Final Evaluation Report

We ask all grant recipients to complete a project evaluation that helps us to gauge the success of your project. This must be sent in **MS Word and not PDF format**. We understand that projects often do not follow the predicted course but knowledge of your experiences is valuable to us and others who may be undertaking similar work – remember that negative experiences are just as valuable as positive ones if they help others to learn from them.

Please DO NOT fill in and submit this form until the project has been completed.

Complete the form in English. Note that the information may be edited before posting on our website.

Please email this report to jane@rufford.org.

Your Details	
Full Name	Zacharia Mutinda Muteti
Project Title	Fostering Coexistence: Integrating Citizen Science, Sustainable Fishing Practices, and Climate-Adaptive Agriculture for Human-Elephant Harmony in Lake Jipe
Application ID	43652-2
Date of this Report	20/11/2025

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
Enhanced Community Coexistence				From citizen science we had total of **4,298 elephant individuals observed over 10 months and** recorded between January and October 2025 through Five local citizen scientists trained under the Eco-Jipe program. We had a total of 27 identified bulls, all resident and started identification of mixed herd groups. We have 3 resident mixed herd groups now with a total of 8 cows identified and 14 unidentified calves and juveniles. We conducted 14 Key Informant Interviews (including BMU leaders, elders, school administrators, and KWS rangers) and 6 Focus Group Discussions across Kachero, Mkwajuni, and Mkocheni villages, with a total of 78 participants (36 women, 42 men).
Climate-Adaptive Harmonious Gardens				One model garden was established within Jipe school. The 600m2 garden has supplied vegetables and fruits of 6 varieties to learners, local community and continues to feed teachers and learners. The economic value of the garden productivity is estimated at $100 a month. Through additional support through our partners, we established 5 more gardens within three villages and now benefit five families in total providing an alternative livelihood to these locals reducing dependence on fishing. Over 4 months as of November 2025, the

				gardens have been elephant proof, an element we intend to keep monitoring over the coming years. The establishment of the climate-adaptive gardens was co-funded. Rufford funds did not directly finance infrastructure development of the gardens. Instead, they supported the broader coexistence framework within which the gardens were embedded (community engagement, monitoring, education). Direct garden infrastructure was supported by BeVisioneers Fellowship and Elephant Crisis Fund partners (solar powered water pumps).
Comprehensive Environmental Education				Across 18 months, **12 elephant education sessions** were held in Kachero, Mkwajuni, and Mkocheni. Across the 12 environmental education sessions, approximately 312 participations were recorded. Because some individuals attended multiple sessions, this figure reflects total attendance rather than unique individuals. Of these, 72 were learners from Jipe School. Communities showed reduced fear, fewer elephant run-aways, and greater tolerance. Youth engagement increased, reflected in more elephant-related posts on Facebook and TikTok an indicator of shifting attitudes and curiosity. Social media engagement was monitored through manual logging of posts by two of the most active local youth participants between 2024 and 2026. For each elephant- and fisheries-related post, we recorded shares, likes, views, comments, year, and thematic focus. The data show a clear increase in engagement from 2024 to 2025. In 2024, recorded posts generated relatively low reach (e.g., 18 views for fisheries content and

				914 views for a single elephant-related post). In 2025, posting frequency increased substantially, and average reach rose to between 100–250 views per post for regularly active contributors. Notably, elephant-related content demonstrated higher engagement growth than fisheries posts. This upward trajectory continued beyond 2025, with some elephant-related posts reaching 11,100 to 26,600 views and generating high interaction (e.g., over 100 shares and up to 48 comments on a single post). One contributor (Emmanuel William) consistently focused on fisheries content in 2025, generating steady moderate engagement (typically 100–200 views per post), reflecting sustained grassroots communication on fishery sustainability. In contrast, elephant-focused content, particularly from another active youth participant, showed sharper increases in reach and audience interaction over time. Although the monitoring focused on selected active accounts rather than all participants, the logged engagement metrics provide empirical evidence of increasing digital visibility and interaction around conservation themes during and following the project period. As a result, we had 4 elephant conflicts incidences reported to the Kenya Wildlife Service, of which 75% resulted in property damage, 25% crop raid. The number of recorded HEC incidents is not presented as a direct reduction attributable solely to the education sessions. Instead, the education interventions strengthened awareness, early reporting, and community response behaviour. Through sensitisation and citizen

