative.org.uk/resources/information-notes/>).

It is expected that this report will be a **maximum of 20 pages** in length, excluding annexes.

Submission Deadline: no later than 3 months after agreed end date.

Submit to: BCF-Reports@niras.com including your project ref in the subject line.

Darwin Initiative Project Information

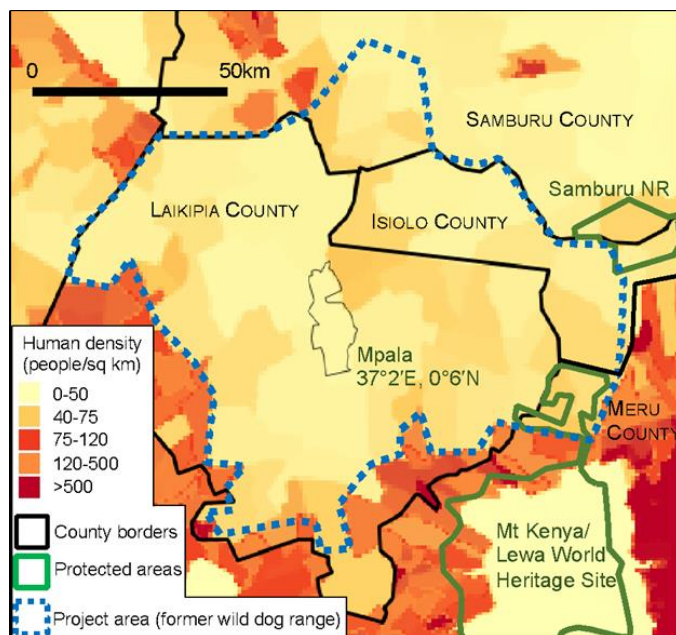
Project reference	DIR27S2\1040
Project title	African Wild Dogs and African People - Conservation through Coexistence
Country/ies	Kenya
Lead Partner	Mpala Research Centre
Project partner(s)	Laikipia County Government, Northern Rangeland Trust, Samburu County Government, Isiolo County Government, Kenya Wildlife Service, Community Conservancies, Ewaso Lions, Action For Cheetahs, Community Outreach Arts.
Darwin Initiative grant value	£393,674
Start/end dates of the project	April 2022- March 2025
Reporting period (e.g. Apr 2022 – Mar 2023) and number (e.g. Annual Report 1, 2, 3)	Apr 2023 – Mar 2024 Annual Report 2
Project Leader name	Dedan Ngatia
Project website/blog/social media	Website: www.mpala.org/ Facebook: https://www.facebook.com/MpalaResearchCentre Twitter: @MpalaWildDogs Instagram: Mpala_WildDogs

1 Project Summary

Range-wide conservation planning for African wild dogs was inspired by a study showing how wild dogs and people could coexist in Kenya’s Ewaso ecosystem. Yet, in 2017, an epidemic of canine distemper devastated this iconic population. In the well-studied core of the ecosystem, two solitary animals remained where 20 packs had lived just a few months earlier.

As survivors and immigrants re-form tiny packs, we have been working to recover this globally-important population, encouraging rapid population growth by tackling the two greatest causes of mortality: infectious diseases and deliberate killing by people. The distemper epidemic had passed, and rabies was the most immediate risk to recovery. We directly worked to locally eliminate rabies through mass domestic dog vaccination, protecting human health as well as wild dogs.

Our local outreach program used participatory theatre to share evidence-based advice on livestock husbandry practices known to reduce wild dog depredation and encouraged domestic dog vaccination. We also built support for wild dog conservation nationally using in-country print, broadcast, and social media. Additionally, we built national capacity by offering project staff opportunities to gain skills and qualifications while in their post.



Map of project area

2 Project Partnerships

Since the implementation of this project, we have strengthened our partnerships with actors within and outside of the project area on different aspects of the project. All partners were involved in the development of this report. The partners and their contributions are as follows;

1. Kenya Wildlife Service (KWS)

KWS played a critical technical and strategic role in the implementation of this project, ensuring alignment with Kenya's commitments under national conservation frameworks and international agreements. KWS experts—veterinarians and ecologists—actively participated in key workshops focused on disease management and human–wildlife conflict mitigation (see reports attached). Their expertise was instrumental in informing and executing many of the project's core decisions.

KWS also maintained oversight of all responses to incidents involving ill health or mortality in African wild dogs and other focal wildlife species. This included conducting post-mortem examinations and guiding appropriate management actions.

Over the course of the project, we successfully collared 19 individual African wild dogs across four distinct packs. This initiative significantly advanced our monitoring capacity and contributed to the targeted protection of Kenya's remaining wild dog populations. All collaring procedures were conducted by KWS-certified veterinarians, underscoring the strength of our collaborative partnership. Additionally, the project team, in coordination with KWS, successfully removed a snare from an injured wild dog following a timely report from conservancy management within the project area. The intervention, led by a KWS-certified veterinarian, exemplifies the responsiveness and effectiveness of our joint conservation efforts.

KWS remains an indispensable partner in the ongoing protection of this endangered species, and their continued commitment strengthens the foundation for future conservation success

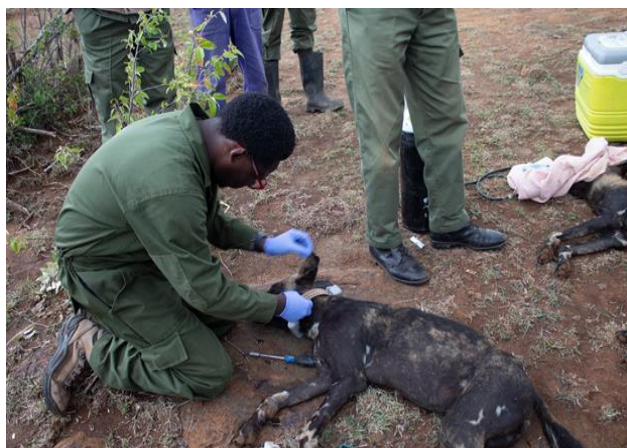


Figure 1. Project leader, Dedan Ngatia assisting in the collaring of African wild dogs in Laikipia, Kenya.

2. County Governments of Laikipia, Samburu, and Isiolo

The County Governments of Laikipia, Samburu, and Isiolo played a pivotal role in the success of the project through support in three key areas. First, they actively participated in the planning of mass domestic dog vaccination campaigns (see attached planning minutes). They subsequently mobilized their county veterinary teams to work alongside Mpala and project partners to carry out the vaccination efforts across the project area. These activities were coordinated in collaboration with the Zoonotic Disease Unit, which leads Kenya's national rabies eradication initiative. Second, throughout the project period, the County Governments collectively donated more than 10,000 doses of rabies vaccines (see attached vaccination report). This substantial contribution was vital to the success of our vaccination campaigns. In line with Kenya's national goal to eliminate rabies by 2030, we remain committed to continued collaboration with County Governments to support this effort. Third, they supported Mpala's outreach activities within local communities, helping to raise awareness about the importance of rabies vaccination and encouraging coexistence between people and wildlife. Their involvement significantly enhanced community participation and the overall impact of the program.

3. Northern Rangelands Trust (NRT)

The Northern Rangelands Trust (NRT), which serves as an umbrella organization for community conservancies, was a key partner in the project. Within the project area, 17 NRT-affiliated conservancies were actively engaged. Of these, five conservancies hosted Community Officers whose positions were supported through the project. NRT played an instrumental role in facilitating a wide range of activities across all 17 conservancies, including wild dog collaring and monitoring, community outreach, rabies vaccination campaigns, and broader conservation engagement efforts. Their coordination and on-the-ground presence were essential to the success and reach of the project. NRT is committed to continuing to work with our project inside the community conservancies.

4. Smithsonian Global Health Programme

At Mpala, the Smithsonian Global Health Program has played a vital role in strengthening veterinary capacity and advancing wildlife health surveillance systems in Kenya. Their efforts have focused on training and capacity building for Kenyan veterinarians, and on developing wildlife health monitoring systems designed for integration into the SMART conservation platform, which is already widely implemented across ranches and community conservancies. As part of their in-kind contribution to the project, Smithsonian veterinarian Dr. Ann Haw provided mentorship to the project's Veterinary Officer. Additionally, Smithsonian Research Fellow Dr. Katherine Worsley-Tonks supported the design of a zoonotic disease surveillance system and offered technical guidance and mentorship to the project's Monitoring and Surveillance Officer.

