

Charity number: 1179460



Southern Tanzania Elephant Trust
Annual Report and Accounts for the Year ended
31st December 2020

Charity Name: Southern Tanzania Elephant Trust

Registered Charity Number: 1179460

Principal Address:

30 Barn Road
Stirling
FK8 1EP
United Kingdom

Trustees Report for the year ended 31st December 2020

The Trustees of Southern Tanzania Elephant Trust present their annual report and audited accounts for the period 1st January 2020 through 31 December 2020 and confirm they comply with the requirements of the Charities Act 2011, the Trust Deed and the Charities SORP (FRS 102).

Charity Trustees

Helen Pearson
Nathaniel Comber
Nick McWilliam

Names and Addresses of Independent Examiner

Community360
Winsley's House, High Street, Colchester
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Governing document

The Charity was registered as a Trust on the 6th August 2018 and is governed by a Trust Deed dated 1st August 2018.

Trustee selection method

The first Trustees of the Charity were appointed for a term of three years at the time of registering the Charity and are eligible for reappointment. The current trustees may appoint new trustees by approaching individuals whom the trustees believe would bring necessary skills, knowledge and experience to the Organization. If the individual is willing to put themselves forward, their appointment is put to the current Trustees for approval.

Objects of the Charity

The objects of the charity are to conserve and protect the African elephant in Tanzania and other African wildlife and habitats in Tanzania for the public benefit.

The trustees identified Southern Tanzania Elephant (STEP) in Tanzania as the organisation whose work the Trust is aiming to support, in accordance with the Trust's objects, to facilitate the delivery of the UK Charity's objectives.

Vision

Creating a long and peaceful future for elephants in southern Tanzania and for the ecosystems and communities on which they inter-depend.

Mission

To secure a future for elephants in southern Tanzania by, directly and through partnerships, supporting elephant protection, enhancing coexistence between communities and elephants, strengthening community livelihoods, conducting research and monitoring, and awareness-raising.

Principal Activities

Background and rationale

Southern Tanzania is a globally important region for elephant conservation, with elephant populations numbering some 30,000 individuals in 2015, and approximately 70,000 in 2009 before devastating declines from poaching for the ivory trade (Thouless et al. 2016). The region holds 35% of East Africa's elephants, and 7% of Africa's elephants (Thouless et al. 2016). The Ruaha-Rungwa and Udzungwa-Selous ecosystems of Southern Tanzania are some of the few elephant strongholds and wilderness areas for large mammals left in the world. The ecosystems and elephant populations of southern Tanzania are a global treasure, requiring global support for their conservation.

Threats facing elephants in Southern Tanzania

Elephant conservation in the region faces two main challenges:

- **Securing elephant populations and habitat:** The combined efforts of the Tanzanian government, civil society and international community have greatly reduced the threat of poaching to elephants compared to previous years. However, ongoing protection efforts are needed to secure these important gains and ensure long-term recovery of southern Tanzania's elephant populations. In addition, protecting the integrity of the ecosystems that comprise elephant range is vital to the long-term survival of the elephant populations of this region.
- **Human-elephant coexistence:** Farms and settlement adjacent to protected areas and in elephant corridors and dispersal areas are at risk of elephant damage, as some elephants learn to use crops as a 'high-risk, high-reward' food source. As more land comes under cultivation, elephant habitat and corridors outside of protected areas are also increasingly at risk. Every year people are killed by elephants, often as a result of accidental encounters. This is a complex challenge that requires long-term vision and a multi-faceted approach.

Activities

We work to conserve the elephant metapopulation of southern Tanzania through a landscape level approach. The charity's principal activities include:

1. **Supporting elephant protection in critical habitats:** supporting ground and air patrols and providing technical support to under-resourced protected areas in important elephant range, as well as building ranger capacity to map and analyse patrols and outcomes and monitor spatial and temporal trends in illegal activities
2. **Enhancing human-elephant coexistence in communities living with elephants:** working with farmers' groups to protect farms and improve livelihoods through beehive fence projects which deter elephants from farmland and produce elephant-friendly honey; trialling novel crop protection strategies with farmers; providing farmers with access to financial services and improving household resilience through membership and training in Village Savings and Loans Associations; restoration of a critical wildlife corridor between the Udzungwa and Selous ecosystems; and awareness-raising and education activities.
3. **Conducting elephant research to inform conservation efforts:** monitoring elephants in the Ruaha-Rungwa and Udzungwa-Selous ecosystem; assessing spatial and temporal trends in human-elephant interactions and evaluating solutions; and monitoring of wildlife corridors.
4. **Capacity building for elephant conservation:** through training, internships, and provision of technical support.

All activities in Tanzania are carried out by our affiliate organization in Tanzania, Southern Tanzania Elephant (abbreviated and referred to from here on as STEP), a non-governmental organization registered on 17th July 2019 under the Non-Governmental Organization (NGO) Act, 2002 Section 12(2) of Act No. 24 of 2002, with registration number I-NGO/R2/00077. The Tanzanian affiliate Organization was previously registered as a company limited by guarantee having no share capital (i.e. a not-for-profit company). With the passing of The Written Laws (Miscellaneous Amendments)

(No.3) Act, 2019 on 30th June 2019, all companies limited by guarantee having no share capital were required to register under the Non-Governmental Organization (NGO) Act, 2002 by August 30th 2019.