				science engagement, community members became more likely to report elephant presence promptly to the Kenya Wildlife Service and local response teams. The observed shift in impact type (from predominantly crop damage at baseline to a mix of property damage and crop incidents) likely reflects earlier detection and response rather than reduced elephant presence. Education sessions emphasised early warning, safe deterrence, and coordinated reporting, which helped communities act before elephants reached farms, potentially reducing crop-loss severity even when encounters still occurred. This is a significant shift on livelihood impact from 100% conflict on crop damage to 25% over increased surveillance.
Fish Exploit Records: To address the dearth of information on fish populations, fish exploit records were instituted.				Setting up fish catch-record systems met strong resistance, especially from traders who feared the data could trigger new regulations or threaten their already fragile livelihoods. This tension opened an unexpected but valuable space for dialogue. Since August, we have shifted to a voluntary approach, with citizen scientists recording catches only from willing fishers. The resulting dataset is partial and uneven, yet it has sparked wider conversations about sustainability. Awareness of the long-term risks of overexploitation is growing, and trust in the process is slowly rebuilding. Voluntary fish catch data are currently being collected at two landing sites: Kachero BMU and Mkwajuni BMU within the Lake Jipe landscape. These sites were selected based on community openness to participation following initial resistance to formal catch-record systems.

				As of the second project update, approximately 200 voluntary catch entries had been recorded. Since then, continued participation by trained citizen scientists has expanded the dataset substantially. As of the latest count, a total of 1,078 voluntary catch records have been logged. These entries include species type, size estimates, and landing observations collected at participating landing sites. While the dataset remains influenced by voluntary participation, it now provides a significantly stronger baseline for understanding local fish exploitation patterns and informing future fisheries monitoring. Transect surveys were conducted in collaboration with partners from the National Museums of Kenya and Nature Kenya's Samaki Working Group. The surveys yielded notable ecological insights. Sampling in the lake's open waters recorded 100% introduced Oreochromis niloticus, indicating strong dominance of this species in sampled zones. Riverine transects identified seven fish species in total. Notably, Jipe tilapia was not observed in either the lake or river sampling sites during these surveys. During a community capacity-building workshop, local fishers listed more than 15 fish species historically known from the lake, suggesting higher perceived diversity than captured through our limited sampling. This contrast highlights both the potential rarity of some native species and the constraints of short-term field surveys, indicating the need for more extensive and repeated ecological assessments. The findings have been shared twice over the past 18 months through stakeholder

				engagements involving fisheries researchers and government actors. These included knowledge-sharing forums where preliminary citizen science data and ecological observations from Lake Jipe were presented and discussed. While the data have not yet been formally integrated into fisheries management frameworks, these engagements have created a foundation for future collaboration. As the dataset continues to grow (now exceeding 1,400 voluntary catch records), we plan to pursue more structured engagement with county fisheries authorities and cross-border Lake Jipe governance actors to support evidence-informed fisheries management.

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

a) A locally grounded community led elephant monitoring system is now fully functional and generating high value ecological data

b) A sustainable alternative livelihood established via climate adaptive harmonious permaculture gardens reducing human-elephant conflicts through controlled farming systems equipped with drip irrigation and shallow wells ensuring all year round productivity,

c) Community attitudes toward elephants have shifted noticeably toward tolerance and stewardship.

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

Resistance to Fish Catch-Record Systems; Initial attempts to introduce catch-record systems were met with strong resistance from fish traders and some fishers who feared the data could lead to new restrictions or reduced income. This tension signalled a deeper concern about perceived regulation and livelihood security. The team shifted strategy by engaging traders and fishers through Kachero Beach Management Unit through dialogue, clarifying intent, and working only with those willing to participate. The locally trained citizen scientists now collect size-catch data from cooperative fishers, producing a partial but growing dataset while steadily building understanding of sustainable fisheries management.