5. Community Outreach Arts

Community Outreach Arts collaborated with the Mpala Wild Dog Project team to co-develop two local-language plays, each crafted to convey key project messages through engaging, participatory formats. These performances were designed not only to entertain but also to spark dialogue and reflection, transforming theatre into a powerful forum for community-driven change. To maximize impact among young audiences, the plays were performed in both schools and communities across the project area. The Monitoring and Surveillance Officer administered brief audience questionnaires before and after selected performances to evaluate the effectiveness of this approach in enhancing awareness and shifting perceptions. Results from this evaluation are presented in the following sections.

6. Zoological Society of London (ZSL)

ZSL provided in-kind technical support to the project through Professor Rosie Woodroffe, a leading authority on the ecology and conservation of African wild dogs. Prof. Woodroffe established the Samburu-Laikipia Wild Dog Project at Mpala in 2001 and has since developed a substantial body of research on sustainable strategies for human-wild dog coexistence. As Technical Advisor, Prof. Woodroffe offered expert guidance on key aspects of the project, including wild dog ecology, disease epidemiology, and human-wildlife conflict. She also led capacity-building workshops focused on disease management and carnivore-human conflict mitigation, delivered in collaboration with the IUCN/SSC Canid Specialist Group, where she serves as a core member. Prof. Woodroffe remains engaged with our work even after the completion of this project.

3 Project Achievements

3.1 Outputs

Output 1: Zero human deaths from rabies in the project area by 2024

1.1 Annual human rabies deaths in the project areas reduced from 25 p.a. in 2017 to zero in 2023-4.

During the project period, hospital records from the project area documented one confirmed human death from rabies. While this is a tragic occurrence, it represents a significant improvement from the baseline estimate of approximately 25 rabies-related deaths per year recorded in 2017. Due to the sensitive nature of patient data, and in line with national data protection policies, the Kenyan Department of Health maintains strict confidentiality regarding individual cases. As such, no additional personal information can be disclosed.

1.2 Bites by suspected rabid dogs declined from 130/100,000 people/year in 2017 to <20/100,000 people/year in 2023-4, with no female bias in dog bite victims.

Between 2018 and 2024, the average number of domestic dog bites reported in the project area fell from over 120 per month to fewer than 60 per month (Figure 2). Notably, of the monthly bites recorded in 2024, fewer than 5% were attributed to dogs suspected of having rabies. This equates to an incidence of approximately 7 bites per 100,000 people per year. This marked decline reflects the success of our community engagement efforts, which focused on raising awareness and promoting safe dog-handling practices.

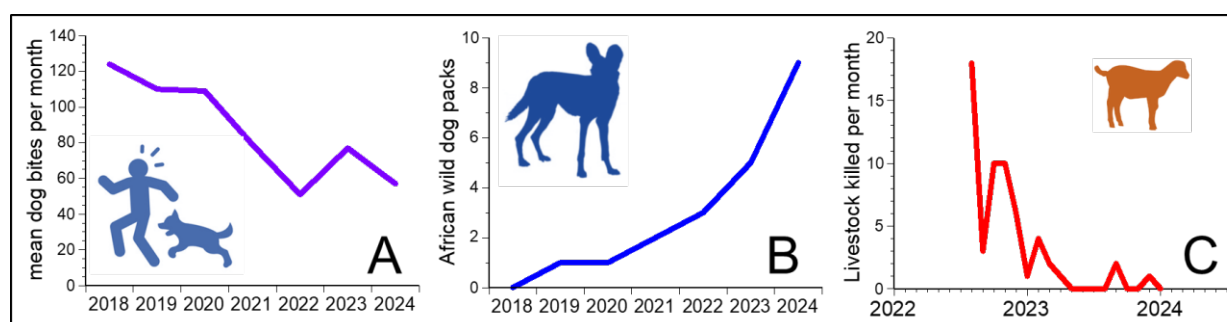


Figure 2. Key results from the wild dog project from 2018 to 2024. In northern Kenya's Ewaso ecosystem our activities to (i) control rabies through domestic dog vaccination and public education and (ii) mitigate conflict with livestock farmers were associated with (A) falling incidence of human dog bite injuries (Output 1, 1.1; a widely-recognised indicator of human rabies risk 1); (B) rising numbers of African wild dog packs; and (C) declining incidence of wild dog attacks on livestock (Output 3, 31.)

These efforts were delivered through a combination of mainstream and social media campaigns, interpersonal communication, community meetings, and educational theatre performances. Collectively, these strategies have contributed to a significant reduction in the risk of rabies exposure in the project area (see Annex 5 for details). Additionally, over 150 conservancy leaders have been trained on rabies control and coexistence with large carnivores, with a particular emphasis on African wild dogs. These leaders are now well-equipped to promote conservation by disseminating accurate information and fostering positive attitudes toward wildlife within their communities.

1.3 Area covered by domestic dog rabies vaccination expanded from 1,500 sq km in 2017 to 10,000 sq km in 2022

During the project period, the area covered by domestic dog vaccinations expanded significantly—from a baseline of approximately 1,500 km² to 10,661 km². This remarkable increase was made possible through the implementation of both door-to-door campaigns and strategically located static vaccination points, ensuring broad accessibility and reach across the target regions.

1.4 Proportion of domestic dogs vaccinated against rabies in targeted areas increased

from 24% in 2017 to ≥70% in 2022-4

From 2019 to 2023, an average of $16,524 \pm 3,519$ domestic dogs were vaccinated annually (range: 13,185–21,493). Although the vaccination program was temporarily suspended in 2021 due to the COVID-19 pandemic, operations resumed and expanded significantly thereafter. Over this period, the average proportion of domestic dogs vaccinated increased from 24% in 2017 to 71% in 2023. Vaccination coverage was monitored through post-vaccination surveys and capture-recapture methods conducted after each vaccination day to ensure accurate assessment and continuous improvement.

1.4 Local people engaged by community outreach efforts related to domestic dog ownership increased from 0 in 2017 to 30,000 in 2022-4, with equal gender participation.

Throughout the project, a total of 119,346 individuals were directly reached with rabies prevention and control messaging and practices. This included 48,336 youth, 37,953 women, and 33,057 men. The outreach significantly surpassed the original target of reaching 30,000 people annually over three years—demonstrating both the effectiveness and scalability of the community engagement strategies employed. Evidence for this is provided in the logical framework.

Output 2: Two-thirds reduction in wild dog deaths caused directly or indirectly by people

2.1 Wild dog mortality caused by domestic dog diseases reduced from 10% of all adult wild dogs p.a. in 2001-2015 to 3% in 2022-4

This objective was successfully achieved. No wild dog mortalities linked to domestic dog-borne diseases were recorded during the project period. This outcome is attributed to the effective implementation of domestic dog vaccinations against zoonotic diseases, coupled with extensive education, training, and awareness campaigns conducted throughout the project area.

2.2 Wild dog mortality caused deliberately by people reduced from 5% of all adult wild dogs p.a. in 2001-2015 to 2% in 2022-4

This objective was successfully achieved within the designated project area, where no incidents of wild dog killings by people were reported during the project period, compared to the baseline. This encouraging outcome is attributed to the project's sustained community outreach and engagement efforts. However, we recorded the loss of a pack of four individuals (Omondi's pack) that dispersed into Baringo County—an area of high human-wildlife conflict and beyond our project's operational boundaries. Two collars from deceased wild dogs were recovered, and it is suspected that the animals were killed by local bandits.

2.3: Local action plan for disease management in wild and domestic carnivores agreed by Jun 2022 and implemented by Jun 2023.

A comprehensive disease management plan was developed by experts from both local and international partner organizations, alongside project advisors. Implementation of the plan commenced in 2023 and is currently ongoing (see attached report/plan).



Figure 3. Disease management plan workshop participants pictured at the Old House, Nanyuki in 2022.

2.4: Surveillance system for reporting sickness in wild and domestic carnivores developed & implemented by Oct 2022.