The Board of Trustees of Southern Tanzania Elephant Trust in the UK (from here on referred to as STET UK) and the Board of STEP Tanzania are responsible for overall management of the organization, including setting and reviewing strategic plans and budgets, financial matters, reviewing the performance of management, and ensuring adherence to internal control policies and sound governance. and for compliance with sound governance principles. The organization is committed to the principles of effective governance, integrity, transparency and accountability. STET UK and STEP Tanzania agree on the yearly strategy and budget together. The Trustees of STET UK exercise their discretion when selecting which activities to support by having regard to the Charity Commission's public benefit guidance as well as the following internal criteria:

1) The activity contributes to the conservation of the African elephant in Tanzania through any of the following:

- a. Increasing resources and/or capacity for law enforcement of elephant range
- b. Increasing public awareness of the value of elephants and elephant conservation
- c. Increasing the capacity of rural communities to coexist with elephants
- d. Improving the welfare of rural communities who coexist with elephants
- e. Increasing the availability of research and scientific outputs to inform elephant conservation

(2) It has been demonstrated that the activity provides good value for money

STET UK and STEP Tanzania maintain close contact with regards to implementation of activities. Each Board meets at a minimum twice per year.

Impact for the Year End 31st December 2020: Achievements and Performance

1. Supporting elephant protection in critical habitats

The goal of this programmatic area is to enhance protection efforts of rangers and village game scouts through support for ground and air patrols, provision of training and resources, and data optimization. Targeted support is provided to three protected areas selected for their importance to elephants, their biodiversity value, and funding and resource gaps assessed with respective wildlife management authorities. These include MBOMIPA Wildlife Management Area (WMA), a community-managed wildlife area; Uzungwa Scarp Nature Forest Reserve (USNFR), a forest reserve by Tanzania Forestry Services Agency (TFS); and Rungwa-Kizigo-Muhesi Game Reserves (RKM GR), managed by Tanzania Wildlife Management Authority (TAWA). The means by which we provide support include:

- Building the capacity of rangers and Village Game Scouts through training and equipment
- Supporting ground and air patrols
- Mapping and analysing patrol outcomes for strategic patrol planning

1.1 MBOMIPA Protection Project

STEP first began to work with the community-owned MBOMIPA Wildlife Management Area in 2018. In particular, Lunda Zone in MBOMIPA WMA is a critical part of the Ruaha-Rungwa ecosystem and especially important for elephants, as well as other endangered species such as wild dogs and lions. In 2020, we continued to support three teams of Village Game Scouts (VGS) to conduct at least 21 days of foot patrols each per month by supplying scout wages and providing fuel and food supplies. In 2020, VGS covered 6,484 km of foot patrols and 4,756 km of vehicle patrols in the Lunda zone of the WMA. 100% of patrols were logged using GPS units, with patrol coverage and outcomes mapped every month and analysed by STEP to enhance patrol effectiveness. STEP also continued with maintenance and operation of a field vehicle for the WMA to enable monthly rotation of VGS and vehicle patrols. In addition, STEP conducted 17 hours of aerial support for MBOMIPA WMA and Ruaha National Park. The WMA was supported with 4,230 litres of fuel.

In 2020, STEP expanded protection efforts by recruiting eight new VGS in November, including three women. This work has greatly increased the security of the WMA. We continued to see an increase in the number of wildlife encounters recorded by VGS on patrol, indicating that the area is becoming safer for wildlife. STEP intends to continue supporting the protection of MBOMIPA WMA in 2021.

As additional support during the COVID-19 pandemic, STEP provided 42 handwashing stations to the 21 villages surrounding MBOMIPA WMA.

With the permission of MBOMIPA WMA, STEP built an aircraft hangar in the Lunda area to facilitate parking for its light aircraft. The small light aircraft is used for aerial surveillance to assist rangers' patrols in the Ruaha-Rungwa ecosystem. The hangar was completed and inaugurated by the Iringa District Commissioner, Hon. Richard Kasesela, in June 2020.



Hon. District Commissioner Richard Kasesela at the opening of the aircraft hangar in MBOMIPA WMA, with village game scouts, STEP Protection Team, and Kichaka Expeditions Environmental Program

1.2 Uzungwa Scarp Nature Forest Reserve

Uzungwa Scarp Forest Nature Reserve (USFNR) is a biodiversity hotspot that is home to Udzungwa endemics and globally threatened vertebrate species (Rovero et al. 2014) including Sanje mangabey, Udzungwa red colobus, Abbott's duiker, 20 endemic and 14 threatened reptiles (Lyakurwa et al. 2019), and 19 endemic and threatened amphibians. The Reserve also serves as a critical water catchment. USFNR has been under threat from anthropogenic activities (Harrison 2006) such as wildfire, logging, forest encroachment for agriculture, and illegal hunting (Topp-Jørgensen et al. 2009). Severe population declines have been documented for several threatened species, attributed to hunting and trapping (Rovero et al. 2015).