Intensified Human–Elephant Conflict Due to Drought and movement paths blockage. Extended dry spells between June and October 2025 pushed elephants further into Kachero village and farmland, increasing crop incursions probability and creating greater anxiety among households. Rapid response became essential, so the project through Eco-Jipe Program equipped community volunteers with a motorbike to improve patrol coverage and speed of engagement. Alongside focused village-level sensitisation efforts, this support helped reduce panic responses, improved early reporting of elephant movements, and strengthened coexistence attitudes during a difficult period. The drought is expected to continue while our efforts on ground remain robust.

Water Scarcity Threatening School and Community Gardens. Drought conditions also placed unexpected strain on the newly established food-security harmonious gardens. Water shortages threatened productivity, particularly during the early establishment phases. To address this, shallow wells were sunk for both the school garden and the village gardens. At Jipe School, support from the BeVisioneers Fellowship and the Elephant Crisis Fund enabled installation of solar-powered pumps, ensuring reliable and sustainable irrigation. In the surrounding villages, BeVisioneers support facilitated water-pump access for the four additional gardens. These measures stabilised garden productivity and protected the livelihood benefits during the driest months.

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

The Jipe community has been central to shaping and driving this project, and their involvement has translated into real ecological, social, and livelihood gains. Our five citizen scientists and coexistence volunteers from the Mkocheni and Kachero villages have mapped elephant pathways, monitored conflict incidents, and helped in development of a strengthened early-warning system, in the form of a watchtower in Jipe School. With the added mobility of the EJP patrol motorbike, households now receive faster support during conflict events, creating a greater sense of safety and shared responsibility for coexistence.

Fishers and traders were engaged with the catch-record initiative, contributing local knowledge that enriches scientific monitoring and slowly building confidence in discussions about sustainable fishery management of Lake Jipe. Farmers; particularly youth and women have taken up the climate-adaptive gardening, supported by shallow wells and water pumps, improving household nutrition and reducing vulnerability to drought. The school garden, powered by solar pumping, has become a hands-on learning space for students and the Jipe community at large.

The shallow wells have been especially transformative. By reducing the water-collection distance from nearly 6 km to under 1 km, children and women now spend less time exposed to elephant corridors. Hundreds of villagers access safer drinking water daily, and risks of dangerous encounters have dropped significantly. At Jipe Primary School, the well has eliminated bi-weekly water purchases, saving about $100 each month and improving hygiene, food production, and the overall learning environment.

Across the landscape, environmental education and inclusive engagement have nurtured a growing conservation ethic. Communities feel more informed, more involved, and better equipped to steward the Lake Jipe ecosystem for the long term.

5. Are there any plans to continue this work?

Yes. From the success of citizen science in elephant monitoring, permaculture gardens adoption and productivity, the willingness of the Jipe community to spearhead ecosystem protection and continued human elephant coexistence, we intend to keep the work going for a long time. Through Eco-Jipe Program's four pillars of fishery management, alternative livelihoods, conservation education and human wildlife coexistence strategies we intentionally intend to keep growing our impact.

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

Already, the results of this work and the previous work have been presented to the Kenya Wildlife Service, Wildlife Research and Training Institute, save the Elephants and other conservation stakeholders within Kenya and specifically the Tsavo Conservation area through a workshop held on November 10th 2025 in Tsavo East National Park.

We made a short documentary video with Kenya's National Broadcasting Corporation-Lake Jipe in Taita Taveta County under threat of extinction that Aired on National Television and we are in the publishing process for our article with Swara Magazine and Nature Net, Kenya. Besides, our lessons and experiences through this project are building up curriculum material for CoalitionWILD's Excelerator Program that trains youth globally on conservation project leadership and management.

