

## **Patterns and perceptions of wildlife crop raiding in and around the Kaludiyapokuna Forest Reserve in the dry zone of Sri Lanka**

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Expanding human population and rapid conversion of natural habitat to agricultural land has led to greater proximity between humans and wildlife. Crop-raiding is an outcome of both natural resources becoming less accessible and the nutritional benefits of cultivated foods becoming increasingly known to wildlife. The resulting financial losses suffered by farmers from crop raiding can be relatively high and is compounded by the lack of compensation for losses. Such a situation can make farming communities intolerant and unsympathetic towards wildlife and even coerce farmers to adopt drastic measures such as killing of problem species and hence impede conservation strategies. However, in order to mitigate this form of human-wildlife conflict, it is first necessary to understand the temporal nature of crop raiding by different animal species as it is fundamental towards developing cost effective guarding strategies. Data on perceived and actual crop raiding event was collected from July 2013-August 2014, from 36 farms around the Kaludiyapokuna Forest Reserve, Sri Lanka. Study respondents have identified *Pavo cristatus* (38%), *Elephas maximus* (27%), *Semnopithecus priam* (21%) and *Macaca sinica* (14%) as the most destructive crop pests. From 8012 crop raids by eight species of animals, most raids were indeed made by the *Pavo cristatus* (59%) and *Semnopithecus priam* (28%). The average monthly relative frequency of crop raiding was 0.07 (range 0.02-0.27). The highest monthly relative frequency was recorded in August. Only the monthly relative frequency of crop raiding by *M. sinica* was positively and statistically significantly correlated ( $p=0.09$ ) with monthly rainfall. When cropping systems were considered, 64% of the crop raiding incidents were recorded from monoculture farms, while only 36% were recorded from polyculture farms. Our study demonstrates that animals differ in their crop raiding behavior and also that certain species show temporal variation in crop raiding patterns. In addition, cropping systems also appear to be linked to crop raiding preferences of wildlife. Our study also provides a useful starting point for future studies investigating temporal and spatial factors predicting crop raiding by wildlife.

**Keywords:** Conflict, agriculture, wildlife