



SOUTHERN  
TANZANIA  
ELEPHANT  
PROGRAM

STEP

*Securing a peaceful future for elephants  
in Southern Tanzania. and beyond*

## Welcome to STEP's newsletter! January – July 2017

**Southern Tanzania Elephant Program (STEP)** is an elephant conservation project based in Southern Tanzania. We work with wildlife authorities and communities to increase protection for elephants and to enhance human-elephant coexistence. We also conduct conservation-relevant scientific research.

### Increasing Protection for Elephants

#### **New plane helps to extend STEP aerial program**

In support of elephant protection and law enforcement operations, STEP has provided over 350 hours of aerial support to the Ruaha-Rungwa ecosystem since 2014 with a variety of small aircraft. With generous donations from Lady Amelie Klingspor, WWAR, Vrienden van de Olifant, IFAW-Netherlands, and private individuals, we purchased a Zenith Sky Jeep in South Africa, which arrived in Tanzania in 2016. The new plane has now flown 160 hours of aerial surveillance and elephant monitoring flights covering >2,500 km<sup>2</sup> of the Ruaha-Rungwa ecosystem. We are pleased to have been able to continue flying during the wet season of 2017 - a critical time for elephants because much of the ecosystem becomes inaccessible to rangers. Surveillance flights remain crucial for detecting illegal activities, which are then communicated to ranger teams on the ground for action.

We are delighted to share that our aerial team has been joined by two new pilots, Ferdi Koekemoer and Eddie Dahal. Ferdi has been essential to sustaining our flying program during the challenging conditions of the wet season. Eddie is one of a few pilots in Tanzania with microlight experience, and we supported additional training for him in South Africa. Very unfortunately, Charles Nagy and Anne Yeoman, the *Wings over Africa* pilot team who were instrumental in establishing our aerial program in 2014-2016, will be unable to join us this year. We miss Chuck and Anne dearly and hope to welcome them back next year.



*STEP plane in Rungwa Game Reserve*

## Mobilizing and mapping ranger patrols to increase security for elephants

Increase ranger patrols is especially in southern Tanzania's under-resourced protected areas. To this end, STEP supported 300-person days of patrols in the Kilombero Nature Reserve in 2016-2017, as well as 20 person-days of patrols in MBOMIPA Wildlife Management Area. These patrols were an important contribution to law enforcement, and resulted in rangers detecting and acting upon a range of illegal activities.

STEP also provides rangers with technical support to record, map and analyze ranger patrols. STEP's Technology Conservation Manager, Frank Lihwa, trained 5 protection personnel from Rungwa Game Reserve in desktop GIS (Geographical Information System) software for mapping patrols and conducting spatial analysis in aid of patrol planning. We also continued to provide mapping support for the rangers of Kilombero Nature Reserve, including assistance with monthly patrol maps to inform patrolling strategy.

## Elephant Research and Monitoring



*Elephants detected by our camera traps in Udzungwa*

## New STEP study published on crop feeding behaviour in elephants

In June 2017, we published a scientific study on our use of camera traps to study elephant crop feeding behaviour along the boundary of Udzungwa Mountains National Park in the journal *Oryx*. Our study found that it was only male elephants who visited farms in Udzungwa. In addition, we found that most bulls visited farms just once over the four-year study period, suggesting that the majority bulls feed on crops only occasionally.

One implication of our study is that the killing elephants under lethal Problem Animal Control policies is unlikely to reduce crop losses. Taking lethal action is also costly, for it affects those older bulls who are more likely to be eating crops. Killing these older bulls removes a crucial source of ecological knowledge as well as important breeding individuals. This is particularly damaging to elephant populations already under threat from ivory poaching.

For these reasons, STEP is working to promote the use of non-lethal options for reducing crop losses to elephants. These include beehive fences and land use planning which involves carefully assessing land