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

In the coming weeks, months and years, we are determined to establish:

a) A human elephant coexistence hub within Jipe school; partially supported by Save The Elephants and Wildlife Conservation Network through the Elephant Crisis Fund in September 2025.
b) Expansion of alternative livelihood projects through our partners and collaborators not limited to The Do School's BeVisioneers the Mercedes Benz

fellowship, SHOFCO Kenya among others in the landscape. By March 2026 we shall delve into the third alternative livelihood project, beekeeping while poultry farming, human predator conflicts mitigation, eco-tourism etc remain in our pipeline.

c) Improve on the suitability of permaculture gardens and shallow wells safety features ensuring that animals, children and pets do not fall into these life supporting wells. We are collaborating with Geotto startup to install water level sensors, conflict animals detection sensors and AI to assist curate night time data on wildlife movement and mitigate human wildlife conflicts in the landscape.
d) Last, we intend to employ two project staff to support in administration and fundraising for long term sustainability of the projects.

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?

Yes, we produced two hundred laptop stickers shared across our stakeholders, seven volunteer t-shits with the logo, a roll-up banner showing our work and a map of Lake Jipe with the Logo that is mounted on the office wall for all our visitors to see.

The RSG logo has been used in all our presentation made in Arusha 2024 July at Nelon Mandela Africa Institute's Research Conference, Karatina University Seminar and adequately acknowledged in my MSc Thesis ***African Savannah Elephant (Loxodonta africana) Distribution As A Function Of Foraging Resources Around Lake Jipe Ecosystem*** and **Published paper (Spatial and Seasonal Patterns of African Savannah)** for the first grant-38653-1_zacharia-mutinda-muteti.

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

- Dr. Susan Canney of Mali Elephant Project- Project Advisor
- Yen Rowely Parico of CoalitionWILD and now IUCN-Project Coordinator
- Dr Lydia Tiller of Amboseli Trust for Elephants-Project Advisor
- Dr Lucy King of Save the Elephants and Elephant Crisi Fund-Key project advisor
- Dennis Mulinge-Local Citizen Scientist and community volunteer
- Dennis Mutuku-Local Citizen Scientist and community volunteer
- Simon Kariuki-Local Citizen Scientist Intern and community Volunteer
- Kanana Cynthia-FGDs coordinator and Conservation Education Director at Eco-Jipe
- Elvis Ogot-Permaculture gardens coordinator and climate resilience officer
- Ambrose Odhiambo Achuchi-Local Citizen Scientist, Community Volunteer and BMU Chairperson
- Thomas Odeyo-National Museums and Samaki Working Group Coordinator
- Monica Katuki-Local Citizen Scientist and community volunteer

10. Any other comments?

We partnered with experts from the National Museums of Kenya and Nature Kenya's Samaki Working Group and conducted transects surveys of the Lake which led to the collection of samples now archived in the Ichthyology department of the Museum. Additionally held a series of FGDs and KIIs which yielded in mapping of 18 fish species found in Lake Jipe ecosystem. Later in the year for our coordinated activities in two field trips, I was appointed into the Samaki Working Group Steering Committee as an Organising Secretary for a Period of 1 year.