With support from and in collaboration with Wild Planet Trust (WPT, formerly Whitley Wildlife Conservation Trust) and Museo delle Scienze (MUSE), STEP began supporting the protection of Uzungwa Scarp Nature Forest Reserve in late 2017 through funding of ground patrols, training of rangers, and provision of essential equipment. In 2020, STEP supported ten mobile camping patrols, each lasting 5 days, by Village Scouts, rangers from Tanzania Forestry Services and Iringa Anti-Poaching Unit in Uzungwa Scarp Nature Forest Reserve. All patrols were strategically planned and executed, with mapping, analysis and reporting of findings subsequent to each patrol. Patrol teams covered 329 km of the steep slopes of the Scarp. Patrols resulted in removal of 127 snares and closing of 10 timber cutting sites. The Reserve has experienced significant budget cuts due to the impact of COVID-19. As such, STEP intends to continue supporting the protection of Uzungwa Scarp Nature Forest Reserve in 2021.

1.3 Rungwa-Kizigo-Muhesi Game Reserves

In 2020, STEP conducted 37 hours of wet-season aerial support for Rungwa-Kizigo-Muhesi Game Reserves, in close coordination with ranger teams, braving the challenges of the rainy season to keep

these important areas secure. We also supported Rungwa-Kizigo-Muhesi Game Reserves with 5,133 litres of fuel, enabling 8,478 km of vehicle patrols.



Elephants photographed from the air during STEP aerial support missions

1.4 Capacity building

STEP provided monthly technical support to USNFR's staff and VGS in collection, storage, analysis, mapping, and reporting of patrol data. This support helps USNFR management to plan patrols in a strategic manner and to produce monthly patrol reports and annual reports.

STEP also built capacity for MBOMIPA WMA through a training program dedicated to enhancing safety for VGS during patrols. In collaboration with Kichaka Expeditions Environmental Program (KEEP), 24 VGS were trained on advanced bushwalking and patrol skills. The course provided detailed theoretical and practical background on bushcraft and survival skills, dangerous animal behaviour, orientation skills, and data collection using SMART technology.

2. Enhancing human-elephant coexistence (HEC) in communities living with elephants

The goal of this programmatic area is to enhance coexistence between people and elephants in communities living in and alongside elephant range. We support communities to coexist with elephants in two project areas, the Kilombero Valley in Morogoro region, and the western boundary of Rungwa-Kizigo-Muhesi Game Reserves in Singida region. These areas are hotspots of elephant impact, with regular movement of elephants onto village land and frequent crop damage. The means by which we build capacity for coexistence include:

- Supporting farmers to implement farm-based mitigation methods to reduce crop losses to elephants

- Conducting education and awareness-raising events in villages affected by human-elephant conflict to explain elephant behaviour, provide context for human-elephant interactions and provide advice on how to stay safe around elephants
- Collecting data on elephant movements and use this to inform education and trials of crop protection measures
- Working with Village Governments to understand the drivers of HEC and work towards establishing Land Use Plans that facilitate human-elephant coexistence.
- Exploring and supporting establishment of corridors to facilitate safe elephant movement
- Providing immersive hands-on training and development opportunities for students and early career conservationists from inside and outside of Tanzania, many of whom go on to work for other organizations

2.1 Kilombero Valley

The Kilombero Valley, in the Udzungwa-Selous ecosystem, is a densely populated, fertile matrix of villages, agriculture and grazing land. Elephants regularly attempt to cross the short distance of ~10km across the valley, between Udzungwa Mountains National Park and Magombera Forest Reserve on the edge of Nyerere National Park (formerly Selous Game Reserve). Less than 50 years ago, there was continuous forest across the valley: today, the forest has been fragmented by rapid land conversion due to agriculture. The route is a critical connection between the western and southern elephant metapopulations of Tanzania (over 30,000 individuals) and the only link that can be maintained and restored. Intensive agriculture in the valley has created a hard edge between forest and farmland, making farms vulnerable to elephant crop damage. The multi-faceted land use challenges of the Valley have informed STEP's approach to building human-elephant coexistence in the Kilombero Valley - through limiting elephant movement into farmland and settlement through farm-based interventions, facilitating safe elephant movement through a designated wildlife corridor, and supporting income diversification and awareness-raising events.

2.1.1 Farm-based interventions, Village Savings and Loans Associations, and Awareness-Raising

To date, STEP has supported seven farmers groups (146 farmers, 63% women) registered as Community-Based Organizations to establish seven beekeeping projects in the Kilombero Valley to protect agricultural fields from elephants. In addition to reducing elephant movement into farmland and settlement, beehive fences generate revenue for farmers' groups through the sale of honey. Economic resilience is an important factor in building human-elephant coexistence. If a household's economic resources are depleted by an incident of crop raiding by an elephant, it is unlikely that members of the household will be willing to tolerate the presence of that elephant. In 2020, we established one new beehive project in Sole village, located adjacent to Udzungwa Mountains National Park, with 31 farmers. As part of beehive fence establishment, STEP runs beekeeping training to equip farmers with beekeeping best practice. In 2020, 30 farmers received beekeeping training. In addition to launching one new group, STEP continued to support its existing groups with field visits, in depth follow up and refresher training. STEP also extended the Kanyenja Beehive fence from 1.4 km to 2 km, and supported three farmers groups with construction of beehive huts. The aim of these beehive huts is to capture bee colonies and increase honey yields for farmers' groups. The activity includes moving unoccupied hives from the beehive fence to the beehive hut and moving them back to the fence once they are occupied. STEP also continued to operate the Udzungwa Honey Collection Centre, of which all STEP beekeeping groups are members, to enable the processing and packaging of honey generated by beehive fences.

