

Crop raiding by elephants (*Laxonondonta africana africana* Blumenbach 1797) and baboons (*Papio cynocephalus* L. 1776) around Arabuko-Sokoke Forest at the Kenya coast was studied with emphasis on ecological correlates. The objectives of the study were to (1) determine the number of yellow baboons and elephants in the forest, (2) describe the feeding ecology of yellow baboons and elephants, (3) evaluate the extent of the crop-raiding problem by yellow baboons and elephants on farms around the forest, and (4) investigate the effects of water availability, rainfall and food on crop raiding by yellow baboons and elephants around the forest.

Baboon groups in the forest were counted opportunistically to obtain an estimate of mean group size. Density was estimated using the line transect method. The diet of one group (Gede 1) was monitored from January 1996 to April 1997 using the one-zero time sampling technique. The diet of elephants was determined by examining fresh feeding trails, dung piles and from seedlings that germinated from dung. Elephant numbers were estimated using dung as an index of their abundance. Dung decay rate was estimated using the reciprocal of the mean survival time method and the two points on the exponential curve method (Barnes & Barnes, 1992). Crop raiding was surveyed using questionnaires and its intensities monitored using calendar of incidences in farms.

Baboon population in the forest was estimated at 4851 (range = 3055-6667) individuals. Their mean (\pm SEM) group size was 30.1 (\pm 3.1). Baboon group densities did not differ among *Cynometra*, *Brachystegia* and mixed forest types. Sex ratio was female biased in adults ($Z = 2.663$, $P = 0.009$, $n = 168$) and adults outnumbered juveniles and infants ($Z = 2.40$, $P = 0.020$, $n = 298$). Baboons consumed a wide variety of plant materials and employed mixed feeding strategies of food preference and opportunism on specific plants.

Elephant density was estimated to be 0.34/Km² and 0.46/Km² using the reciprocal of the mean survival time method and the two points on the exponential curve method, respectively. This projected an elephant population of 126 and 172, respectively. Elephants in the forest fed on a large variety of plant species and plant parts. Cultivated crops were part of the diet of elephants in the forest. Seeds of many plant species recovered from elephant dung were potent enough to germinate suggesting an important role of elephants in seed dispersal.

Yellow baboons, elephants, sykes monkeys, vervet monkeys, bushpigs and porcupines carried out crop raiding on farms adjacent to the forest. Incidences of baboon and elephant raids averaged 33% and 4% of the days, respectively. Baboons were perceived as the most destructive species. However, Elephants, bushpigs, porcupines, and vervet monkeys were locally destructive. Crop raiding by elephants was higher on farms near water sources than areas of low water availability ($H = 25.424$, $P < 0.001$, $df = 3$). This was not the case with baboons whose raids may have been due to the higher nutritional benefits derived from feeding on cultivated crops compared with wild foods. The current farming practices appear incompatible with the conservation needs for Arabuko-Sokoke Forest. Consequently, human-wildlife conflict is likely to persist over time.

Results showed that the methods currently being used to contain crop raiding by elephants are ineffective. Instead, permanent water pools should be constructed in the forest and a corridor between the forest and Dida-Rare River established. Alternatively, electric fencing can be used in areas of high water availability. Data did not provide a simple solution to the baboon crop-raiding problem. Future studies should investigate whether prevalence of attacks on crops is related to nutritive values of cultivated crops.