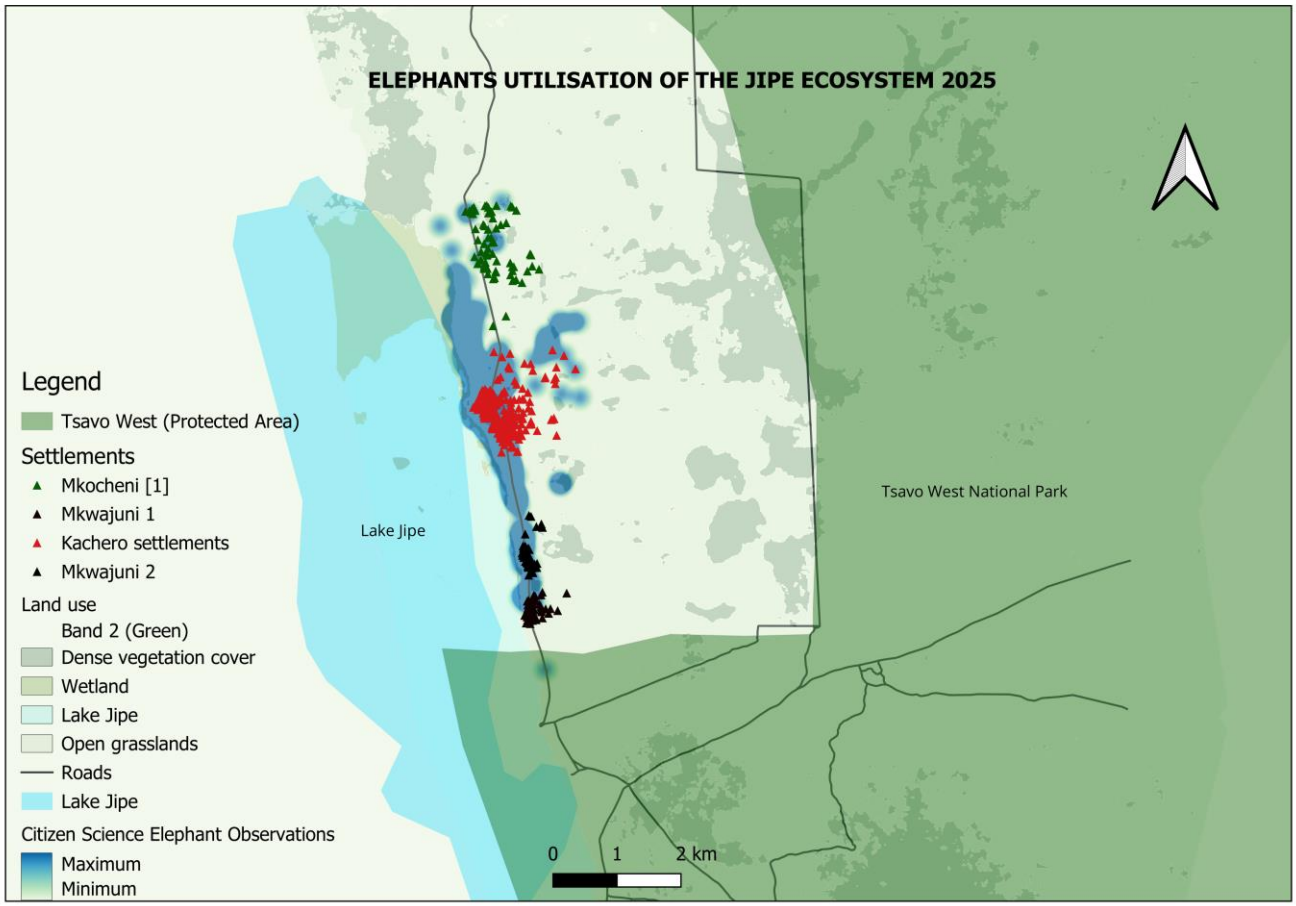
We received advise from Geoff Schuber of Ripple Africa to change our fish assessment strategy. We had Scott Hecker of ICFC Canada visit Lake Jipe and our work and advised that a suitable approach to protect the endangered Jipe tilapia would be to establish no take zones of the lake, this remains in our future as alternative livelihoods take shape and fishing pressure reduces.

