

Butterfly Pavilion's Trip to Tanzania

October 3, 2022

On 8/16/22, we (Butterfly Pavilion and the Tanzanian Elephant Foundation) departed from the Tanzanian Elephant Foundation (TEF) office in Moshi, Tanzania to the nearest town close to Kisiwani, TZ. In February 2022, we installed the first beehive fence in Kisiwani (a rural community in northern Tanzania facing human-elephant conflict), totaling 50 hives and spanning 0.58 kilometers. Since then, the hives have been colonized by African honey bees (*Apis mellifera scutellata*), and the elephants that had been entering this area have adjusted their routes to avoid the fence, however an event that morning highlighted the dire need to extend the beehive fence in Kisiwani.

As we arrived to the community to extend the fence, we heard that a local woman was killed in the community just an hour before we arrived. The woman was taking milk into town that morning to be sold at market and she encountered an elephant on the path. Elephants are particularly dangerous because they can blend in easily in heavily vegetated areas and the noise of their walking and snapping twigs is stifled by the fatty connective tissue in their feet, meaning that it is easy to walk up on a herd of elephants or a large bull without realizing that they are there until you are already too close. Wild elephants in the area are accustomed to fearing humans and react in defense regardless of the human's intentions. This woman likely accidentally encountered an elephant on her journey and was killed when it felt threatened. This upsetting news highlighted the importance of extending the Kisiwani fence to direct elephants away from the community, not only for elephant conservation but also to prevent human death from elephant conflict.

The community's goal for the day was to add 50 new beehives donated by Butterfly Pavilion through funding from Conservation Nation's Established Conservationist Grant. The previous week, TEF had already worked with the community to install the fence posts to hang the hives because the cement takes a while to harden so that the poles can hold the weight of the hive. While the process of putting in the poles takes a while, it is worth doing because the metal posts require less replacement compared to wooden posts which may be eaten by termites.

The first steps to preparing the hives on installation day are to cut and string four strong hanging wires to the hives and to drip hot wax onto the top bars and entrance of the hive to entice wild honey bees to colonize the hives.

We then put the 17 top bars back into the hive so that everything is in order for when the bees arrive. The bees naturally build hanging comb down from the top bars so that when the hives are inspected, the bars can be pulled out individually.

After adding the wire and top bars, the hives are ready to be moved into their position on the fence. One of my favorite methods for moving the hives was a man that used his

bicycle to carry the heavy hives down the fence line, otherwise people had to carry the hives on their heads or use two people to get them into position.

After moving the hives, four people hoist the hives to about chest level and the wires are wrapped around the fence posts. The finishing touch is for the hives to be numbered to make it easier to keep track of which hives are occupied and where elephants might break through the fence. We excitedly got to 100 hives on the Kisiwani fence!

The work on the fence was completed within just a few hours and we sat down for lunch and beekeeping training. Tanzania is currently in its dry season, meaning that there is little forage for the honey bees in the area because the plants are not blooming. Honey bee colonies will leave their hive (called absconding) if the area is not hospitable, so we discussed ways to keep the bees from leaving the hives during this season by adding shade rooves to the hives to keep the internal hive temperature down and leaving water available for the bees.

After finishing the installation of the fence in Kisiwani, we travelled south to the communities of Kisemo and Kisaki which have already had their beehive fences for over a year. Both Kisemo and Kisaki were able to harvest honey from their hives this year. The honey was all bought by a local tourist lodge, providing supplemental income for the beehive fence management groups who have already thought of new business ventures for their income.

When we visited Kisemo in March, we added new empty and occupied hives to the fence. Through our funding from Conservation Nation, we were able to support Kisemo in installing more hives to replace the dummy hives on their fence this August. Dummy hives are flat pieces of wood which are shaped and painted to resemble the real hives from a distance which allow for a longer fence without the cost of as many hives, however elephants can eventually learn to breakthrough these fake hives so replacing them eventually is ideal. Kisemo also decided to switch from using metal poles to wooden fence poles to avoid theft of the metal. We joked that the new wooden poles make the hives resemble graves and maybe that will also keep people away from the hives!

Our last stop was the community of Kisaki which has seen the highest hive occupancy during the dry season with 33 out of 50 of their hives still occupied. Kisaki has always been a wetter area than the other communities, which was evidenced by the thousands of fireflies (a wetland species) that we witnessed during our last visit to Kisaki, which makes it a more hospitable area for honey bees during the dry season. During this visit, we walked along the fence with the group and checked every unoccupied hive. We found some interesting hive pests that had moved in during the bees' absence, including spiders, wasps, and even one bat! We cleaned out the hives and concluded the day with more training about how to keep the bees from leaving the hives. The biggest struggle that Kisaki currently faces is conflict with cattle herders about the fence,

however the hive group is proud of the success the fence has had in reducing not only the crop raiding to their own crops, but also the increased success of their neighbors' crop yields this year due to the reduction in human elephant conflict. They are determined to have the local government support their efforts in keeping the fence up.

Overall, the take-away from this trip was that the communities must work to keep the hives occupied through the dry season which should end fairly soon in October. If they can get the bees through this season, the rains will come and the remaining empty hives should once again be colonized by honey bee defenders waiting for any elephants that dare try to cross the fence.

We are grateful to Conservation Nation for financially supporting the extension of the August 2022 Kisiwani fence and the trainings and fence repairs in Kisaki and Kisemo through their Established Conservationist Grant. For more information about the work of Conservation Nation, go to their website [Conservation Nation](#)