

Farmers-Primates Conflict Management in Uluguru mountains, Morogoro, Tanzania



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Introduction

About 70 percent of Tanzanians live in rural areas and depend on subsistence agriculture; approximately 39% of them live below poverty line (URT, 2006). Morogoro region covers the forests of Uluguru Mountains. The Uluguru Mountains are ranked sixth in mainland Africa for their vertebrates (Burgess *et al*, 1998). The Mountains have outstandingly various forests and landscapes forms that provide numerous habitats for primates. The forests are in five patches, with 65% of their original forest cover lost due to seasonal fire, agriculture and logging, charcoal making and human settlements (Lulandala, 1998). Forests fragmentation has negatively affected wildlife, for example most primates like monkeys cannot cross the gap between forests, without passing in human residents or farms. These primates are harassed and killed by using wire snares, poison bait and man traps, because they are regarded as pests/vermin.

Research Objectives

Develop primate management techniques to reduce farmers-primates conflict on farm-forests crossing point, and improve animal welfare through encouraging use of ecological integrated monkeys control techniques instead of lethal ones that were and are commonly used. Specific objectives were (i) Participatory assessment of the effectiveness of existing traditional crop protection techniques, and (ii) Develops on farm ecological friendly techniques for monkeys' control against crop damage

Methods

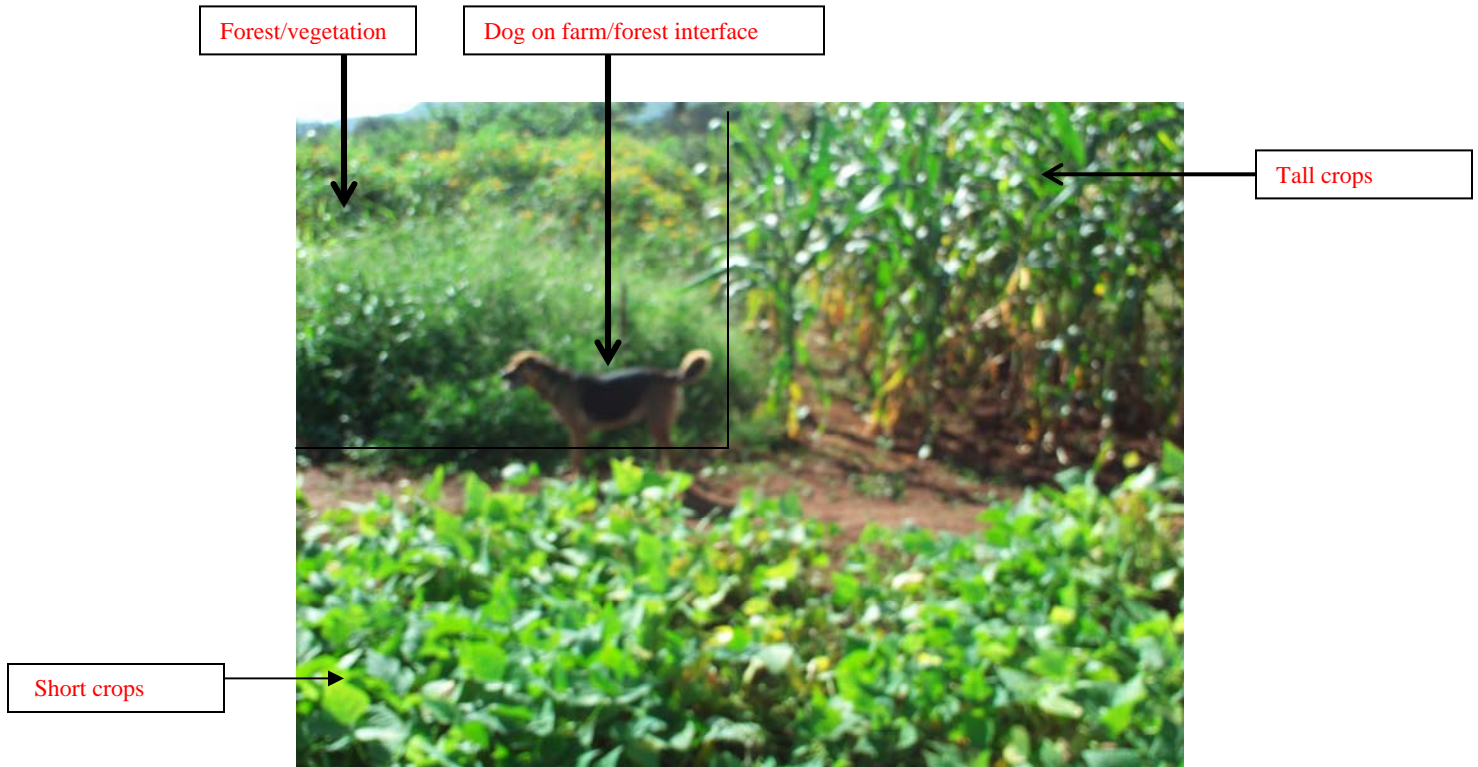
Location

This study was carried out on the Uluguru Mountains in four pilot villages namely; Bagiro, Tandai, Magadu and Kilakala.

Experimental treatments designs, establishment and management

The experiment was researchers and farmers designed but farmers-managed.

Twenty farms were selected for experimental (EPF) and twenty control farms (ECF). The EPF and ECF farms had relatively similar characteristics in terms of location from the forests, vegetation cover, farming system and crop grown.



Dogs were used to guard farms of defined shapes and size. One dog was assumed able to detect a primate in an area of about 50m². On the first day, a team of farmers using dogs drove monkeys away from their farms into the forests and thereafter tied dogs on forest- farm interfaces. Expectation was that dogs would bark to primates coming close to the farms and alert the farmers.

