

Project Update: June 2019

Introduction

Kenya's human population is increasing and is predicted to double in the year 2030. This has put pressure on forest ecosystems in the country. The lower Tana river forest have experienced increased resource extraction to cater for the increasing demand. Findings from previous monitoring of the behavior of Tana River mangabey's found that behavior patterns of the primate were affected by anthropogenic disturbances. Consequently, Tana River mangabey's were observed to shift their activity time budgets in anthropogenic influenced areas. So, this led to the need to document the use of natural resources in the forest patches by the community as it is important for conservation of habitats and these endangered species. However, the last study carried out in the area on forest product extraction by the community was by Medley, (1993). Since then, no other studies have been done in the recent past investigating the impact of increasing population on forest resources and resulting threats to the forest patches in the area.

Additionally, previous studies by Moinde-Fockler *et al.*, 2007, documented forest use by the community using survey evidence of human activities presence in the forest but lacked involvement of the community to understand the actual utilization and reasons for using the forest products. Therefore, to fill this gap this study sought to understand the current status of forest patches resulting from forest products exploitation by the community.

However, prior to this field work a preliminary survey was done in February 2019 which achieved the first objective of the project, which was to conduct a pre-visit to the project site, introduce the project to the locals, create a data collection tool (questionnaire) and pilot it with the local field assistants. In this field visit we accomplished the second objective of the project which was to collect data on forest use and draft recommendations for sustainable forest use to conserve the habitat for the endangered non-human primates. *Where the activities were to collect data on forest use information from the community, enter and analyze the collected data, develop list of plant species and their uses and then draft recommendations from the community-oriented views.*

The exercise focused on five villages which we had engaged the local administration before during the pilot study. The villages were Vukoni, Wenje, Maroni, Baomo and Kitere which are along the river. We used structured questionnaires and interviews to collect data on specific plant species and their use by the community living adjacent to the forest.

Study site

The field work was conducted in the lower Tana River forest fragments. The river is the longest river in Kenya flowing from Mount Kenya region to the Indian Ocean near Kipini. The study took place within the 60 km distribution of Tana River mangabey's habitat along the lower Tana River (1°40' to 2°15' S, 40°07' E). Tana River Primate National Reserve (TRPNR) is located 350 km east of Nairobi and 240 km north of Mombasa in Tana River County. The area experiences dry and hot climate and is an arid/ semi-arid area that receives a mean annual rainfall of 493mm (Hughes, 1990). The maximum and minimum daily temperatures range between 30-38°C and 17-25° C respectively. January and

February are the hottest months (Karere *et al.*, 2004) and wettest months are March-April and November and December (Butynski & Mwangi, 1994). This project targeted forest fragments along the river that are within the local communities reach and are known habitats of the Tana river mangabey. We targeted community members in; Wenje, Vukoni, Maroni, Mchelelo/Baomo and Mkomani/Kitere. The communities in these areas have direct access to the forest patches and depend on the forest for various forest products.

Methods and Materials

To accomplish *Objective 2*: Collecting data on forest use and compile recommendations for sustainable forest use to help conserve the habitat for the endangered non-human primates, we conducted a field visit to the above-mentioned project sites with the corrected questionnaire forms. The aim was to collect data on forest resources use by the community where with the help of a local guide distributed questionnaire forms to households in the selected areas targeting adults (above 18 years) or people from the households who are involved in forest resource extraction activities. Systematic sampling design was employed in questionnaire distribution. These forms were filled by the respondents with guidance from team members. Also, respondents were interviewed to get the local names of the trees and their uses. Interviews of key respondents, (such as the elders with knowledge of the trees used by the community) was conducted randomly in the study.

Results

Within this period, we managed to visit all the five project sites and collect over 170 questionnaire forms were filled (Vukoni 50, Wenje 30, Maroni 30, Baomo 30 and Kitere 30). The questionnaire had different sections which focused on the general information of the respondent, the plant food species, economic activities, forest and primate trends in the forest patches, emerging issues and respondents' recommendations on the best ways to conserve the resources.

The team is in the process of entering, sorting, analyzing and writing a report which will be used in project reporting.

Challenges.

During the field work, the team did not face any logistical challenges. However, few challenges were faced in administering the questionnaires such as language barrier which was solved by engaging the local people.

Discussion and Conclusion.

The team conducted a successful field work where they managed to collect data in Vukoni, Kitere, Wenje, Baomo and Maroni villages along Tana river. The field work also managed to identify the different uses of plant food species used by the local people and are used by the Tana river mangabey. In addition, the team managed to get information on the emerging issues such as the spread of invasive *Prosopis juliflora* and if it is consumed by the nonhuman primates in the region and the forest and primate trends in the forest patches. Finally, the respondents gave recommendations on the best ways to conserve the forest and ensure the continued harvesting of forest resources



Plate 1: A goat shed constructed from tree poles and *Hyphaene compressa* leaves for roof both obtained from the nearby forest patch. **Plate 2:** The PI collecting data in one of the households in Kitere. Also, in the background the palm leaves from *Hyphaene compressa* and *Borassus aethiopum* have been used as roofing materials



Plate 3: The PI with his research team posing for a photo after a successive exercise.

Acknowledgements

We thank the people of Baomo, Vukoni, Kitere and Maroni for their warm reception and willing to participate in the exercise. Also, we thank the local assistants Said Rhova, Komora Dhadho, Abeid Said, Abio Gafo, Naomi John, Habini Omar, Mohamed Buya Dabasa, Simon Wachiuri.

Reference

Butynski T. M. & Mwangi G. (1994). Conservation status and distribution of the Tana River red colobus and crested mangabey. Report to Zoo Atlanta, Georgia, Kenya Wildlife Service, National Museums of Kenya, Institute of Primate Research, and East African Wildlife Society, Nairobi, Kenya. pp.

Karere, G. M., Oguge, N. O., Kirathe, J., Muoria, P. K., Moinde, N. N., & Suleman, M. A. (2004). Population Sizes and Distribution of Primates in the Lower Tana River Forests, Kenya. *International Journal of Primatology*. 25(2), 351–365.

doi:10.1023/b: ijop.0000019156.41782.53.

Medley, K. E. (1993). Primate conservation along the Tana River, Kenya: An examination of the forest habitat. *Conservation Biology*. 7: 109-121

Moinde-Fockler, N. N., Oguge, N. O., Karere, G. M., Otina, D., & Suleman, M. A. (2007). Human and natural impacts on forests along lower Tana river, Kenya: implications towards conservation and management of endemic primate species and their habitat. *Biodiversity and conservation*, 16(4), 1161-1173.