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# Elephant Capture, Collaring and Radio-tracking in Tarangire National Park, Tanzania

Valeria Galanti<sup>1</sup>, Rossella Rossi<sup>1</sup>, Guido Tosi<sup>2</sup>, Charles and Lara Foley<sup>3</sup>

<sup>1</sup>Tarangire Manyara Conservation Project - OIKOS, PO Box 8342 Arusha, Tanzania, e-mail: tarangire.project@usa.net, <sup>2</sup>University of Insubria, V. Dunant, Varese, Italy, <sup>3</sup>Tarangire Elephant Project, PO Box 2703, Arusha, Tanzania

## INTRODUCTION

In order to collect data about the migration routes and spatial use of the Tarangire National Park elephant population, a capture, collaring and GPS radio-tracking programme was implemented in November 1997 within the framework of Tarangire-Manyara Conservation Project (TMCP).

TMCP is a joint project between the University of Insubria (Varese Branch), OIKOS NGO and Tanzania National Parks (TANAPA), which was first carried out between 1995-1998 with funding from the European Community, and continued in 1999 within the framework of the WWF/USAID funded project entitled "Support for Natural Resources Conservation in Tarangire National Park".

The focus of TMCP is on Tarangire National Park and its surrounding areas. The Park hosts one of the most important populations of wild herbivores in eastern Africa and the largest population of elephant in northern Tanzania with 2,000 individuals. During the rainy season most of these herbivores leave Tarangire NP and disperse into a wide area of the Masai Steppe; for more than six months they depend upon the resources available in this area, which they share with communities of pastoralists and agriculturists.

The project's main objective is to ensure the long-term conservation of the Tarangire Area, by reducing conflicts between people and wildlife in the area outside the Park.

## ELEPHANT CAPTURING

Five elephant females were initially captured in November 1997 and collared with GPS-1000 radio collars purchased from Lotek Engineering Inc. (Canada).

A recapture programme was later implemented in February 1999 in order to replace the collars before the expiry of the transmitters.

The captures were organized by Tanzania National Parks (TANAPA), Kenya Wildlife Service (KWS), Tarangire Manyara Conservation Project (TMCP) and conducted in co-operation with the Tarangire Elephant Project (TEP) and the Wildlife Division (WD).

Five female elephants were captured from 17 to 19 November 1997. These females were selected for collaring because they represented the three different sub-populations of elephants found in the Park. Elephant "Bella" was from the northern sub-population, "Fraha" and "Kikoti" represented the sub-population found in the central area of the Park around Tarangire Hill, while the last two, "Maajabu" and "Kibonge", belonged to the southern sub-population of the Park. During the recapture of February 1999, three elephants had the collars replaced and two new animals were collared ("Silale" and "Kusini").

## RADIO-TRACKING

Radio-tracking activity was conducted by both aerial (Frankfurt Zoological Society, FZS and TANA-

PA, Cessna 206) and ground surveys. The data collected in the field between February and March 1999 are shown in (Figure 1).

“Bella” (4A) used mainly the northern part of the Park, the north-eastern shore of Lake Burungi and the northern tip of Lolkisale Game Controlled Area (GCA).

“Fraha” (EA) remained inside the Park, mainly in the area around Tarangire river. She migrated only once outside the Park, in Lolkisale GCA, where she spent only one day.

The collar of “Kikoti” (47) experienced technical failure very soon: in December 1997 data were downloaded for the last time. The data

available show that this female remained inside the Park, using an area located more to the south of the distribution of the previous two animals.

“Silale” moved inside the Park between Gursi and Silale swamp.

“Kibonge” (DC), “Kusini” (55) and “Maajabu” (BB) moved outside the Park 12 days after the capture, travelling in a south-easterly direction about 80 km from the Park boundary, to Kiteto region. They both crossed the Park boundary in a straight line, during the night, moving almost 15 km in 10 hours. From December 1997 to May 1998, they always used the same area.

**Figure 1.** Records of the movements of six elephants in Tarangire National Park, Tanzania, February to March 1999.

