

" THE ECOLOGY OF THE LARGE HERBIVORE COMMUNITY  
IN THE LAMBWE VALLEY, KENYA

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## S U M M A R Y

This thesis is based on a preliminary ecological survey of the Lambwe Valley habitat. The community approach was preferred to individual species study because this was the first ecological study conducted in the Game Reserve, and in this way some suggestions with immediate management applications could be extracted from the study. The basic unit of community was the herbivore population as a trophic entity. The common methods currently used in monitoring habitat utilization by wild herbivore species in East African grasslands, e.g. track counts, systematic ground sampling, ground and aerial population sampling have all been used. Vegetation has also been sampled by the Point-Centred Quarter and Line-Intercept Methods, so that the herbivore distribution patterns can be related to the vegetation composition and structure.

It has been found that of the five largest herbivores: roan antelope, Jackson's hartebeest, topi, water buck and buffalo, the latter two species preferred to graze in the more closed Acacia seyal woodland/thicket with long grass, while the former three species grazed in the open Acacia drepanolobium - Balanites aegyptiaca wooded grassland. Nearly all species selected for Themeda triandra. Roan antelope took almost equal proportion of leaf and sheath in its diet while other species like Jackson's hartebeest, topi and reedbuck took much higher proportion of leaf than sheath or stem in their diets i.e. were fine grazers.

Under severe dry conditions the open grassland herbivore species spent most of their daylight hours in the A. drepanolobium zone where tree density is higher than the B. aegyptiaca zone, but returned to the latter zone in the evening perhaps to graze at night.

There was no evidence of pronounced movement to the hills during the wet season. Perhaps the high human settlement pressure around the game reserve, resulting in lack of

dispersal area is responsible for this. But the habitat seems to be still understocked. There are no grazing 'mosaics' which always indicates heavy grazing pressure.

It is suggested that in order to widen the grazing spectrum more species, especially coarse grazers and browsers be introduced into the habitat. In this case zebra (Equus burchelli Gray) and giraffe (Giraffa camelopardus). There should be controlled patch burning starting from the south and ending in the north by mid-dry season.