This objective has been achieved. A disease management workshop was successfully held by the project, resulting in the development of a comprehensive disease surveillance system via EarthRanger. This system has been systematically implemented by our trained Community Officers across their respective areas, and is further supported by disease monitoring efforts from our project-based veterinarian. The surveillance programme is led by scientists from the Smithsonian Institution. Through the EarthRanger platform, they have established a system that enables real-time reporting of any suspected cases of illness in wildlife, including African wild dogs. Rangers and community members have also been trained on how to use this platform effectively, enhancing early detection and rapid response capabilities across the project area (see the collaborators report attached).

2.5: Local action plan for mitigating livestock depredation by other large carnivores agreed by Jun 2022 and fully implemented by Jun 2023.

A successful workshop on livestock depredation mitigation was held, bringing together all project partners and key stakeholders. During the workshop, a localized action plan was developed alongside a conflict monitoring toolkit to

guide future efforts in addressing human-wildlife conflict within the project area. In addition, the participants agreed on a tool-kit for co-existence and a conflict-response framework, both currently under review (see attached workshop report).



Figure 4. Conflict and co-existence workshop participants pictured at the Old House, Nanyuki.

Output 3: Declining incidence of livestock predation by all large carnivores, despite the rising population of wild dogs

3.1: No wild dog attacks on livestock in 2022-24 (compared with >20 attacks in 2014 when rates were last enumerated).

We recorded a consistent decline in livestock depredation by wild dogs, from eight cases at the start of the project to zero cases by its conclusion (Figure 2). This positive trend is attributed to increased adoption of improved livestock husbandry practices promoted through the project's outreach and training initiatives.

3.2: Livestock killed by other large carnivores reduced by one-third in 2023-4 compared with the 2022 baseline.

We recorded a significant reduction in livestock losses to other large carnivores, from 166 goats and sheep in 2022/23 to just 21 goats and sheep in 2023/24 (Figure 5). This represents an 88% decline compared to the baseline, underscoring the effectiveness of the conflict mitigation measures implemented within the project area.

3.3: Majority of livestock keepers (both male and female) practicing carnivore-friendly husbandry by 2024.

Based on data collected before and after awareness activities, the project has successfully enhanced community awareness on coexistence with carnivores through participatory theatre plays, community meetings, and social media platforms. As a result, 72% of residents within the project area now practice carnivore-friendly livestock husbandry. Reduced livestock depredation is expected to follow, particularly as over 60% of herders are now adults, rather than children—an important shift promoted by the project to improve herd protection.

3.4: Local people engaged in community outreach efforts related to wild dog conflict increased from 0 in 2018 to 30,000 in 2022-24

In support of this outcome, the project reached a total of 94,211 individuals—including 43,545 youth, 29,053 women, and 21,613 men—with messages on improved livestock husbandry and human-carnivore coexistence. This outreach was conducted through a range of communication methods implemented across the project area.



Figure 5. Performance of participatory plays at Kirimon Secondary, Samburu County

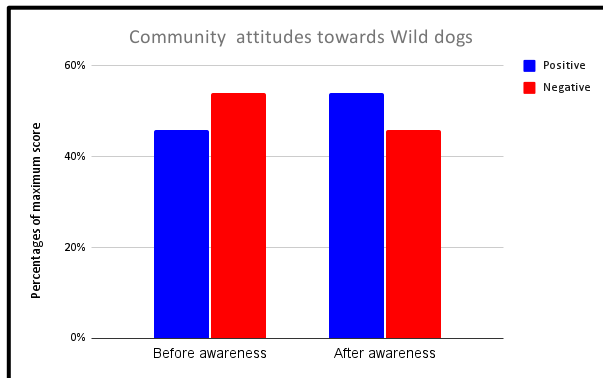
Mainstream media played a key role in amplifying the project's reach. A documentary highlighting the project's work was aired bi-weekly over a two-month period on Citizen TV—one of Kenya's leading national television stations—reaching

an estimated audience of approximately 800,000 people across the country. Additionally, short awareness clips were produced and disseminated to further promote the project's messages.

Output 4: Improved public attitudes to coexisting with African wild dog

4.1 Percentage of community members wanting wild dogs on their land increased from 38% in 2007 to 70% in 2023-4.

We reported a shift in community attitudes, with the percentage of community members wanting to have wild dogs on their land increasing to 58%. This was an underachievement compared to the intended effort (70%), but represented a strong upward shift in positive attitude.



.Figure 6. A graph showing a shift in community attitudes towards Wild dogs April 2023- March 2024

Questionnaires were administered at baseline and after the interventions to assess shifts in community attitudes. Analysis of the results showed a marked improvement in positive perceptions and a greater willingness among community members to coexist with African wild dogs.

4.2 Ten-fold increase in Kenyan print and broadcast media items presenting positive new stories about wild dogs (from 1 newspaper article and 1 TV report in 2018).

In collaboration with Citizen TV—one of Kenya's leading television stations—the project developed a documentary that was aired bi-weekly over a two-month period. Additionally, our team was hosted on four occasions by a local radio station, which also produced and broadcast multiple promotional segments highlighting our work. The project further gained national visibility through two published articles, collectively reaching thousands of people across the country. See example links below.:

<https://twitter.com/citizenvkenya/status/1664540220447141889>

<https://twitter.com/citizenvkenya/status/1669277653600272386>.

<https://www.capitalfm.co.ke/news/2022/11/laikipia-targets-20000-dogs-cats-in-countywide-anti-rabies-campaign/https://laikipia.go.ke/1542/laikipia-rabies-vaccination-campaign-2022/>

4.3 Ten-fold increase in social media reach of project accounts, primarily within Kenya (e.g.

@MpalaWildDogs to increase from 590 followers to >5,000).

Our Instagram page (@mpala_wilddogs) grew from 717 to 1010 followers. Our Facebook page (@KenyaRangelandsWilddogandCheetahProject) grew from 1138 to 2087 followers. Similarly, our X account (@MpalaWildDogs) grew from 512 to 938 followers.

4.4 Increase in the proportion of tourism operators using wild dogs' presence in their advertising

Several private and community conservancies are increasingly positioning African wild dogs as flagship species to attract tourism. Notably, Laikipia Wilderness Camp (<https://www.laikipia-wilderness.com/>), located in Oldonyo Lemboro Ranch, specializes in offering wildlife experiences centered around wild dog tracking. Other conservancies that have embraced wild dogs as focal species for tourism include Loisaba Conservancy, Suyian Conservancy, Ol Jogi Conservancy, and Sosian Conservancy. Additionally, the project has established partnerships with tour operators active in the study area—such as FootPrint Safaris—who focus primarily on African wild dog sightings. To further support and promote wild dog-based tourism, the project has shared tracking information for collared wild dog packs with more than 10 conservancies.

Output 5: Improved national capacity for protecting wildlife populations and human health

5.1 Number of trained full-time Kenyan professional wild dog conservationists in the project area increased from 2 (male) in 2019 to 10 (including ≥ 3 women) by April 2022.

Over the course of the project, all nine project team members have received monthly training sessions covering a range of topics relevant to African wild dog conservation, including key threats, emerging opportunities, and effective implementation strategies. These sessions have significantly strengthened the team's capacity to deliver on project goals. Additionally, 37 rangers from partner organizations were trained in the use of EarthRanger, a real-time data platform, to enhance disease surveillance capabilities within the project area (see EarthRanger training report). In total, 13 females were trained (2 project staff members + 11 female rangers).



Figure 7. Project team undergoing SMART training session at Mpala Research Centre.

In addition, A key milestone of the project was the successful convening of a workshop that brought together 32 experts (including community members) working on large carnivores from Samburu, Laikipia, and Isiolo counties. The workshop culminated in the development of species-specific conflict mitigation strategies, offering a tailored and collaborative framework for addressing human-wildlife conflict in the region.

5.2 Number of Kenyan wildlife veterinarians with practical expertise in wild dog health increased from 2 (both male) in 2019 to 4 (2 male, 2 female) in 2022.

In addition to the two Kenya Wildlife Service (KWS) veterinarians who were directly engaged in the project, a full-time project veterinarian was hired to monitor the health of both wild and domestic dogs. Furthermore, 12 volunteer veterinarians supported the rabies vaccination campaigns. In total, three veterinarians were directly involved in wild dog epidemiological work, with an additional 12 contributing indirectly through their involvement in related project activities.