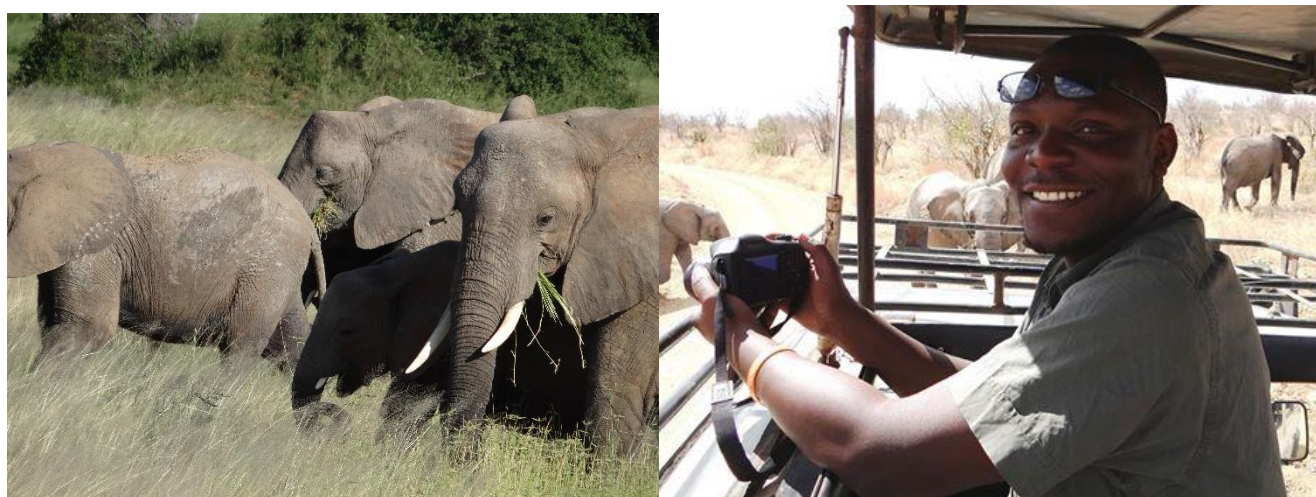
for the best possible use. These approaches require strong commitment, community buy-in and creativity. But, as we've found in our work in Tanzania, they offer promising avenues for improving the chances of farmers and elephants being able to coexist.

*Link to a popular article on the study:*

<https://theconversation.com/what-camera-traps-tell-us-about-elephants-eating-crops-81149>

*Citation for the full study:*

Smit, J., Pozo, R., Cusack, J., Nowak, K., & Jones, T. (2017). Using camera traps to study the age–sex structure and behaviour of crop-using elephants *Loxodonta africana* in Udzungwa Mountains National Park, Tanzania. *Oryx*, 1–9. doi:10.1017/S0030605317000345



*STEP's Field Manager (Lameck Mkuburo) during monthly elephant monitoring in Ruaha*

### **Update on STEP's Elephant Monitoring Program in Ruaha**

Scientific monitoring is crucial for understanding the status and conservation needs of elephant populations. STEP's elephant monitoring program in Ruaha National Park collects long-term data on elephant population structure and reproduction, tusklessness, and ecological and social dynamics. This systematic, ongoing study of elephants is designed to inform management and contribute to the basic understanding of elephants in Ruaha-Rungwa. This work also contributes to elephant protection through increased researcher and ranger presence, and we have designed our elephant monitoring program to cover some of Ruaha's most remote regions.

So far in 2017, our research team has conducted over 60 days to build our monitoring dataset – the first on Ruaha's elephants for decades. Our research indicates that the Ruaha basin is an important area for elephants year-round and that there may be seasonal differences in elephant usage of Ruaha's major rivers. Our data also suggest that elephants make considerable use of Ruaha's miombo woodlands, especially near *mbuga* drainage lines.

We also continue to build our Ruaha Elephant ID Database, which now includes >1500 individually identified elephants, who we distinguish by unique features of their ears and tusks. This work has allowed us to document some of the effects of poaching on this elephant population, including a decline in the number of old adults and infants and the presence of a high proportion of tuskless elephants.

In July 2017, we were delighted to host an MSc student from the University of Oxford (Penny Banham), who is using STEP's monitoring data to analyze elephant distribution in the Ruaha basin. Initial results show that seasonality is a factor in how elephants use the ecosystem, and that the core tourist area is a crucial, safe harbour for elephants year-round.

## Enhancing Human-Elephant Coexistence

### Two new beehive fences built near Rungwa Game Reserve

In a survey conducted by STEP in 2016, we identified Rungwa village on the boundary of Rungwa Game Reserve as a priority area for enhancing human-elephant coexistence. To reduce crop losses to elephants, and to provide farmers with additional income from elephant-friendly honey, we facilitated the construction of two new beehive fences in Mkola and Itaga sub-villages in March and July 2017. These beehive fences are managed by two farmers cooperatives, Maendeleo Farmers group and Amani Farmers Group, with 30 members each. The beehive fences are both 1.2 km in length (with 120 hives each), and were built on the interface between the Game Reserve Boundary and farmland to protect as many village farms as possible.

The *miombo* woodland habitat in Rungwa is fantastic for beekeeping, and the farmers are excited to start producing much-loved '*miombo* honey'. The farmers groups have been trained in how to monitor and maintain the beehive fence, and will soon receive professional beekeeping training. We have also trained three local elephant monitors to record all elephant activity in the village so that we can monitor the effect of the beehive fences.