STEP also works with farmers' groups to establish Village Savings and Loan Associations (VSLAs), informal financial systems in which members have access to credit and financial assistance through weekly contributions. Members can take loans from VSLAs and have access to emergency financial relief. By increasing community and household resilience to human-wildlife conflict, VSLAs can contribute to increasing coexistence. In 2020, we supported the establishment of one new Village Savings and Loan Association and continued to support four existing VSLAs. 104 farmers participated in VSLAs and took out 131 loans with a value of TZS 17,372,000/- to build small businesses, improve their farming practices, pay school fees, and to support household cash needs (e.g. payments for medication, food). Such access to credit is highly valued by VSLA members in our project area. Prior to VSLAs, farmers' options for accessing credit either required traveling >50 km to a larger commercial centre and seeking a loan from a formal financial institution, or engaging in 'prospective' rice selling. If members of the VSLA wanted to access credit sizes similar to their total loan size from

the VSLA, some would have had to part with six bags of rice or more, representing an enormous loss to future earnings and a significant blow to household food supplies. Therefore, the existence of the VSLA itself is impactful through creation of an alternative source of credit. Some VSLA members took more than two loans, indicating that the flexible nature of VSLA lending supports multiple uses.

STEP has also been working to develop coexistence tourism as an income stream for farmers groups. In March 2020, STEP engaged an international volunteer, experienced in communications, with the hope of improving our tourism-focused communications materials, building relationships with tour operators and working to market coexistence tourism opportunities. Unfortunately, her stay was cut short because of COVID-19 border closures. Due to the COVID-19 pandemic, tourism is at a ten-year low in Tanzania and no tourists visited coexistence projects in 2020. We will re-engage with this work once tourism begins to recover in Tanzania.



Beehive hut construction, Kanyenja village



Beehive fence, Katurukila village

2.1.2 Awareness-Raising and Education

In 2020, we were unable to deliver our educational program in schools due to school closures and changes to teaching schedules as a result of the COVID-19 pandemic. Instead, we initiated a program of film nights, to raise awareness about human-elephant coexistence and safety around elephants. STEP ran these film nights in villages that border Udzungwa Mountains and Nyerere National Parks and Magombera Nature Reserve. During these film nights, we provided education about elephant biology and behaviour, elephant ecology, and wildlife corridors. STEP also distributed over 1000 copies of flyers containing information about human-elephant coexistence, methods to stay safe when you come across an elephant, benefits of elephants, the life of elephants, and mitigation strategies to reduce human-elephant conflict. These conservation education activities reached 2295 people (1,510 adults and 785 children) in 8 villages.



Cinema night, Kanyenja village

2.1.3 Corridor Restoration

Restoration and protection of wildlife corridors is a key component of enhancing human-wildlife coexistence and improving livelihoods over the long term. To this end, STEP is working with a range of stakeholders to restore the Kilombero Elephant Corridor, a historic corridor connecting Udzungwa Mountains National Park and Nyerere National Park (formerly Selous Game Reserve), via Mwanihana and Magombera forests. The restoration of the corridor is a multi-year project. In 2018-2019, activities included monitoring of elephant movements and impacts (3.2 and 3.3), consulting widely with communities, district and regional authorities, and relevant national bodies, building consensus, initiating and facilitating land use planning processes to designate the corridor. The vision is to have a fenced corridor to funnel elephants across the Kilombero Valley, thereby reducing the impacts of elephants moving past houses, through schools and through farmland. The corridor will reduce economic losses from crop damage for the community, create employment and generate associated income-generating projects. In 2020, the STEP team continued to move toward achieving the restoration of the Kilombero Elephant Corridor. Activities included extensive stakeholder meetings, consultation at different levels, land use planning and land valuation, and formation of a Corridor Management Committee to manage the corridor. In collaboration with other STEP departments, the corridor team has continued to put efforts into corridor-related income-generating activities that improve community security and livelihoods.

2.2 Rungwa-Kizigo-Muhesi

Bordering Ruaha National Park to the north and west, Rungwa-Kizigo-Muhesi Game Reserves comprise 15,200 km² of wildlife habitat. Historically an elephant stronghold within East Africa, the area lost 60% of its elephants between 2009 and 2015 to poaching (Thouless et al. 2016). Between 2015 and 2018, the elephant population remained stable. However, human-elephant conflict is a rapidly emerging threat to elephants in the area. Human settlement along protected boundaries, in conjunction with a lack of land use planning, has led to more frequent human-elephant interactions. STEP works to mitigate human-elephant conflict in villages on the western edge of Rungwa Game Reserve through a combination of farm-based interventions, establishment of Village Savings and Loans Associations, and awareness-raising and education activities.

2.2.1 Farm-based interventions and Village Savings and Loans Associations

In 2017, STEP established two farmer groups (37 farmers, 40% women) in two sub-villages in Rungwa village, both of which operate beehive fences and VSLAs. In 2020, STEP supported the establishment of two new farmers groups in Doroto village. All four groups operated VSLAs in 2020, and STEP provided training in VSLA management, record-keeping, running of group meetings, share purchasing, and loan issuing and request procedures. STEP's HEC team conducted monitoring and advisory support to the four VSLAs during field visits throughout the year. In 2020, a total of 102 farmers participated in VSLAs. 74 loans were issued from VSLAs of a value of TZS 12,685,900/-. These loans supported establishment of small businesses and agricultural activities.