5.3 Days each year that County Veterinary Officers have transport to contribute to mass dog vaccination increased from 0 in 201 to 201 modelings 2022-2024.

Two project vehicles were available for County Veterinarians to conduct domestic dog vaccinations for 5 days a week (~250 days a year). In total, we managed to engage County veterinarians for 170 days a year on average (50 days during static rabies vaccinations, and 120 days during door-to-door vaccinations. This included meeting days and community engagement days).

5.4 Number of nurses trained to collect sex- and age-disaggregated anonymized data on rabies deaths and dog bites increased from 0 in 2019 to 24 in 2022.

A total of 110 nurses across Laikipia County were trained through the project. The project team developed a gender-disaggregated rabies death and dog bite data collection tool, which was adopted by the County Health Department for use in recording dog bite incidents throughout the county. With the support of the trained nurses, the project successfully gathered critical data on dog bites and rabies-related deaths.

5.5 Number of Kenya conservation professionals engaged in using epidemiological models to inform wild dog disease management increased from 0 in 2017 to ≥ 20 in 2022.

In 2022, the disease management workshop brought together 23 conservation professionals from various institutions, including the Kenya Wildlife Service (KWS), Wildlife Research and Training Institute (WRTI), Zoonotic Disease Unit (ZDU), County Governments of Laikipia, Samburu, and Isiolo, private and community conservancies, Mpala Research Centre, University of Nairobi, Smithsonian Institution, Zoological Society of London (ZSL), and the International Livestock Research Institute (ILRI). During the workshop, participants reviewed recent rabies and canine distemper epidemiological modeling results, which played a critical role in shaping the development of the project's disease management plan.

3.2 Outcome

The overarching goal of the project was to foster a rabies-free ecosystem where people and wild carnivores can sustainably coexist, while also supporting the recovery of the African wild dog population within the project area. In line with this objective, the project achieved the following key outcomes:

- 1) **Recovery of Wild Dog Populations:** The number of African wild dog packs increased from a baseline of 2 in January 2022 to 9 packs by December 2024 (Figure 2), indicating a significant recovery of the species in the project area.
- 2) **Rabies Control:** To support rabies eradication, the project consistently achieved a 71% annual vaccination coverage of domestic dogs across an expanded area of over 10,661 km². As a result, no wildlife rabies-related deaths were reported during the project period. However, one human rabies death was recorded, a substantial improvement compared to the baseline of 25 deaths per year in 2017.
- 3) **Reduction in Livestock Depredation by Wild Dogs:** Cases of livestock depredation by wild dogs declined from 8 incidents at the start of the project to zero by its conclusion. This success is attributed to the widespread adoption of improved livestock husbandry practices promoted by the project.
- 4) **Reduction in Livestock Losses to Other Carnivores:** Livestock killed by other large carnivores decreased from 166 in 2022/23 to 21 goats and sheep in 2023/24—an 88% reduction compared to the baseline.
- 5) **Mitigation of Human-Wild Dog Conflict:** No wild dog deaths due to human persecution were recorded during the project period, despite increased sightings across the area. This positive outcome is credited to the project's sustained and strategic community outreach efforts.

3.3 Monitoring of assumptions

Monitoring of critical conditions (risks and assumptions) is crucial to project success. For this section, consider the following:

- Were Outcome and Output level assumptions monitored throughout the course of the project?
- If there were changes in assumptions, how did the project meet or manage these?
- Does the expected pathway to change hold true?

Please support comments with evidence.

Outcome. ASS 1.: This outcome assumed that the main constraints on wild dog recovery in the project area were domestic dog diseases and deliberate killing by people. This assumption was based on intensive studies of wild dog ecology and population dynamics through population recovery in 2001-2016 a crash in 2017, and subsequent slow recovery.

Comment: The assumption was held true until project end.

Outcome. ASS 2: The effect of domestic dog vaccination on human rabies is well-documented. Effective and locally appropriate ways to reduce livestock predation have been identified, but other factors could have constrained the extent to which people adopt them.

Comment: The assumption remained valid throughout the project duration. Our vaccination efforts successfully reduced human rabies cases to near zero. Additionally, training on proper livestock husbandry played a crucial role in decreasing livestock depredation. While other influences—such as environmental factors like rainfall and temperature—were not assessed, promoting best practices such as ensuring that herders are primarily adults and avoiding grazing in dense vegetation significantly contributed to the reduction in depredation.

Outcome. ASS 3: This outcome also assumed that civil unrest does not return to the project area at levels sufficient to impact our project. Recent investment in security within the region, and strong community links, should minimize any such impact.

Comment: Parts of the project area experienced civil unrest during the second half of the second year. This unrest hindered community engagement in the most affected areas. In response, the project team rescheduled activities and prioritized implementation in safer communities, ensuring that staff only operated in secure locations. At the end, this did not hinder achievement of project goals.

Output 1, Ass1: This output was based on the assumptions that human rabies risks could be mitigated by domestic dog vaccination, and that dog bites were a good proxy for rabies incidence in domestic dogs. These assumptions were supported by a very strong well-replicated evidence base, with similar projects elsewhere reducing human rabies mortality to zero within 2-3 years of starting mass domestic dog vaccination, and a close correlation between dog bites and human rabies risk (76,77,31).

Comment: The assumption was held true until project end.

Output 1, Ass2: This output also assumed that women were at least as impacted by rabies as men, an assumption supported by evidence that African women can face slightly higher rabies risks than men.

Comment: The assumption was held true until project end.

Output 1, Ass 3: The output also assumed that local communities would consent to vaccination of their domestic dogs, and participate in outreach activities. Participation during the start of this project was high, but our project included explicit plans to improve it further, drawing on experience from other animal health and public health initiatives (47).

Comment: The assumption largely held true, though some communities exhibited mild resistance to the exercise. In response, the project team focused targeted awareness and education efforts in these areas to emphasize the importance of vaccination.

Output 2, Ass 1: This output assumed that rabies risks to wild dogs could be reduced by vaccinating domestic dogs. This assumption was supported by strong evidence that wild dogs acquire rabies from domestic dogs at the project site (49,74) and elsewhere (78), by very strong evidence from elsewhere that vaccination reduces domestic dog rabies (31), and also by evidence from mathematical modeling (52).

Comment: The assumption was held true until project end.

Output 2, Ass 2: A second assumption, that vaccinating domestic dogs against canine distemper was unlikely to reduce risks to wild dogs (and would therefore be considered at the disease workshop rather than recommended here), was based on evidence that this pathogen does not persist in domestic dogs in the project area (27), and on evidence that mass distemper vaccination of domestic dogs around the Serengeti ecosystem did not reduce CDV exposure in wild carnivores (50).

Comment: Find the decision made during the workshop in the attached report.

Output 2, Ass 3: Any plan to vaccinate wild dogs themselves would be based on careful evaluation, in a workshop setting, of existing and emerging data on the consequences of such vaccination for captive wild dogs (79,80,42), and for free-ranging wild dogs in our project area (for rabies (41)) and in South Africa (for distemper).

Comment: The assumption was held true until project end. See also results from the workshop (Section 3 (2.1))

Output 2, Ass 4: This output also assumed that we would be able to detect sick or dead wild dogs across a large area. While rare, wild dogs are conspicuous animals where present, and we would achieve high coverage of the landscape by leveraging an existing ranger-based monitoring system (SMART), which was already in use across the project area.

Comment: The assumption was held true until project end. We used the ranger-based monitoring system and it worked really well.

Output 2, Ass 5: This output also assumed that reducing wild dog predation on livestock could reduce deliberate killing by people, which is supported by scientific evidence from within the project area (36).

Comment: The assumption was held true until project end.

Output 3, ass 1: This output assumed that predation on livestock could be reduced by modifications of traditional livestock husbandry methods, which is supported by case-control studies conducted within the project area (37) as well as evidence from elsewhere (58-60).

Comment: The assumption was held true until project end.

Output 3, ass 2: This output also assumed that participatory theatre was an effective way of communicating conservation messages and effecting behavior change, a view which is supported by multiple studies (81-83) including evidence of behavior change in both public health (55) and human-elephant conflict (61).

Comment: The assumption was held true until project end.