Farmers recorded the incidences of each wild animal trying to cross the farm-forests border or raiding crops, from morning (7.00hours) to evening (18.30 hours) everyday.

The traditional protections of farm against primates were done in similar manner.

Trained field assistants monitored ECF and recorded the crop raiding incidences by wildlife species to avoid farmers' biasness.

Collected data were coded and analysed using Mintable program.

Results and Discussion

Table 1: The mean of observed crop-raiding incidences by wild animals per month in Experimental Farms (Pilot farms)

| Species | Mean observed crop-raiding incidences: March to December 2007 | | | | | | | | | | |
|--------------|---------------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|
| | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
| Monkeys | 5 | 2 | 3 | 3 | 1 | 4 | 2 | 4 | 3 | 1 | 28 |
| Birds | 4 | 6 | 8 | 7 | 19 | 13 | 5 | 3 | 4 | 3 | 72 |
| Baboon | 1 | 1 | 2 | 3 | 4 | 2 | 3 | 1 | 2 | | 19 |
| Wild rats | 4 | 5 | 20 | 17 | 9 | 5 | 7 | 11 | 1 | 6 | 85 |
| Bush | 2* | | | | 1* | | | | | | 3 |
| Dik dik | 1 | | | | 1 | | | | | 2 | 4 |
| Cane rat | | | | | 1 | | 1 | | | | 2 |
| Mongoos | | | | | 1 | 1 | | | | | 2 |
| Squirrel | | | | | | | 1 | 2 | | | 3 |
| Total | 17 | 14 | 33 | 30 | 37 | 25 | 19 | 21 | 10 | 12 | 218 |

* Crop raiding was done tonight

Table 2: The mean of observed crop-raiding incidences by wild animals per month in control farms

| Species | Mean observed crop-raiding incidence: March to December 2007 | | | | | | | | | | |
|--------------|--------------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|
| | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
| Monkeys | 24 | 17 | 11 | 15 | 9 | 21 | 11 | 20 | 9 | 4 | 141 |
| Birds | 5 | 8 | 10 | 9 | 23 | 16 | 6 | 4 | 5 | 3 | 89 |
| Baboon | 4 | 7 | 5 | 12 | 15 | 13 | 12 | 6 | 8 | 7 | 89 |
| Wild rats | 4 | 6 | 23 | 16 | 8 | 6 | 8 | 7 | 2 | 7 | 87 |
| Bush pigs | | | | 1 | | | | | | | 1 |
| Dik dik | | | | | | | | 1 | 3 | 2 | 6 |
| Cane rat | | | | | | 1 | | | | | 1 |
| Mongoos | | | 1 | | 1 | 1 | 2 | | | | 5 |
| Squirrel | | | 2 | | | | | | 2 | | 4 |
| Total | 37 | 38 | 52 | 53 | 56 | 58 | 39 | 38 | 29 | 23 | 423 |

