

In partnership with Kenya Wildlife Trust

One-acre Beehive Fence Project - Kamungi Conservancy

Progress Report

February 2018

Period Covered: September 2017 – February 2018

Due: February 2018

Project Title: One-acre Beehive Fence Project - Kamungi Conservancy

Grantee: Forix Foundation

Total Budget: \$4,876

Grant Term: 1 Year (September of 2017 through August of 2018)

Project Reporting Dates: From: September 2017 To: February 2018

Organization: Tsavo Trust

Project Lead: Vanessa Moller



Summarize Project – Include what the deliverable is and who is key in making sure it is achieved

Tsavo Trust in collaboration with Dr. Lucy King and her renowned Elephants and Bees Project (supported by Save The Elephants) and members of the Kamungi Conservancy community installed a Beehive Fence around one acre of farmland in the Kamungi Conservancy bordering Tsavo East National Park.

The outcomes Tsavo Trust hope to achieve are:

- To reduce elephant crop-raiding in Kamungi Conservancy as a result of the fences
- To generate a secondary income from the production of “elephant-friendly honey”
- To improve human tolerance towards elephants in the concession
- To substantially improve the yield from protected crops as well as improved quality of production
- To reduce the number of elephants and people wounded or killed as a result of ‘home made’ deterrents such as throwing rocks, arrows and spears.

In addition to setting up the Beehive Fence, Tsavo Trust are providing ongoing advice, support and maintenance to the recipient farmer for one year.

Work Plan / Progress - List steps which have been achieved and to what end up to the date of this report. List issues that have arisen which may have (or maybe will occur) which will impact, either positively or negatively the outcome of the project.

- Order 15 beehives (15 beehives/farm)
- Collecting posts for the fence construction
- Train and assist farmers in fence construction
- Beehive fence constructed
- Construct rainwater catchment system
- Elephant raid data collection by community officer
- Monitor fence maintenance and fence damage
- Track the amount of honey produced, income earned impacted
- Water collected to provide to the bees in dry season
- Prepare Progress report with initial conservation outputs

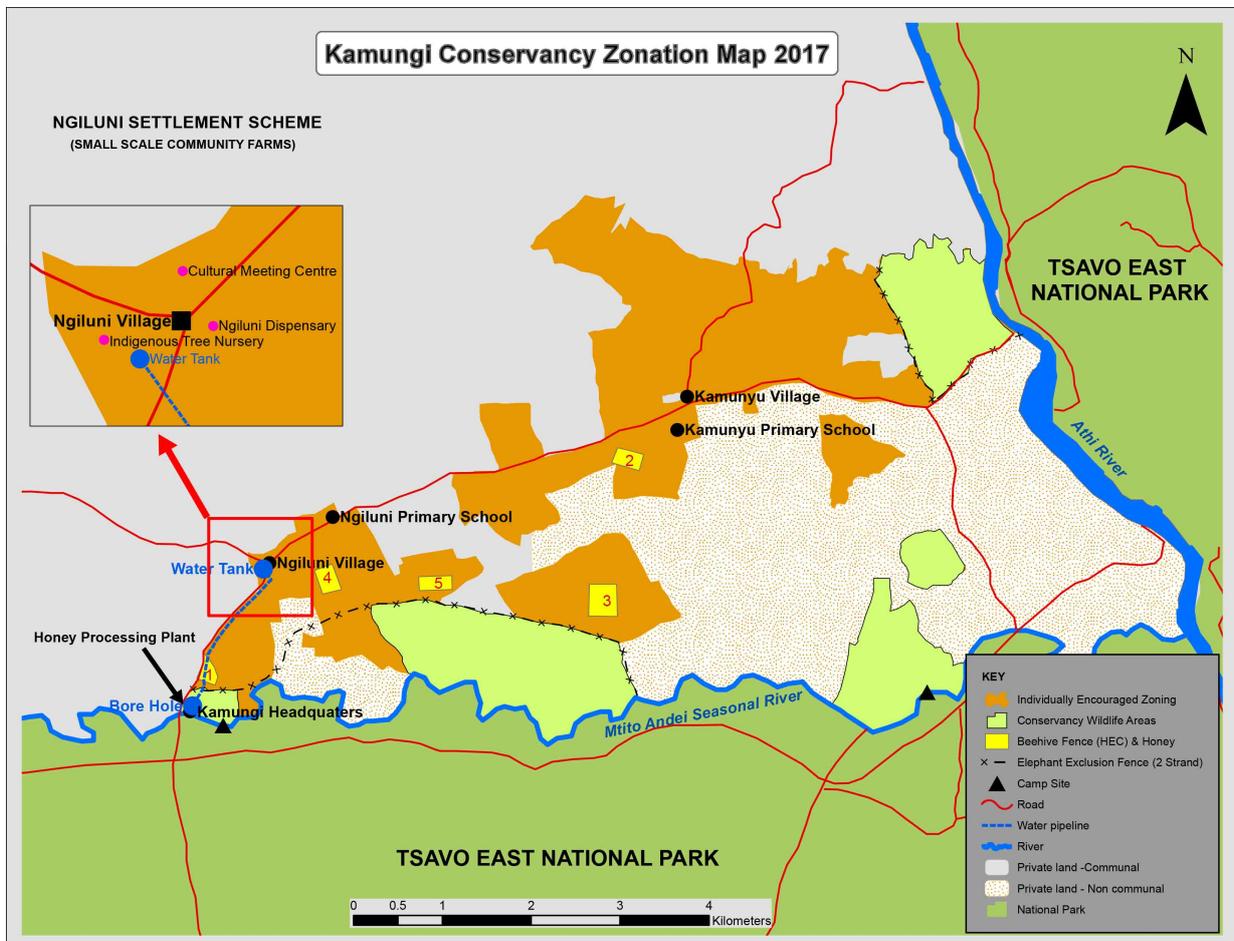
We aimed to have the beehive fences constructed in time for the November/December 2017 rainy season when the next crops were to be planted. Once funding became available, all the tools and equipment as listed in the budget, as well as the beehives were ordered. Whilst the beehives were being built in Nairobi and almost ready for delivery, the farmer began cutting the posts from *Commiphora* trees, which grow in abundance in the area. Around 60, 9ft posts are required for a 1-acre fence to hang 15 beehives and the 15 ‘dummy’ hives that are hung between each hive, this was probably one of the most labor-intensive parts of the project, together with the holes being dug for each post. Myself, the Community officer and farmers walked each 1-acre plot with a GPS in order to accurately map the sections of land that will be cultivated within the beehive fences.

