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**ELEPHANT POPULATION ECOLOGY AND CONFLICT
DYNAMICS IN NIMULE NATIONAL PARK
LANDSCAPE**

By

BOJOI MOSES TOMOR

BSc. (Hons) (University of Juba); MSc. (Witwatersrand)

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ABSTRACT

This study focused on savanna elephant ecology represented by its abundance, distribution in space and time and impact on human livelihoods in the Nimule National Park landscape. Several direct and indirect methods were used including dung surveys and measurements, satellite tracking and household surveys, data logs and rapid field assessments. Results indicated that about 118 elephants lived in the park at a relatively higher density (0.29 n km^{-2}) in a fusion-fission assemblage comprising three female herds and one bachelor herd. With an annual growth rate of 8%, low mortality (3%) and twice as many females as males, the population has high potential for growth which may be limited by the small habitat. During the dry season, the elephants stayed in the riverine vegetation along the Nile but avoided the larger *Combretum spp* dominated woodland and the steeper northern section of the park. A large proportion of the elephants home range occurred outside the park (125.07 km^2) which suggested that elephant use of the human component of the landscape is possible provided that the population is given protection by Uganda Wildlife Authority. Throughout the tracking period, the herd rarely moved at speeds $> 1.0 \text{ km hr}^{-1}$ suggesting that movement behavior in the landscape was mainly associated with foraging. In Adjumani District, the herd showed behavioral plasticity by foraging mainly at night and moving faster at an average speed of 0.36 km h^{-1} compared to the park where its speed averaged 0.26 km hr^{-1} . In the landscape, human-wildlife conflict appeared to be widespread involving many species but the magnitude of damage caused by elephants was greater. Elephant damage incidents however, appeared to be occasional and temporal in nature but larger in scale. The ineffectiveness of traditional methods used to control elephant damage, the lack of specific benefits from living with elephants and perceived government ownership of wildlife probably influenced the negative and hostile attitude of local communities towards elephants and conservation. It is inevitable that elephant numbers in the park will increase but due to the small size of the preferred habitat within the park (17.9 km^2) and evidence of a larger range of the population occurring outside the park, human-elephant conflict is expected to increase in the landscape. Successful conservation of elephants in the landscape in the short term will depend on how best people and elephants can be kept separated especially during the peak raiding months of August - October when crops mature. Proper land use planning through schemes such as the trans-boundary management approach should be promoted to enhance harmonious coexistence between elephants and people in the landscape.