Large farm sizes, shifting land tenure systems and the lack of a hard edge between forest and open areas have complicated the efficacy of the beehive fence model. Bees in the area also prefer to establish colonies higher off the ground than our beehive fences are hung, and hive occupancy proved a persistent challenge. Therefore, we modified the beehive fence design so that it is made up primarily of 'dummy' hives, with real hives hung in trees nearby to increase beehive occupancy. Two fences (2.4 km in total) were modified through the installation of 228 dummy hives and 231 iron poles. The efficacy of this new design was monitored through 2020, and no elephants were recorded crossing the dummy hive fence.

In 2020, we continued to explore beekeeping as an income-generating opportunity in Rungwa-Doroto. We began a trial with 46 farmers (20 in Rungwa and 26 in Doroto) who had experience with traditional beekeeping and hives. Each participant in the trial was given three modern hives and provided with training on modern hives for beekeeping in April-May 2020. The training aimed to improve practices focused on hive monitoring, cleaning, and removing pests and other insects, wax application, harvesting procedures, and honeycomb extraction.

2.2.1 Awareness-Raising and Education

In 2020, we continued and expanded community outreach and education efforts. We revised our Swahili-language human-elephant coexistence booklet, which we first published in 2019, to include a section on wildlife corridors. 2600 copies of the booklet and 1500 copies of a flyer made from streamlined booklet content were distributed in and around Rungwa as part of the Tembo Cup week of outreach and education activities.

In August 2020, STEP facilitated a workshop for 24 village leaders in which key human-elephant coexistence concepts were discussed. This workshop served as a follow-up session from the first village leaders workshop held in 2019. The workshop was attended by Village Executive Officers, Village Chairpersons, Ward Executive Officers, Itigi District Officers (DBKO and Coordinator for LUP), and 2 Rungwa-Kizigo-Muhesi Officers (Community Development Officer and Project Manager). During the workshop, leaders explored how land use practices were contributing to increasing human-elephant interactions, and the feasibility of land use planning as a means to manage human-elephant interactions. Participants shared their practices regarding land use experience, learned from others, and had the opportunity to clarify questions they had about land use planning with District and Game Reserve officials.

In collaboration with Tanzania Wildlife Management Authority and Itigi District Council, STEP's Human-Elephant Coexistence team hosted the second instalment of the *Tembo Cup* Football Tournament in November 2020 (Tembo is Swahili for elephant), after the success of the first tournament in 2019. The tournament involved villages experiencing human-elephant conflict adjacent to Rungwa-Kizigo-Muhesi Game Reserve. The coverage of the tournament was expanded to ten villages in two zones: Rungwa and Muhesi. The tournament aimed to raise awareness about human-elephant coexistence, the benefits of protected areas, and to create a positive association with elephants through an engaging community activity. 28 matches were played during the tournament (15 in Rungwa zone and 13 in Muhesi zone), involving 26 teams, which were attended by 8,835 people. In addition to football matches, film nights, community trainings and trainings at schools were conducted. The training focused on building a culture and norm of loving and respecting elephants, as well as on safety around elephants to handle potential encounters with elephants on foot on village land.

- Over 3000 students were trained at nine primary schools and one secondary school

- Over 3000 people attended film nights at which Swahili language wildlife films were shown
- Over 700 people assembled for community training held before or immediately following football matches.

In 2020, we broadened the role of Local Elephant Monitors to disseminate information about crop protection strategies and safety around elephants to farmers who have been affected by crop damage. While surveying elephant activity on village land, they visit and train farmers affected by elephant damage in their communities. A total of 1,020 farmers were trained in 3 sub-villages in Rungwa villages by this team of Local Elephant Monitors. These farmer trainings focused on staying safe around elephants, measures to avoid or reduce human activities in areas preferred by wild animals, improving food stores, and using chilli pepper to scare elephants.



Students read STEP Human-Elephant Coexistence booklet



Football match during Tembo Cup



Captain of the Tembo Cup winning team with the tournament trophy

2.3 Capacity building

In 2020, two Tanzanian students, three Tanzanian volunteers, and one international volunteer participated in human-elephant coexistence activities and learned fieldwork and community engagement methods. Two continued with further studies, and one successfully found a job in the conservation sector.

Over the course of the year, STEP hosted 19 visitors from Tanzanian conservation and research organizations at the beehive fence projects to share best practice about using beehives to reduce human-elephant conflict.

In 2020, STEP led the development of the country's first National Human-Wildlife Conflict Management Strategy (2020-2025) at the invitation of Tanzania's Ministry of Natural Resources and Tourism. The Strategy was launched in 2020, and many of STEP's ongoing activities support the Objectives and Targets outlined in the Strategy. The Strategy can be accessed here: https://www.maliasili.go.tz/uploads/National_Human_Wildlife_Conflict_Management_Strategy_final.pdf.