Please see [news article on completion of fence construction in Nov 2017](#) for more information and photographs.

Once the beehives were delivered from Nairobi and arrived in Mito Andei, where they were collected by the farmers and Tsavo Trust personnel, and installed on the fence.



Location of Beehive Fenced farms in Kamungi Conservancy – December 2017



Farm 5 – Mr. Munywoki – Funded by Forix Foundation

Staffing - Account for staffing which has affected the project: who is involved, what needs are going unmet, if any, and the dollar cost of any additional personnel required.

Project Leader – Vanessa Moller. Oversight of Tsavo Trust’s beehive fence project, Vanessa provides leadership and resolves any major issues experienced with the fence. Vanessa is in regular communications with Save The Elephants beehive fence experts, and is currently focusing on implementing the honey processing element of this project.

Community Beehive Officer – Joseph Mutiso. Responsible for liaison with the farmer, and data collection for Beehive Occupation and Elephant Movement records. Joseph was instrumental in the construction of this fence, having had experience constructing other Beehive fences in Kamungi Conservancy earlier in the year. Joseph regularly reports on the any fence issues and maintenance, and submits data records on a regular basis.

Budget - Attach a copy of the original budget and account for what portion has been used on each item. While the ‘burn rate’ is sometimes heavier at the start of the project, please flag any items which are creating risks for the project or if there has been a need to reallocate funds within the project.

Copy of original budget attached. Notes to budget:

Note to Hardware and Transport receipts

Many of the materials purchased for installing and connecting hives, as well as tools and equipment from J.S. Hardware were combined across multiple orders. An individual receipt for these hardware supplies is not available, however, if need be, items can be picked out on various receipts.

Materials transported from Nairobi were combined with other orders on a truck transport by Escamo transporters, this was the most cost effective way to transport the goods. Portion of the costs allocated as per budget line to this project.

Honey Processing Equipment – Overspend

The budget amount of \$50 was exceeded, the costs was \$194, an overspend of \$144. For safety and practical reasons, it was decided each beehive fence farm should have their own set of bee-suits, rather than a communal set. This resulted in an overspend. Some honey processing equipment that may be needed whilst using the honey spinning machine will remain communal. No honey has yet been harvested, so the honey spinning machine, processing, packaging etc has not yet taken place.

Request for re-allocation of funds budgeted for motorcycle purchase

Tsavo Trust had planned to purchase a motorcycle for the Community Liaison Officer (CLO) in order for him to visit the Beehive Fences more readily in order to collect data, assist in fence and hive maintenance, and in the harvesting of honey as well as other community activities such as gathering information on Human Wildlife Conflict (HWC) incidences. Given the drought conditions, there has been no honey harvesting, and less than expected incidences of crop raiding as no crops have grown in the dry soil. To date, the CLO has managed his Beehive Fence transport needs by sharing an old motorcycle already in use in Kamungi Conservancy.

On further consideration by Tsavo Trust of the transport needs for Beehive Fence maintenance and honey processing, bearing in mind how this project has rapidly developed, we believe that a second-hand pick-up, in the hands of the CLO (about to start his driving test in January 2018) will be a more appropriate mode of transport considering the need to transport beehives, honey, and other equipment.