Output 4, ass 1: This output assumed that a package of measures, including linking practical action on human health to the health of endangered wildlife, and wild dog recovery to the recovery of the beleaguered ecotourism industry, could help to improve local attitudes to wild dogs.

Comment: The assumption was held true until project end.

Output 4, ass 2: This output also assumes that increased use of wild dogs to advertise local tourism venues will encourage visits, especially by African tourists.

Comment: The assumption was held true until project end.

Output 5, ass 1: This output assumes that improving national capacity for practical conservation and disease management will help to improve outcomes for wildlife conservation and sustainable development, an assumption supported by a large volume of evidence from the conservation (85) and public health (86) fields.

Comment: The assumption was held true until project end.

3.4 Impact

Our project was designed to support the recovery of the African wild dog population within the Ewaso ecosystem while also enhancing human well-being by reducing livestock depredation and minimizing losses from both human and livestock diseases.

By the end of the project, the number of African wild dog packs had increased from 2 to 9—a significant achievement resulting from targeted efforts to mitigate threats to the species. These included the elimination of wild dog killings within communities and the prevention of disease-related deaths among the animals.

The project's impact on human well-being was primarily realized through the reduction of losses related to rabies in both humans and livestock. Fewer livestock deaths, lower treatment costs for rabies exposure, and reduced livestock predation contributed to improved financial and psychological well-being among local communities. Notably, only one human rabies-related death was reported during the project period, compared to 25 cases in 2017—a substantial improvement that underscores the effectiveness of the intervention.

Lastly, the recovery of the local African wild dog population positively impacted the regional economy. Tourism is one of Kenya's leading industries, and since the initiation of our project, many lodges in the Ewaso ecosystem have increasingly focused on African wild dog-centered tourism. This growth in wildlife tourism has provided communities with employment opportunities and additional benefits through support from the tourism sector.

4 Contribution to Darwin Initiative Programme Objectives

4.1 Project support to the Conventions, Treaties or Agreements

The results of our project played a key role in the revision of Kenya's *National Strategy for the Conservation of African Wild Dogs*, which had last been updated in 2010. Insights and data generated through this work informed the setting of updated national targets and strategies to address the main threats to African wild dogs in Kenya, including disease, human persecution, and habitat fragmentation. This directly contributed to the decision UNEP/CMS/COP12/CRP36 of the convention on the Conservation of Migratory Species of Wild Animals (CMS) which requests that range states “develop and implement within communities evidence-based strategies that reduce disease transmission and livestock depredation by wildlife (African wild dogs).

In 2023, we contributed to the revision of the *East African Regional Strategy for the Conservation of Cheetahs and Wild Dogs*. Additionally, we actively participated in the East African Carnivore Transboundary Initiative—a collaborative effort between the national governments of Kenya and Tanzania—to develop joint policies for the cross-border management of carnivores. These efforts also supported the *African Carnivore Initiative*, which encourages member states to implement existing IUCN/SSC strategies for the conservation of African wild dogs and cheetahs. By directly addressing the impact of disease on African wild dogs, our work advanced a key objective of the strategy focused on *holistic canid disease management*.

Through fostering more positive attitudes among local communities toward African wild dogs and reducing livestock depredation, our work contributed to the goals of a new joint programme between the Conservation Standards Methodology (CSM) and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). This initiative aims to promote coexistence between local communities and four key carnivore species, including the African wild dog.

The project further aligned with and contributed to the core objectives of Kenya's *National Biodiversity Strategy and Action Plan* (NBSAP), particularly the overarching goal: “To reverse the loss of biodiversity and maintain current levels of biodiversity resources at sustainable levels for future generations.” We contributed to this goal by restoring the numbers of the endangered African wild dogs. One of the other NBSAP's specific objectives is to ensure: “A community that is empowered, informed, and fully involved in biodiversity utilization and conservation.” Our project directly supported this goal by empowering communities with the knowledge and capacity to make informed decisions that benefit both wild dogs and other carnivores, while simultaneously safeguarding their livestock and livelihoods. In doing so, the project meaningfully contributes to Kenya's obligations under the Convention on Biological Diversity through the implementation of the KNBSAP.

4.2 Project support for multidimensional poverty reduction

The project has contributed to poverty reduction among communities in the project area in three key ways:

First, by promoting improved livestock husbandry, the project significantly reduced livestock losses due to depredation by large carnivores. Given that local communities rely heavily on livestock for

their livelihoods, this intervention directly enhanced household well-being. Our previous findings show that depredation accounted for over 11% of annual income losses, and our continued efforts aimed to further reduce this figure.

Second, the project created direct employment for six local youth who served as Community Officers, providing financial support to their families. Additionally, we provided short-term employment for 10–12 community members annually, engaging them for two months each year to support our annual rabies vaccination campaign. Beyond employment, we also invested in training our project staff, helping to build their technical and intellectual capacity.

Third, our mass vaccination campaign for domestic dogs led to a marked decrease in human rabies deaths—from 25 in 2017 to just one in the third year of the project. This spared families the emotional and financial burden of disease management. Women and children have especially benefited from this life-saving intervention.

4.3 Gender Equality and Social Inclusion (GESI)

Please complete the table below for information on the involvement of women in your project's governance, and provide an assessment of where you think your project sits on the Gender Equality and Social Inclusion (GESI) scale provided below. The scale goes from less ambitious to more ambitious moving top to bottom. As a reminder, all BCFs projects should be aiming for a GESI Sensitive approach at a minimum.

GESI Scale	Description	Put X where you think your project is on the scale
Not yet sensitive	The GESI context may have been considered but the project isn't quite meeting the requirements of a 'sensitive' approach	
Sensitive	The GESI context has been considered and project activities take this into account in their design and implementation. The project addresses basic needs and vulnerabilities of women and marginalised groups and the project will not contribute to or create further inequalities.	
Empowering	The project has all the characteristics of a 'sensitive' approach whilst also increasing equal access to assets, resources and capabilities for women and marginalised groups	
Transformative	The project has all the characteristics of an 'empowering' approach whilst also addressing unequal power relationships and seeking institutional and societal change	X

Our project has prioritized gender equality across all its components:

First, the awareness and education efforts aimed at building community capacity for informed decision-making have been inclusive, targeting both schools and broader communities. School outreach involved approximately 98% youth, while community events included a mix of women, youth, and men.

Second, the planning and implementation of mass domestic dog vaccinations have engaged a diverse group of stakeholders, partners, and volunteers. Notably, the project received strong support from youthful volunteers from Karatina University and the County Government of Laikipia. We consistently and deliberately requested a gender-balanced group of volunteers. During the vaccination campaigns, we worked with 6 female and 6 male student volunteers from Karatina University, as well as 6 female and 6 male volunteer veterinarians. These campaigns offered an excellent opportunity to ensure and monitor the full participation of all genders, which the project embraced successfully.

Third, the project has also highlighted women in leadership roles. We hired a female Outreach Officer (Celine Wandia) and a female Monitoring and Evaluation Officer (Susan Lentaam). In addition, our lead technical advisor was a woman—Prof. Rosie Woodroffe—who brought significant expertise to the project.

Lastly, and more broadly, Mpala remains firmly committed to gender equality and actively promotes it through various institutional policies and practices.

Please quantify the proportion of women on the Project Board.	3 women. 4 men.
Please quantify the proportion of project partners that are led by women, or which have a senior leadership team consisting of at least 50% women.	40%, including Mpala Research Centre: The executive leadership of the organization is 75% women

4.4 Transfer of knowledge

The project has actively pursued knowledge transfer to both practitioners and policymakers, ensuring that insights from our conservation work inform broader conservation strategies.

One of the key avenues for this knowledge dissemination was the use of social media platforms such as Instagram, Twitter, and Facebook, reaching out to thousands of people in Kenya and abroad. These platforms enabled us to reach a wide audience by sharing timely updates, best practices, and engaging both local and international stakeholders in ongoing conservation efforts.

Beyond digital platforms, we also leveraged print media to extend our outreach. Leaflets and posters distributed within local communities provided clear, accessible information on African wild dog conservation and strategies for mitigating human-wildlife conflict. Additionally, newspaper articles helped raise awareness among a broader audience, including policymakers and the general public, fostering a deeper understanding of the importance of conserving African wild dogs.

