

Importance, cause and effect of bushmeat hunting in the Udzungwa Mountains, Tanzania:
Implications for community based wildlife management

M.R. Nielsen  

University of Copenhagen, Zoological Museum, Universitetsparken 15, 2100 Copenhagen, Denmark

Received 16 February 2005;
revised 1 October 2005;
accepted 11 October 2005.
Available online 21 November 2005.

Abstract

Community Based Wildlife Management (CBWM) has been suggested as a conservation strategy in response to bushmeat hunting in the Udzungwa Mountains within the Eastern Afromontane biodiversity hotspot. The feasibility of CBWM based on meat cropping was therefore evaluated in New Dabaga/Ulangambi Forest Reserve (NDUFR). Comparison of relative wildlife densities with West Kilombero Scarp Forest Reserve, which is subject to only low hunting pressure, indicate that most relevant populations are severely depleted (*Cephalophus monticola*, *C. harveyi* and *C. spadix*, *Potamochoerus larvatus*) and hence that sustainable harvesting currently is not possible in NDUFR. Records of catch from hunters in the villages surrounding NDUFR indicate that bushmeat is of relatively low importance in terms of use and contribution to protein intake. Proximity to NDUFR and secondarily population size in the different villages is positively correlated with hunting intensity and depletion of wildlife. Comparisons between hunters and non-hunters in terms of wealth measures show that hunting is linked to poverty and low protein intake. An estimation of maximum sustainable harvest in NDUFR reveals that CBWM only has limited capacity to reduce these causes of hunting, maintain the communities' interest and offset the opportunity costs of conservation. Results of this study suggest that conservation efforts in NDUFR should focus on protecting wildlife against exploitation instead of encouraging use and dependence through CBWM. Supporting efforts should attempt to facilitate a complete shift to domestic sources of meat, by increasing the number of domestic animals in the poorest part of the population.

Keywords: Bushmeat hunting; CBWM; Udzungwa Mountains; Tanzania

Article Outline

1. [Introduction](#)
2. [Study area](#)
3. [Methods](#)
 - 3.1. [Transect survey](#)
 - 3.2. [Hunter surveys](#)
 - 3.3. [Socioeconomic surveys](#)
4. [Results](#)
 - 4.1. [Animal census](#)
 - 4.2. [Hunter surveys](#)
 - 4.3. [Bushmeat consumption](#)
 - 4.4. [Hunting intensity](#)
 - 4.5. [Socioeconomic survey](#)
5. [Discussion](#)
 - 5.1. [Status of populations in NDUFR](#)
 - 5.2. [Importance of bushmeat](#)
 - 5.3. [Determinants of the intensity of exploitation](#)
 - 5.4. [Cause of hunting](#)
 - 5.5. [Implications for CBWM](#)
 - 5.6. [Recommendations](#)
- [Acknowledgements](#)
- [References](#)



Fig. 1. Distribution of forest reserves in the Udzungwa Mountains. Adapted from [Moyer \(1993\)](#).

Table 1.

Number of hunters and key informers in the villages surrounding NDUFR

Table 2.

Estimated density of duiker and Bush pig scat, hyrax latrines and Giant pouched rat burrows applying the method of [Whitesides et al. \(1988\)](#)



^a Inadequate sample size prevents estimation of density.

Table 3.

Estimated annual harvest by the key informers in the villages surrounding NDUFR based on extrapolations of the average catch in the recording period



Table 4.

Relevant population measures from the 2001 population census and the distance from the centre of villages to the border of NDUFR



Tel.: +45 35815393.

Biological Conservation

Volume 128, Issue 4, April 2006, Pages 509-516