3. Conducting elephant research to inform conservation efforts

The goal of this programmatic area is to collect and analyse data to inform the formulation of meaningful and sound conservation strategies, as well as to monitor the impact of our conservation work. The geographic focus of this program comprises the Ruaha-Rungwa and Udzungwa-Selous ecosystems. The main activities under this program include:

- Running a long-term elephant research project in Ruaha National Park to assess population status and to investigate tusklessness, ecology and behaviour
- Monitoring elephant distribution and status in the forests of the Udzungwa Mountains
- Monitoring wildlife corridors
- Assessing spatial and temporal trends in human-elephant interactions and evaluating solutions
- Collaboration and development opportunities for early career researchers from inside and outside of Tanzania

3.1 Monitoring elephants in the Ruaha-Rungwa ecosystem

STEP's elephant monitoring program in Ruaha National Park aims to collect long-term data on elephant population structure, tusklessness, distribution and behaviour. In 2020, our researchers continued to conduct monitoring of elephants in the Park to add to this dataset and our database of known elephants for Ruaha, which includes >2,000 elephants. Our ongoing research has improved our knowledge of seasonal shifts in elephant range use and highlighted the importance of increasing protection for areas beyond the core tourist zone of Ruaha National Park. As a result of the monitoring program, our elephant ID database for Ruaha National Park has continued to grow into an important tool for tracking individuals over time and look at the impact poaching has had on their demography, social and reproductive lives, and survival. These demographic data resulted in a scientific publication on the population structure and status of the Ruaha elephant population (Jones et al. 2018). In 2020, we also continued a camera trap study to investigate elephant activity patterns and elephant use of water sources in Ruaha-Rungwa. Our finding that elephants regularly use water on village land, and the times at which they do so, will be used to provide recommendations for managing shared access to these water sources for people and elephants.

3.2 Monitoring elephants in Udzungwa-Selous

A key objective of STEP's work in the Kilombero Valley is to support the recovery of the Udzungwa-Selous elephant population and to secure long-term connectivity for elephants between Udzungwa and Selous through restoration of the Kilombero Elephant Corridor, a historic corridor that spans the Kilombero Valley. To monitor our progress toward this objective, we monitor elephant presence and status in Mwanihana and Magombera forest, which form endpoints of the Kilombero Elephant Corridor, as well as elephant presence in the corridor area. We hope to see an increase in elephant use of the forest and corridor area over time as a result of our conservation efforts.

In 2020, we continued monitoring of elephants in Mwanihana forest (first begun in 2015) and Magombera forest (begun in 2019) to collect data on elephant use of these forests through foot transects. Our monitoring suggests that elephant use of Mwanihana forest in Udzungwa has increased over the past five years – a positive indication that the forest is becoming safer for elephants. Also in 2019, we deployed 18 camera traps to monitor wildlife use of the corridor area and forest edges and to record attempted and successful elephant crossings of the corridor area. Camera trap photos were used to build a reference database of known elephants to monitor elephant presence in the corridor area will also be used to study the sex, age, number and behaviour of elephants using the Kilombero Elephant Corridor. Since 2019, camera traps have detected >470 elephant events and have revealed that most elephant activity is crepuscular and nocturnal, and that the forest edge is used primarily by bull elephants.

We plan to continue ground transects and camera trapping in the coming years to assess the results of our conservation activities, and, in particular, to evaluate the outcomes of restoring Tanzania's first elephant corridor.



Elephant bulls captured on camera traps in Magombera forest

3.3. Studying human-elephant interactions

To help plan and evaluate human-elephant coexistence strategies, we monitor elephant activity and crop losses on village land. In 2020, we worked with 12 local elephant monitors (LEMs) across seven villages. Each elephant monitor is provided with training and regular performance feedback, a GPS unit and Swahili-language datasheets following standard guidelines for monitoring elephant impacts. In one of our project sites, we moved to mobile data collection using Kobo Collect in 2020. We plan to roll out mobile data collection at our second project site in 2021. In 2020, we recorded over 400 incidents of crop damage. These data informed our work in a number of ways:

- 1) to help us select locations for trials of novel elephant deterrents (see 3.4);
- 2) to assess baseline crop damage to elephants prior to restoration of the Kilombero Elephant Corridor; and
- 3) to evaluate trials of novel crop protection methods.

In 2021, we will continue to work with local elephant monitors to collect data on elephant activity on village land. As local experts on elephant activity, we expanded the role of elephant monitors to include outreach and education with farmers that they encounter during their survey work in our Rungwa-Doroto project site. This expansion of the role of local elephant monitors will be rolled out in the Kilombero Valley in 2021. Through our partnership with researchers at the University of Newcastle (UK), we will analyse the predictors of crop damage hotspots in the Kilombero Valley.



Elephant dung pile on village road, Kilombero Valley

3.4 Trialling farm-based interventions

To increase capacity for human-elephant coexistence, STEP absorbs the risks and costs of trialling novel crop protection strategies which could be scaled up by farmers who incur crop losses to elephants. To date, STEP's primary crop protection method has been linear beehive fences along the forest-farm interface, due to their effectiveness at reducing elephant incursions into farmland (Scheijen et al. 2018) and the availability of suitable sites along the forest-farm interface for beekeeping. However, beehive fences are not feasible everywhere in the Kilombero Valley, especially in seasonally-flooded areas. It is therefore important to develop and trial a range of possible elephant deterrents that can be deployed in different contexts. In addition, as elephants are intelligent, they may habituate to deterrents, so it is helpful to be able to combine multiple mitigation techniques. To this end, we initiated trials of alternative, novel elephant deterrents in the Kilombero Valley in 2020.