We are also in the process of publishing a peer-reviewed manuscript that will document the lessons learned and achievements of our project. This publication is intended to reach conservation partners globally, contributing to the wider body of knowledge. Furthermore, insights generated from our work have already informed updates to both Kenya's and East Africa's regional strategies for the conservation of African wild dogs. This influence extends across the species' entire range and is expected to make a meaningful impact on long-term conservation outcomes.

4.5 Capacity building

The project has significantly contributed to the professional development and recognition of its in-country team and partners. Notably, the project lead, Dedan Ngatia, has experienced a rise in professional standing, becoming an active member of several prestigious national committees. These include the Kenya Wildlife Service Small Carnivore Task Force, the Large Carnivore Technical Committee, and the National Rabies Eradication and Coordination Committee. These appointments highlight the expertise developed through the project and reflect broader recognition of its impact on conservation, particularly in carnivore management and disease control. In addition, our staff members have participated in various capacity-building initiatives, such as the African Wild Dog United Conference, which enhanced their ability to contribute to the scientific community.

Community Officers were also trained in key aspects of our work, including, and not limited to, data collection and report writing—skills that will benefit them well beyond the life of the project. In a similar capacity, rangers from partner organizations were trained on the use of Earthranger app, a venture that will benefit them for longterm. In a similar capacity, rangers from partner organizations were trained on the use of the EarthRanger app—a valuable tool that will support their long-term efforts in wildlife monitoring and management.

5 Monitoring and evaluation

Monitoring and evaluation (M&E) played a central role in shaping project implementation and assessing overall impact. The project used real-time monitoring data to guide decisions and adaptively manage activities. For instance, if mark-resight surveys indicated low domestic dog vaccination coverage in specific areas, the project responded by intensifying outreach and vaccination campaigns in those regions. Similarly, if field surveillance detected dead or sick hyenas at carcasses, the project veterinarian investigated potential causes, including poisoning or disease. When poisoning was confirmed or suspected, community teams from Mpala or partner organizations intervened to provide conflict mitigation advice, particularly around human-hyena interactions.

M&E activities were coordinated by a dedicated Monitoring and Evaluation Officer, with support from technical advisors and project partners. The officer received guidance on sampling design, data analysis, and interpretation from senior team members to ensure robust and actionable insights.

Specific M&E activities conducted during the reporting period included:

1. Surveillance of human rabies and dog bite incidents across the project area to monitor zoonotic disease risks.
2. Ongoing monitoring of wild dog packs and other large carnivores, including cause-of-death assessments. GPS collar data on wild dogs was collected and analyzed collaboratively by the M&E Officer and technical advisors.
3. Documentation of outreach engagement, including the number and gender of participants, based on direct counts at events and meetings.
4. Annual assessments of livestock husbandry practices in focal areas, using structured surveys of a pre-selected number of herders.
5. Evaluation of community attitudes toward African wild dogs, using a simplified and consistent version of previous questionnaires, administered at both the beginning and end of the project to assess changes over time.
6. Pre- and post-event surveys following participatory drama performances, using multiple-choice questionnaires to measure shifts in knowledge and perceptions among audience members.
7. Media monitoring, including the compilation of newspaper articles, TV features, and social media analytics to quantify the project's outreach and visibility.

Together, these M&E processes ensured that the project remained responsive, accountable, and evidence-based, while building a foundation of learning to inform future conservation efforts

6 Lessons learnt

1. Grounding Project Design in Scientific Research

The design of this project was strongly informed by scientific research, which helped identify specific threats and opportunities for effective intervention. This approach highlighted two major threats to African wild dogs—persecution by people and disease-related mortality—and guided the selection of two targeted interventions: promoting coexistence and implementing vaccination campaigns. A deep understanding of the species' ecology, threats, and habitat allowed the project to prioritize conservation strategies that were not only scientifically sound but also widely accepted by local communities and stakeholders. This experience reinforces the importance of aligning conservation interventions with both species conservation priorities and community acceptance, as clearly articulated by research.

2. Building on Proven and Piloted Actions

Designing interventions that were grounded in previously piloted or successfully implemented actions, even at a small scale, provided a strong foundation for project planning. For instance, the Laikipia Rabies Vaccination Campaign had already been vaccinating domestic dogs in the project area on an annual basis. This prior experience offered valuable insights into logistical requirements, stakeholder dynamics, and potential challenges. As a result, the vaccination component of this project was implemented efficiently and ultimately exceeded its original targets. This highlights the value of leveraging existing initiatives to improve scalability and implementation success.

3. Direct Engagement of Local Youth

A key lesson learned was the value of directly engaging local youth as project staff. Employing young people from the project area enhanced the project's acceptance and effectiveness, particularly in promoting conservation messaging. Sharing the same language, culture, and environment as the target communities, these youth acted as trusted messengers and significantly influenced community attitudes toward conservation. This grassroots involvement created a ripple effect, increasing local buy-in and fostering long-term behavioral change.

4. Maintaining Consistent and Transparent Partnerships

Sustaining strong relationships with both existing and newly established partners was critical to the success of the project. Continuous communication and regular updates on project progress ensured that all partners remained informed, engaged, and willing to contribute their support. This approach helped secure long-term commitment, encouraged shared ownership of project goals, and strengthened collaboration across all levels of implementation. Maintaining transparent and consistent partner engagement proved to be a powerful tool for building trust and sustaining momentum.

7 Actions taken in response to Annual Report reviews

The 3rd Annual Report identified the need for the project to outline specific actions aimed at reducing livestock depredation by wild dogs, which was addressed in the Half-Year Report. It also recommended that reporting align with the identified indicators, which this report now follows. Additionally, a Disease Management Plan was requested and was submitted with the Half-Year Report. Although not a properly designed management plan per se, the workshop report highlights the agreed upon resolutions to be included in the management plan,.

Sustainability and Legacy

Our project continues to attract interest from like-minded and goal-aligned stakeholders. For instance, the National Geographic Society's kids TV series reached out to us for filming and discussions about our work. This presents a valuable opportunity to enhance our visibility and further expand our outreach efforts.

The County Government of Laikipia and the National Government of Kenya, among others, remain actively engaged in our rabies eradication initiatives.

We continue to collaborate with all our partners, successfully monitoring existing wild dog packs and enhancing our surveillance efforts—achievements made possible through these partnerships.

To ensure the long-term sustainability of our project, we are committed to continue involving all stakeholders and partners in decision-making processes. This inclusive approach has been instrumental in securing buy-in and building trust. As a result, our social, economic, and ecological goals are widely shared and supported.

We plan to continue fundraising and engaging with interested donors to help sustain our operations and retain key staff. Additionally, we are hopeful about submitting another funding proposal through the Darwin Initiative.

As mentioned in earlier sections, our work has made significant contributions—both nationally and regionally—to the development of strategies that will positively impact African wild dog conservation for years to come.

8 Darwin Initiative identity

The project has consistently acknowledged the support of the Darwin Initiative across all its activities. During all our project activities, the project team informed participants that the activity was made possible through DI support. This recognition has helped elevate DI's visibility among experts both nationally and internationally. Additionally, during community plays, it is always clearly stated that the activities are supported by the Darwin Initiative. We have also prominently featured the DI logo on all print materials produced during the reporting period, including leaflets and posters. We tagged DI in all our social media posts.

9 Risk Management

The project did not have risks in its last year which were not previously accounted for

10 Safeguarding

11 Finance and administration

11.1 Project expenditure

Project spend (indicative) since last Annual Report	2023/24 Grant (£)	2023/24 Total actual Darwin Initiative Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)			0	
Consultancy costs			0	
Overhead Costs			0	
Travel and subsistence			0	
Operating Costs			0	
Capital items (see below)				
Others (see below)				
TOTAL			0	

Staff employed (Name and position)	Cost (£)
Martin Mwangi – Project Coordinator	
James Ngatia – Veterinary Officer	
Susan Lentaam – Monitoring officer	
Celine Karoki – Outreach officer	
5 community officers	
Dedan Ngatia – technical advisor	
TOTAL	

Capital items – description	Capital items – cost (£)
TOTAL	NA

Other items – description	Other items – cost (£)
These included consumables for the rabies vaccinations, immobilization drugs and consumables for collaring, GPS collars, VHF collars, and publication costs	
TOTAL	10,505

11.2 Additional funds or in-kind contributions secured

Please confirm the matched funds raised for this project – matched funding includes co-finance as well as in-kind contributions. This will include funds indicated at application stage as confirmed or unconfirmed, as well as additional funds raised during the project lifetime. Please include all funds relevant to running the project (in the first table) as well as funds mobilised for additional work after the project ends building on evidence, best practices and the project (in the second table).