Tsavo Trust requests that the \$250 funds budgeted for a motorcycle (as well as the budget lines for motorbike insurance, and fuel and maintenance), be re-allocated towards part purchase of a second-hand pick-up estimated at \$10,000, to be purchased instead, whereby Tsavo Trust will pay for the balance to accomplish this purchase.

Overall Budget underspend – funds allocation

Tsavo Trust will await instruction as to the return or re-allocation of unspent funds. Unspent funds would make a significant contribution towards the part purchase of a vehicle for use across all farms, and the honey processing unit.

Other Funding - If there are any problems with other sources of funding for the project at this time that should also be noted here.

N/a

Milestones Current - Discuss milestones and/or actionable items which have been achieved at the writing of this report. Flag issues, if any, which came up in achieving this goal.

Construction:

November 2017

Issues and Maintenance:

Live *Commiphora* posts growing well.

Water provision has been a challenge, although this farmer made a concerted effort to collect water for the bees, and provided excellent clean water provision to bees through the dry season.

Crop:

Ploughing and sowing October and November 2017. A good crop yield of beans and sunflower so far. Maize unlikely to reach harvest due to insufficient rainfall.

Honey Harvesting:

There are 3 hives on this farm that have super boxes and should be ready to harvest in June/July 2018. Some bees have started to return to the other hives since the rains.

Beehive Occupation Records:

This farmer did not lose so many bees because he was more active in providing 'sugar water' on a daily basis than other farmers. However, he still lost a few.

Elephant Movement Records:

Elephants have regularly visited this farm, however, nothing inside the fence has been touched. The farmer reported one young elephant wandered under the fence and only went a meter or so before turning around and running back out. This farmer has planted some crops outside the fence and

attempted to use older, traditional methods to keep the elephants off this particular patch. This involves a rope fence, with lots of bags, tins and all sorts attached to make a noisy deterrent. However, the elephants did not hesitate to walk over this and destroy everything inside. The image below shows a bare patch of earth just in front of a beehive strand. This bare patch was originally planted with maize and cow peas – the elephants spared nothing!



Image: repair of the make shift fence put up Mr. Munywoki as the elephant broke through the previous night. The beehive fence however was not touched (10th January 2018).

Milestones Future - List milestones and/or actionable items expected to be completed by the next reporting period. If any complications are expected, raise them here as well as any possible resolutions.

STE bee keepers will be revisiting the farm in order to assist the farmer with the insertion of queen excluders and super boxes in early 2018.

Honey processing equipment has been purchased, and temporarily setup at Tsavo Trust HQ, ready to process any honey received from the farmer later in the year. We hope to develop a more permanent honey processing facility to house the honey processing equipment at Kamungi HQ should funds become available. Such a facility will likely be similar to the Save The Elephants honey processing unit in Sagalla in southern Tsavo.

Once such a facility is established, plans are to process the raw honey purchased off the farmers at an agreed rate estimated at 300 Kenya shillings (\$3) per frame (raw honey content estimated at 900 grams per frame). The raw honey will then be processed, packaged and marketed for sale. To achieve the greatest market value, honey processing will have minimal human interference, with a long-term plan to develop products with medicinal properties that can be extracted from bees and raw honey. Profits from the sale of any Kamungi Conservancy honey products will be invested back

into the Kamungi Beehive Fence Project. It is hoped that a member of the Kamungi community will continue in the role of liaising with farmers, assisting with issues and maintenance, completing Beehive Occupation and Elephant Movement records, bee-keeping and honey harvesting, honey purchase from farmers, honey processing and packaging, sales of honey products, and management of the Honey Processing Plant.

Opinion - The project leader should include his/her analysis on the overall progress of the project, weigh in with any issues or variations which have occurred or are expected to occur. Include the next date of reporting due, if applicable. Photo inclusions are encouraged whenever possible.

I am pleased to report that soon after completion of the 1-acre Beehive Fence, many of the hives were occupied. Since completion 75% of the hives are heavily occupied by bees and some are weighted with honey.

The November/December rains were less than hoped for, but adequate. Crops are growing inside the Beehive Fence, so far, the Beehive fence proved successful in deterring elephants, with no incidences of elephant crop-raiding inside the fence, whereas crops planted outside the fence have been destroyed by elephants.

The rainfall received allowed the collection of water through the new catchment systems, that luckily were constructed just in time before the rains. This water is being used to keep the beehives occupied through the current dry spell. The farmer has already harvested some of his crop (beans), although the rainfall has not been enough for the maize to mature, which has failed due to the lack of rain.

The farmer is optimistic that he will be able to harvest some honey following the rainy season in April/May. (STE beekeeping experts have advised not to harvest until at least 2 rainy seasons have passed in order to ensure the bee population remains healthy). Given the good Beehive occupancy so far, he can at least look forward to a good first harvest of honey and some form of income in mid 2018.

Next date of reporting: September 2018