In June 2020, we started a trial of smelly repellent as an elephant deterrent in Kanyenja village, adjacent to Nyerere National Park. Smelly repellent is a liquid mixture first developed in Uganda made using natural ingredients such as water, chilly, ginger, garlic, neem leaves, eggs, and cow dung/elephant dung. This mixture is cooked and then left to ferment, giving it a very unpleasant smell. This mixture can be used to surround individual farms in a fence using plastic bottles, or it can be sprayed directly on crops. It has no hazardous effects on humans, but elephants dislike the smell. Seventeen farmers from Kanyenja participated in the installation of the smelly repellent fence and received training in production of the repellent. The trial fence is 1.5km long and has a total of 1500 bottles filled with smelly elephant repellent. Our monitoring has revealed that between July and

December 2020, elephants encountering the fence while moving from the Park to farmland turned around at the fence on 62% of approaches, walked around the fence on 21% of approaches, and crossed the fence on 17% of approaches. These six months of data suggest that the fence stops more than half of attempted elephant movements into farmland. Given these positive preliminary results, STEP plans to expand on this work through two test-control trials in 2021.



Smelly repellent fence, Kanyenja

In July 2020, we began piloting solar-powered strobe lights as an elephant deterrent in Kanyenja village adjacent to Nyerere National Park. We installed a 200m linear fence with 20 solar-powered strobe lights attached to bamboo poles to help deter elephants from farms and reduce crop damage. Our monitoring has shown that between August and December 2020, elephants crossed between the Park and adjacent farmland in a 500-meter stretch before or after the fence - thereby avoiding the fence - on 41 occasions (89% of approaches). Over the same period, elephants walked along and around the fence on five occasions (11% of approaches). Elephants were more likely to avoid the fence when heading from the Park to farmland and more likely to walk along and around the fence when returning to the Park. These results demonstrate the potential of this method as an elephant deterrent, and we plan to expand trials of solar-powered strobe lights in 2021 if funding can be obtained.



Setting up of the solar-powered strobe lights fence

3.5 Capacity building

In 2020, STEP established research collaborations with two students from UK universities (University of Kent, University of Newcastle) to complete Masters' theses using data from STEP's research data. In 2020, STEP continued to be an invited member of the technical committee developing Tanzania's Elephant Management Plan for 2020-2029.

4. Organizational capacity building and strategy development

In August 2020, STEP in Tanzania conducted a team-wide Strategy Retreat on the boundary of Udzungwa Mountains National Park. Over the course of two days, the team thought and shared ideas about the next five to ten years: where do we want to be working, what do we want to be doing, what are the main challenges facing elephants in Tanzania and how can we respond to them? We spent some of the time in a big group and other times reflecting in smaller, team-based groups about our unique challenges and what types of systematic improvements we can make. We closed our retreat by thinking across teams about the landscapes that we work in: The Kilombero Valley, the Ruaha-Rungwa ecosystem and beyond! How can our Protection, Human-Elephant Coexistence and Research Teams work together to meet the challenges of these ecosystems? Our Finance and Admin Team and Vehicles Team were also present and brought critical perspectives on their role and improvements that can be made in supporting operations in the field. In December 2020, we followed up on our first strategy retreat with two days of meetings focused on developing strategy for future work in the Kilombero Valley.



STEP Tanzania team during strategy retreat meetings

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Policy on Reserves

The Charity operates with limited cash reserves. The Trustees' objective is to maintain a sufficient balance to meet committed expenditure on current projects and cover foreseeable administration expenses.

Financial Review

The 2020 Accounts, which have been examined by an independent examiner, are submitted as a separate document accompanying this report.

Approved by the trustees on 15th October 2021 and signed on their behalf by:

Helen Pearson

Signature: 

Dated: 15.10.2021

SOUTHERN TANZANIA ELEPHANT TRUST

Charity registration number 1179460

**FINANCIAL STATEMENTS
FOR THE PERIOD ENDED 31 DECEMBER 2020**

SOUTHERN TANZANIA ELEPHANT TRUST

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SOUTHERN TANZANIA ELEPHANT TRUST

LEGAL & ADMIN INFORMATION FOR THE PERIOD ENDED 31 DECEMBER 2020

Status

The trust was formed as an incorporated charity on 1st August 2018.

Trustees

Nicholas McWilliam
Helen Pearson
Nat Comber

Charity number

1179460

Independent Examiner

Community360
Winsley's House
High Street
Colchester
CO1 1UG

Business address

30 Barn Road
Stirling
FK8 1EP

Bankers

Natwest
Cleveleys Branch
Lancs
FY5 2AL

SOUTHERN TANZANIA ELEPHANT TRUST

INDEPENDENT EXAMINER'S REPORT FOR THE YEAR ENDED 31 DECEMBER 2020

I report on the accounts of Southern Tanzania Elephant Trust for the year ended 31st December 2020 which are set out on pages 3 to 5.

Respective responsibilities of trustees and examiner

The Charity's Trustees are responsible for the preparation of the accounts. The Charity's Trustees consider that an audit is not required for this year (under section 144 (2) of the Charities Act 2011 (The Act) but that an independent examination is needed.

