Space and habitat use by elephants (*Loxodonta africana*) in the Maputo Elephant Reserve, Mozambique

C.P. NTUMI

Dedicated to my daughter Dinema and my son Kevin

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By

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Submitted in partial fulfillment of the requirements for the degree of

MSc (Zoology)

In the

Faculty of Natural & Agricultural Sciences
University of Pretoria

October 2002

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Abstract

Information collected during a helicopter survey (non-overlapping transects) and the satellite tracking of five elephants (VHF radio's and UHF satellite PTT's) have been used to access space and vegetation use in the Maputo Elephant Reserve. The CALHOME program with *Adaptive Kernel and MCP (Minimum Convex Polygon)* techniques was used to determine home ranges. An Arcview vegetation map of the Maputo Elephant Reserve was used to interpret vegetation use by elephants.

The home range areas of radio-collared cows ranged from 169 to 267 km^2, whilst that of the bull was 453 km^2. The core areas cover less than 6 % of the area of the Reserve. Season did not influence home range sizes.

Elephants did not use the available vegetation types at random and the forest and Futi floodplain vegetation types were selected, whilst grasslands and woodlands were avoided. Preference for a vegetation type was not a function of the time of day. The sex of individuals also did not affect preferences though the male did make use of woodlands outside the Reserve that the females did not use. The mean distance between successive locations was negatively correlated with biomass and plant cover of the vegetation type.

Various explanations for home range size differences and vegetation preference were considered. These results have general implications for the development of the Futi Corridor as a conservation area for elephants.

ACKNOWLEDGEMENTS

The study was supported through grants from the Dutch Embassy in Maputo and Peace Parks Foundation. My sincere thanks are extended to Tudor Conservation Company, the Parsons Aviation, the USA Wildlife Services and the Germany Grant (Europaische Reiseversicherung Grant) for their financial support. Other institutions that have contributed to this research include BP, INCM and the DEIBI-Project.

I remain deeply grateful to Prof. Rudi van Aarde and Dr. Neil Fairall, my supervisors, who supported and guided my studies. The present study would not have been possible without the permission of DNFFB.

The rangers of the Reserve provided assistance and companionship during the many short and long drives in search of elephants. A special word of thanks to the Principal Wardens for their commitments and interest in the project.

Dr. Fred de Boer shared with me the birth of this project and provided me with continuous support in all stages thereof. As a student and colleague we shared unforgettable moments and had fruitful discussions, even after his return to Holland.

Dr. Ian Whyte contributed in this study by darting tracked elephants and during the helicopter survey. His contributions that made this study possible are thanked.

My colleagues of the Department of Biological Sciences of the Eduardo Mondlane University are here deeply acknowledged for their comments and the good spirit. Special thanks are directed to Ana Massinga of the Ministry of Environmental Coordination for her help. I would also like to thank Manuela Muianga, Domingos Manguengue and Jotamo Mazive for all the support, both during bad and good times. Finally, the part of my family, who did not have chance to deny my absence, but accepted it with love, I thank you. Thanks to my wife Josefina Daniel and our Dinema and Kevin. You were always the source of inspiration.

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