A total of 28 and 19 crop raiding incidences for monkeys and baboons respectively were recorded in pilot farms for 10 months, while in control farms have a total of 141 and 89 crop raiding incidences were recorded.

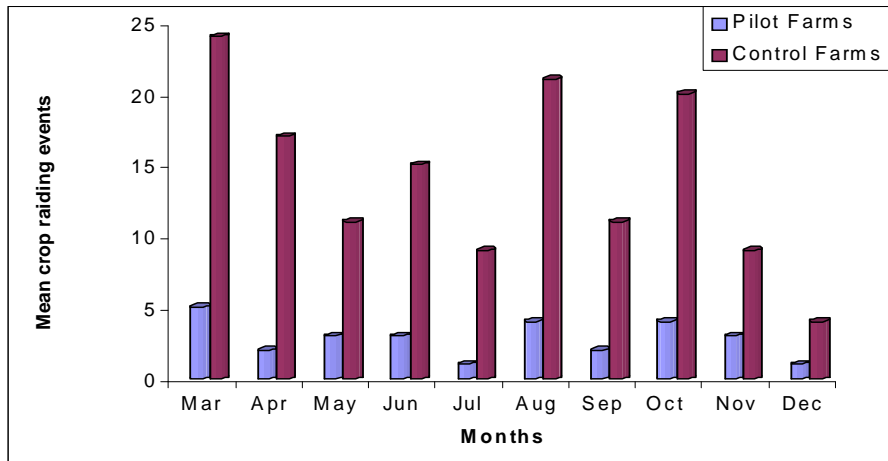


Figure 1: Mean crop raiding and distribution incidence in control and pilot farms by monkeys

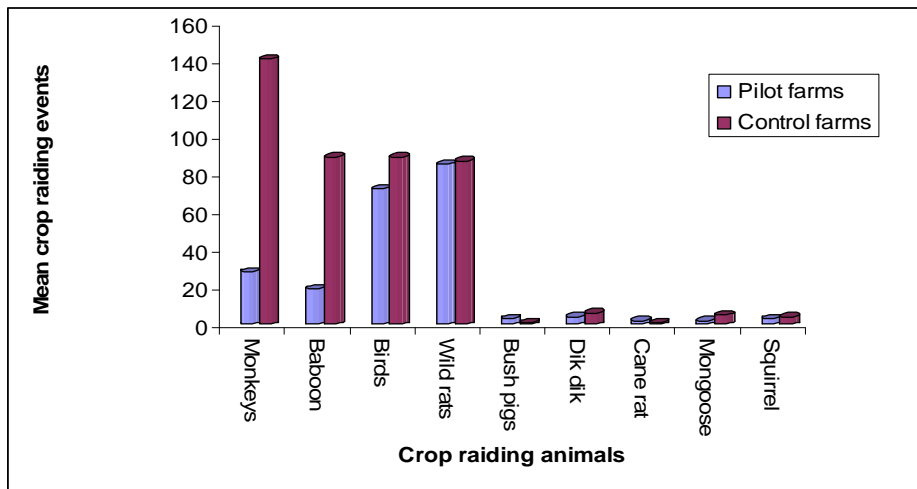


Figure 2: Mean crop raiding and distribution incidence in ECF and EPF by different group of wild animals

The two figures indicate that dogs have reduced the crop raiding incidences in the experimental farms.

Conclusion

Dogs when used appropriately can control primates from crop raiding and reduce the number of people required to protect farms.

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