It is my responsibility to:

- Examine the accounts under section 145 of the Charities Act,
- To follow the procedures laid down in the General Directions given by the Charity Commissioners (under section 145(5)(b) of the Charities Act, and
- To state whether particular matters have come to my attention.

Basis of independent examiner's Statement

My examination was carried out in accordance with the General Directions given by the Charity Commissioners. An examination includes a review of the accounting records kept by the Charity and a comparison of the accounts presented with those records. It also includes considerations of any unusual items or disclosures in the accounts, and seeking explanations from you as trustees concerning any such matters. The procedures undertaken do not provide all the evidence that would be required in an audit and consequently I do not express an audit opinion on the view given by the accounts.

Independent examiner's statement

In the course of my examination, no material matters have come to my attention which gives me cause to believe that in, any material respect:

- the accounting records were not kept in accordance with section 130 of the Charities Act; or
- the accounts did not accord with the accounting records; or
- the accounts did not comply with the applicable requirements concerning the form and content of the accounts set out in the Charities (Accounts and Reports) Regulations 2008 other than any requirement that the accounts give a true and fair' view which is not a matter considered as part of an independent examination.

I have come across no other matters in connection with the examination to which attention should be drawn in this report in order to enable a proper understanding of the accounts to be reached.

Shelley-Marie Rudling FMAAT AATQB for and on behalf of:

Community360

Winsley's House, High Street, Colchester, Essex



Date

22/10/2021

SOUTHERN TANZANIA ELEPHANT TRUST

RECEIPTS AND PAYMENTS ACCOUNT FOR THE PERIOD ENDED 31 DECEMBER 2020

	Notes	Unrestricted Fund £	Restricted Fund £	2020 Total £	2019 Total £
Receipts					
Donations, legacies and other similar receipts	2	6,170	53,229	59,399	55,444
Total receipts		6,170	53,229	59,399	55,444
 Charitable payments					
Charitable activities	3	6,070	2,598	8,668	10,470
Total payments		6,070	2,598	8,668	10,470
 Net of receipts/(payments)		 100	 50,631	 50,731	 44,974
 Cash funds as at 1 December 2019		 909	 44,065	 44,974	 -
 Cash funds as at 31 December 2020	4	 1,009	 94,696	 95,705	 44,974


Notes on pages 5 form part of these accounts

SOUTHERN TANZANIA ELEPHANT TRUST

STATEMENT OF ASSET AND LIABILITIES AS AT 31 DECEMBER 2020

	Notes	2020 £	2019 £
<u>Monetary assets</u>			
Cash at bank and in hand:		95,705	44,974
Total monetary assets		95,705	44,974
<u>Funds</u>			
Unrestricted	4	1,009	909
Restricted	4	94,696	44,065
Total Funds		95,705	89,948
<u>Other monetary assets</u>			
<u>Liabilities</u>			
Independent examiner fee	5	400	400
		400	400

These accounts were approved by the Trustees and signed on their behalf by :

Signed: 

Date: 20/10/2021

Helen Pearson

SOUTHERN TANZANIA ELEPHANT TRUST

NOTES TO THE ACCOUNTS FOR THE PERIOD ENDED 31 DECEMBER 2020

- The financial statements have been prepared in accordance with Accounting and Reporting by Charities: Statement on Recommended Practice applicable to charities preparing their accounts in accordance with the Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS 102) (effective 1 January 2019)- (Charities SORP (FRS 102)), the Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS 102) and the Companies Act 2006.

The accounts are prepared under receipts and payments basis.

Period

These accounts cover a 12 month period from 1st January 2020 to 31st December 2020.

2. Donations, legacies and other similar receipts		Unrestricted Fund	Restricted Fund	2020 Total	2019 Total	
		£	£	£	£	
Donations		6,170	53,229	59,399	55,444	
		<u>6,170</u>	<u>53,229</u>	<u>59,399</u>	<u>55,444</u>	
3. Charitable activities		Unrestricted Fund	Restricted Fund	2020 Total	2019 Total	
		£	£	£	£	
Insurance		-	268	268	537	
Self employed		6,070	2,330	8,400	9,800	
Travel		-	-	-	133	
		<u>6,070</u>	<u>2,598</u>	<u>8,668</u>	<u>10,470</u>	
4. Cash Funds		Balance at 01/01/20	Incoming	Outgoing	Transfers	Balance at 31/12/20
		£	£	£	£	£
Unrestricted						
General fund		<u>909</u>	<u>6,170</u>	<u>(6,070)</u>	<u>-</u>	<u>1,009</u>
		<u>909</u>	<u>6,170</u>	<u>(6,070)</u>	<u>-</u>	<u>1,009</u>
Restricted Funds						
Wild Planet Trust		28,910	17,000	(1,190)	-	44,720
Bristol Chester Zoo		4,875	5,000	(350)	-	9,525
Association Mazingira		10,280	10,273	(719)	-	19,834
MBOMIPA Protection Project		-	3,800	(266)	-	3,534
Corridor restoration		-	17,156	(73)	-	17,083
Totals		<u>44,065</u>	<u>53,229</u>	<u>(2,598)</u>	<u>-</u>	<u>94,696</u>

- The Independent Examiners Fee will be £400.00.
- No remuneration was paid to any trustee or to any person(s) known to be connected with any of them.
- There were no related parties within the year.
- The charity is operating on a going concern basis.