Matched funding leveraged by the partners to deliver the project	Total (£)
NA	NA
TOTAL	NA

Total additional finance mobilised for new activities occurring outside of the project, building on evidence, best practices and the project	Total (£)
NA	NA
TOTAL	NA

11.3 Value for Money

The project has successfully increased the number of wild dog packs from 2 at its inception to 9 by the end of the reporting period. This significant achievement is the result of concerted efforts to neutralize threats that previously hindered the growth and stabilization of the population, including achieving zero killings of wild dogs within communities and eliminating deaths from diseases. This has increased employment opportunities, therefore positively impacting on the well being of the people.

The project's contribution to human well-being is deeply rooted in reducing losses, such as livestock deaths caused by rabies, costs of treating rabies in humans, and livestock depredation. The marked reduction in human rabies cases and related deaths has alleviated both the financial burden and psychological stress on communities, thereby improving overall well-being. Notably, there was only a single human rabies-related death during the reporting period, compared to 25 cases recorded in 2017.

12 Other comments on progress not covered elsewhere

NA

OPTIONAL: Outstanding achievements of your project (300-400 words maximum). This section may be used for publicity purposes.

I agree for the Biodiversity Challenge Funds Secretariat to publish the content of this section (please leave this line in to indicate your agreement to use any material you provide here).

One of the most notable achievements has been the marked improvement in local attitudes toward wild dog conservation. Through school outreach programs, community workshops, and effective use of local mobile networks, we have observed a 70% positive shift in community willingness to coexist with African wild dogs. This underscores the transformative power of education and outreach in changing perceptions toward wildlife conservation.

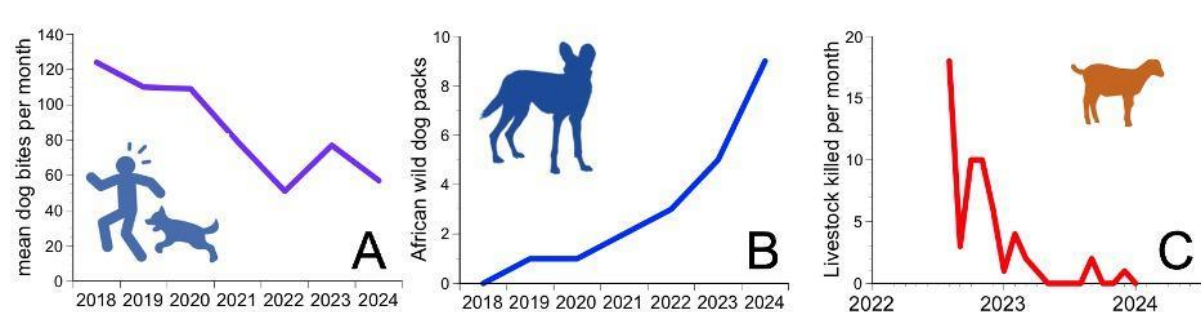
Another key success has been the training of over 150 conservancy leaders in rabies control and strategies for peaceful coexistence with large carnivores, including wild dogs. These leaders are now equipped with essential knowledge on the importance of rabies vaccination, enabling them to disseminate this information widely and foster a sustainable ripple effect of awareness and action within their communities.

The project’s collaborative approach has also strengthened partnerships. By bringing together 32 experts from Samburu, Laikipia, and Isiolo counties, we developed species-specific conflict resolution strategies. This collective expertise has led to more effective conservation management and the creation of strategies that can be replicated across regions. Additionally, a disease management plan was formulated by experts from local and international partner organizations alongside project advisors, addressing the unique challenges of the area and enhancing long-term disease control and prevention efforts.

A particularly noteworthy milestone was our engagement with County Government Veterinary Officers in Laikipia and surrounding areas. With their support, we successfully conducted domestic dog vaccination campaigns, protecting both human and animal health from rabies.

Crucially, no wild dog deaths due to domestic dog-transmitted diseases were recorded during the project period. This success is directly attributed to the vaccination campaigns, combined with ongoing education, training, and awareness efforts within the project area.

Major achievements are shown below.



File Type (Image / Video / Graphic)	File Name or File Location	Caption, country and credit	Online accounts to be tagged (leave blank if none)	Consent of subjects received (delete as necessary)
				Yes / No
				Yes / No
				Yes / No
				Yes / No
				Yes / No

Annex 1 Report of progress and achievements against logframe for the life of the project

Project summary	Progress and achievements
Impact Sustainable long-term coexistence of an intact and ecologically functioning large carnivore guild with healthy and prosperous local people in Kenya's Ewaso ecosystem	The project cultivated strengthening of pillars to support the outlined project impact. Community capacity building towards sustained coexistence with a stable population of wild dogs and other carnivores was successfully carried out. Efforts to ensure a thriving wild dog population by reducing kills and diseases were a success with an increased population and a reduced number of livestock predation cases. Similarly, community welfare cumulatively improved the livelihoods of project beneficiaries. All these together contributed to a sustainable long-term functioning ecosystem with optimal benefits to people and wildlife.
Outcome An ecosystem free of rabies where people coexist sustainably with wild carnivores, including a recovering African wild dog population	
Outcome indicator 0.1: African wild dog numbers at least doubled by the end of the project, from 2 packs in Jan 2022 to at least 4 breeding packs by 2024.	An increase in the number of wild dog's packs in the project area from a baseline of 2 packs in January 2022 to 11 packs in December 2024.
Outcome indicator 0.2: Annual human rabies deaths reach zero by the end of the project, from an estimated 25 deaths p.a. in 2017	To eradicate rabies in the project area, the project has achieved the 71% domestic dog annual vaccination target in over 10,661 sq. km area. This has significantly contributed to there being no reported wildlife deaths from rabies. However, we have one human rabies related death reported during the project period against a baseline of 25 deaths p.a. in 2017.
0.3 Wildlife (including the wild dog) rabies cases reach zero by the end of the project, from a (known non-zero) baseline established at the start of the project	The project period did not record any wild dog or other large carnivore deaths from rabies
0.4 Livestock predation by wild dogs remains at zero throughout the project despite increased wild dog numbers	The project recorded a reduced number of livestock killed by other large carnivores from 166 in 2022/23 to 21 goats and sheep killed in the project area in 2023/24 representing a decline of 88% against the baseline.
0.5 Livestock predation by other large carnivores reduced by one-third in the course of the project, relative to a starting baseline	The project has seen a reduction of livestock killed by other large carnivores from 166 in 2022/23 to 21 goats and sheep killed in the project area in 2023/24. This represents a decline of 88% against the baseline.
Output 1 Zero human deaths from rabies in the project area by 2024	