*New beehive fences in Rungwa village*

### Beekeeping training and equipment for 64 farmers in Kilombero

For the sustainability of beehive fence projects, it is important for farmers groups to be well-trained and equipped for beekeeping. To this end, we provided beekeeping training for 64 farmers from three farmers groups in the Kilombero valley in November 2016. The training was conducted by Dr. Danstan Kabialo of Tanzania Honey Council and involved a strong practical component. A follow-up monitoring visit was conducted by the trainer in February 2017 to assess progress, and we were pleased to see that the training had resulted in increased occupancy of beehives. Farmers groups have also written beekeeping business plans to help set and monitor targets for honey production. In February 2017, we provided two farmers groups with beekeeping equipment, including 8 beekeeping suits, 4 buckets, and 8 smokers for harvesting honey.





*Farmers receive beekeeping training and equipment in Kilombero*

### **Village Savings and Loans Associations provide over 100 loans to farmers**

To help buffer farmers financially from crop losses to elephants, we encourage farmers' groups to run community-based loans and insurance disbursement programs known as Village Savings and Loans Associations (VSLAs). VSLAs provide group members with an opportunity for investment and loans, as well as access to a group-run insurance fund in rural areas not served by formal financial institutions. All five farmers' groups have formed VSLAs, and raised over TSH 8.4 million (USD 3,700). Over 100 small loans have been disbursed to members to help run small businesses and assist with household cashflow – thus helping to make a real difference for farmers.



*VSLA meeting in Rungwa village; STEP's HEC Officer (Kepha Mwaviko) interviewing village leaders in Isimani*

### **First survey on human-elephant interactions in Isimani, Iringa**

In the first half of 2017, we received regular reports of elephant activity in Iringa region, including crop losses, and tragically, deaths of several people. In response to these events, Government authorities invited STEP to conduct a survey to assess human-elephant interactions in the affected area. Our survey found that, overall, elephant visits to this area were very infrequent, but may have increased in 2017 compared to previous years. We think elephants may have been trying to move along historical corridor routes in the area and inadvertently causing damage to farms. As elephant visits were generally infrequent, people were unaware of how to protect themselves or their farms from elephants.

This survey allowed us to make several recommendations to Government authorities, including an information campaign for affected villages to raise awareness about how to maintain personal safety near elephants. We are currently raising funds for this information campaign – please write us if you wish to contribute to the production of informational posters and booklets ([info@stzelephants.org](mailto:info@stzelephants.org)).



## Thank you to Christmas Beehive campaign with Conscious Action Network and Original Beans!

We would like to say a big thank you to Thom Zachmeier and Araceli Lasso of the Conscious Action Network (CAN) and Original Beans for a Christmas campaign to purchase more beehives for the beehive fence projects in Kilombero valley. The campaign was promoted across Europe and together we have raised money for 74 beehives which were provided to five farmers groups. Thank you to all who donated a hive and supported the campaign!



## Local Elephant Conservation News

- ✎ Andrew Perkin represented STEP at the Walk for Elephants in Dar es Salaam in January 2017. This was an extraordinary event organized by the Chinese Embassy, China House, and the Tanzania Government. The walk publicized the new legislation to become effective at the end of 2017, of China committing to no trade and no use of ivory inside China. It was encouraging to see that both the Tanzanian and Chinese business communities were very keen to support the event and their partnership was strengthened.
- ✎ Congratulations to Shubert Mwarabu of the *OKOA Tembo wa Tanzania* Campaign, for being selected for the Young African Leader Initiative's (YALI) Mandela Washington Fellowship. Shubert joined several hundred fellow African civic, business and community leaders for six weeks of academic coursework, leadership training and networking at U.S. universities. This great honour is a fantastic recognition of Shubert's efforts advocating for elephants in Tanzania.
- ✎ In June 2017, STEP's Human-Elephant Coexistence Manager, Maria Mbata, traveled to Kenya to attend a meeting with colleagues from around Africa to discuss ways to reduce crop losses to elephants. Maria presented and discussed STEP's achievements helping farmers in southern Tanzania, especially with beehive fences and selling honey, and how this is protecting elephants and securing livelihoods. It was a fantastic opportunity to exchange ideas and learn from others about their solutions for human-elephant coexistence.



Walk for Elephants in Dar es Salaam; STEP's HEC Manager (Maria Mbata) at workshop in Kenya

## Supporting STEP

STEP relies on the generosity and kindness of our supporters. Please consider supporting us in the following ways:

- 🐘 **Donate** to an aspect of STEP's work of your choice. You can make a donation online at [www.STEP.betterplace.org](http://www.STEP.betterplace.org) or email us at [info@stzelephants.org](mailto:info@stzelephants.org).
- 🐘 **Follow** STEP on [Facebook](#), [Twitter](#), and via our [website](#), and share our work and news updates
- 🐘 **Support** local farmers living with elephants by visiting beehive fence projects in Udzungwa and Rungwa and by purchasing elephant-friendly honey

**Thank you for your support!**

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