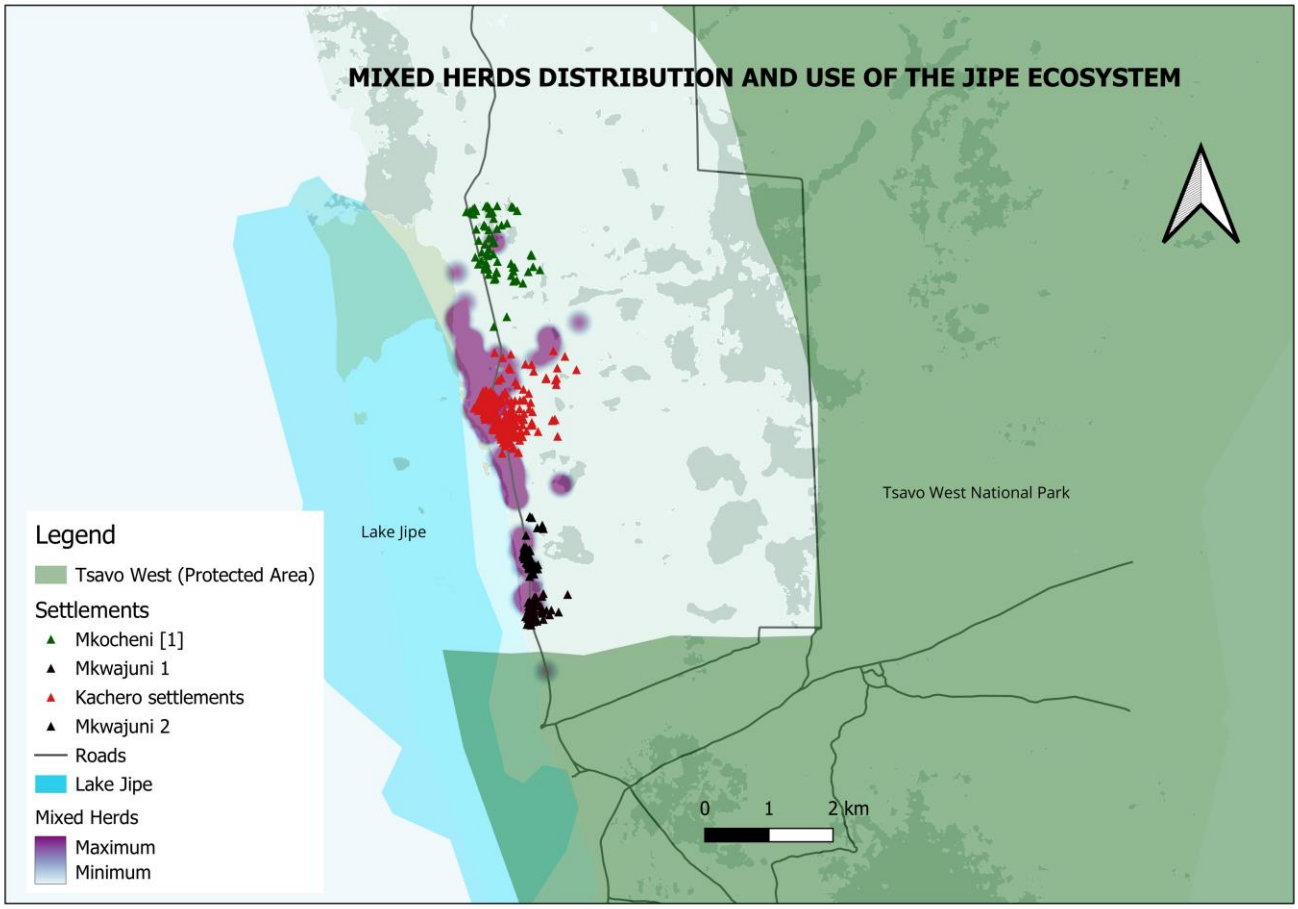
At the end of the project life, on the World Fisheries Day, we conducted a joint community clean up exercise bringing together 98 learners of Jipe School, Two Beach Management Units, Kachero and Mkwajuni, Local leaders and women. This exercise demonstrated the much commitment of the Jipe community to safeguarding their livelihoods. Upon completion of the exercise, we evaluated the impact of the project in the eyes of the elders and women. One statement that grabbed my attention is that of Sara Otano, the local women in fisheries self-help group lead that, 'This lake is our lifeline, and we live in a dirty environment, littering the lake shores and our villages is not fair to our wellbeing, we should do this quite often. This is the first clean up exercise I have seen all my life in Jipe, and I would love to engage in such activities more often'

ANNEX – Financial Report

[Intentionally Removed]

Maps of citizen science elephant observations within the Jipe landscape




MIXED HERDS DISTRIBUTION AND USE OF THE JIPE ECOSYSTEM
Tsavo West National Park
Lake Jipe
Legend
Tsavo West (Protected Area)
Settlements
Mkocheni [1]
Mkwajuni 1
Kachero settlements
Mkwajuni 2
Roads
Lake Jipe
Mixed Herds
Maximum
Minimum
0
1
2 km