1.1 Annual human rabies deaths in the project areas reduced from 25 p.a. in 2017 to zero in 2023-4	Within the project period, and from the hospital data in the project area, we have 1 confirmed reported rabies human death. This is sad, but a great improvement from a baseline of 25 deaths/p.a in 2017.
1.2 Bites by suspected rabid dogs decline from 130/100,000 people/year in 2017 to <20/100,000 people/year in 2023-4, with no female bias in dog bite victims.	Dog bites by suspected rabid dogs reduced from 1320 in 2020 to 927 in 2024. The reduction is associated to awareness creation and training around domestic dog handling carried out by the project
1.3 Area covered by domestic dog rabies vaccination expanded from 1,500 sq km in 2017 to 10,000 sq km in 2022	This has been achieved with the area covered by domestic vaccinations in the project period increasing from a baseline of 1500 sq km to 10,661sq km over project period
1.4 Proportion of domestic dogs vaccinated against rabies in targeted areas increased from 24% in 2017 to $\geq 70\%$ in 2022-4	The coverage of domestic dogs vaccinated has increased from 24% in 2017 to 71% in 2023.
1.5 Local people engaged by community outreach efforts related to domestic dog ownership increased from 0 in 2017 to 30,000 in 2022-4, with equal gender participation.	In total, the project reached out to 119,346 people (48,336 youth, 37,953 women and 33,057 men) with rabies control measures and practices within the reporting period. This was beyond the proposed 30000 residents annually
Output 2. Two-thirds reduction in wild dog deaths caused directly or indirectly by people	
Output indicator 2.1 Wild dog mortality caused by domestic dog diseases reduced from 10% of all adult wild dogs <i>p.a.</i> in 2001-2015 to 3% in 2022-4	This has successfully been achieved. There was no wild dog death recorded as a result of domestic dog diseases during the project period. This was attributed to domestic dog vaccinations against zoonotic diseases, education, training and awareness within the project area.
Output indicator 2.2 Wild dog mortality caused deliberately by people reduced from 5% of all adult wild dogs <i>p.a.</i> in 2001-2015 to 2% in 2022-4	This has been achieved. There have been no wild dogs reported to have been killed by people in the project area against the baseline. We associate this to the consistent community outreach efforts from the project team
2.3 Local action plan for disease management in wild and domestic carnivores agreed by Jun 2022 and implemented by Jun 2023.	A disease management plan was developed by expertise drawn from local and international partnering organizations and project advisors and it continues to advise actions related to diseases within project area
2.4 Surveillance system for reporting sickness in wild and domestic carnivores developed & implemented by Oct 2022.	This has been achieved. A disease management workshop was successfully held by the project. It developed a disease surveillance system that has systematically been implemented through our trained community officers in their respective areas. This is supplemented by disease surveillance efforts from our project-based veterinarian within the project area

2.5 Local action plan for mitigating livestock depredation by other large carnivores agreed by Jun 2022 and fully implemented by Jun 2023.	This has been achieved. A workshop on livestock depredation mitigation plan was successfully held. The workshop brought all project partners and stakeholders on board and a local action plan and a conflict monitoring toolkit developed. The model continues to inform conservation interventions into the future
Output 3. Declining incidence of livestock predation by all large carnivores, despite the rising population of wild dogs	
3.1 No wild dog attacks on livestock in 2022-4 (compared with >20 attacks in 2014 when rates were last enumerated)	We recorded a consistent reduction of livestock depredation by wild dogs from 8 cases recorded at the start of the project to zero cases at the end of the project. With more people adopting good livestock husbandry promoted by the project
3.2 Livestock killed by other large carnivores reduced by one-third in 2023-4 compared with the 2022 baseline.	The project has seen a reduction of livestock killed by other large carnivores from 166 in 2022/23 to 21 goats and sheep killed in the project area in 2023/24. This represents a decline of 88% against the baseline.
3.3 Majority of livestock keepers (both male and female) practising carnivore-friendly husbandry by 2024	Through participatory theatre plays, community meetings and social media platforms, the project has created awareness on coexistence messages within the project area. 72% of residents are currently practicing carnivore - friendly husbandry.
3.4 Local people engaged in community outreach efforts related to wild dog conflict increased from 0 in 2018 to 30,000 in 2022-4, with equal representation of men and women	In contribution to this output, the project has reached out to 94,211 persons (43,545 youth, 29,053 women, and 21,613 men) on good husbandry practices in coexistence messages within the project area using its various communication methods. Mainstream media through a documentary aired bi-weekly for two months in Citizen TV, which is amongst leading stations in Kenya, reached out to ~800,000 persons nationally.
OUTPUT 4: Improved public attitudes to coexisting with African wild dogs	
4.1 Percentage of community members wanting wild dogs on their land increased from 38% in 2007 to 70% in 2023-4.	To quantify these changes, baseline questionnaires were administered to assess community attitudes both before and after the interventions. Analysis of the data revealed a 70% increase in positive attitudes, with a greater willingness among community members to coexist with African wild dogs.
4.2 Ten-fold increase in Kenyan print and broadcast media items presenting positive new stories about wild dogs (from 1 newspaper article and 1 TV report in 2018).	The project period has seen two mainstream media coverage to promote coexistence with African wild dogs with one running bi-weekly for two months. see attached link
4.3 Ten-fold increase in social media reach of project accounts, primarily within Kenya (e.g. @MpalaWildDogs to increase from 590 followers to >5,000).	
4.4 Increase in the proportion of tourism operators using wild dogs' presence in their advertising.	Several private and community conservancies are now using wild dogs as the focal species to attract tourists to their conservancies. Specifically, the Laikipia Wilderness Camp (https://www.laikipia-wilderness.com/), based in Oldonyo Lemboro Ranch, mainly attracts tourists interested in tracking African wild dogs. Other conservancies that have centered wild dogs as focal species for tourism include; Loisaba Conservancy, Suyian Conservancy, Ol

	Jogi Conservancy, and Sosian Conservancy. In addition, we have also partnered with organizations operating tours and safaris in our study area, mainly focussing on wild dogs e.g. the FootPrint Safaris. To promote African wild dog tourism, we have shared tracking details of the collared packs with more than 10 conservancies.
Output 5. Improved national capacity for protecting wildlife populations and human health	
5.1 Number of trained full-time Kenyan professional wild dog conservationists in the project area increased from 2 (male) in 2019 to 10 (including ≥ 3 women) by April 2022.	Progressively, the project's 9 team members have had monthly training on different topics related to wild dog conservation; threats, opportunities, and approaches for effective project delivery which has significantly contributed to improved project staff capacity. In addition, 37 rangers from partner organizations were trained.
5.2 Number of Kenyan wildlife veterinarians with practical expertise in wild dog health increased from 2 (both male) in 2019 to 4 (2 male, 2 female) in 2022.	The disease management workshop exposed a significant number of local conservation practitioners >15 to epidemiological modeling informing wild dog disease management which was a self-sustaining impact of this project.
5.3 Days each year that County Veterinary Officers have transport to contribute to mass dog vaccination increased from 0 in 2019 to 201 modelings 2022-2024.	The project has directly engaged over 50 County government Veterinary Officers in over 300 days of domestic dog vaccinations within the project period. This included planning and actual vaccination.
5.4 Number of nurses trained to collect sex- and age-disaggregated anonymized data on rabies deaths and dog bites increased from 0 in 2019 to 24 in 2022.	To contribute to this indicator, the project team developed a gender segregating rabies deaths and dog bite data collection tool, annexed, that was shared to the County health department and was used to record dog bites across Laikipia County with over 110 nurses using the data sheet.
5.5 Number of Kenya conservation professionals engaged in using epidemiological models to inform wild dog disease management increased from 0 in 2017 to ≥ 20 in 2022.	The project has seen over 51 experts within and across other parts of the world directly engaged in the vaccinations totaling 8032 man hours. Planning minutes and vaccination reports are attached to this report.

- **Annex 2: Project's full current logframe as presented in the application form (unless changes have been agreed)**

Project summary	SMART Indicators	Means of verification	Important Assumptions
Impact:			
Outcome:			
Output 1 Add more outputs as necessary	1.1 1.2 1.3 etc.	1.1 1.2 1.3 etc.	
Output 2	2.1 2.2	2.1 2.2	
Output 3	3.1	3.1	
Activities (each activity is numbered according to the output that it will contribute towards, for example 1.1, 1.2 and 1.3 are contributing to Output 1)			

Checklist for submission

	Check
Different reporting templates have different questions, and it is important you use the correct one. Have you checked you have used the correct template (checking fund, type of report (i.e. Annual or Final), and year) and deleted the blue guidance text before submission?	Yes
Is the report less than 10MB? If so, please email to BCF-Reports@niras.com putting the project number in the Subject line.	Yes
Is your report more than 10MB? If so, please discuss with BCF-Reports@niras.com about the best way to deliver the report, putting the project number in the Subject line. All supporting material should be submitted in a way that can be accessed and downloaded as one complete package.	Yes
If you are submitting photos for publicity purposes, do these meet the outlined requirements (see section 14)?	Yes
Have you included means of verification? You should not submit every project document, but the main outputs and a selection of the others would strengthen the report.	Yes
Have you involved your partners in preparation of the report and named the main contributors	Yes
Have you completed the Project Expenditure table fully?	Yes
Do not include claim forms or other communications with this report.	

