

Spatial and Temporal Patterns of the Human-Elephant Conflict in Welikanda, Polonnaruwa

H.B.N. Aathika
aathikahbnawaz@gmail.com
University of Peradeniya, Sri Lanka

Wildlife areas in Welikanda are becoming narrower and isolated by the surrounding areas of human settlements under the Mahaweli settlement project, which increased the Human-Elephant Conflict (HEC). To promote the co-existence between humans and elephants, number of management measures are taking place. Through this study, we analyzed the occurrences of HEC and explored the spatial and temporal factors that influence HEC. The study was conducted using a 3-year dataset from 2016-2019, 60 questionnaires and 6 interviews. The transformation of forested areas into agricultural lands and human settlements play a major role in increasing in HEC. Most of the remaining forest patches in the Mahaweli project areas are disconnected and encroached by people. The study shows that HEC is very severe in the surrounding areas of the Welikanda corridor. HEC in this area is considered as highest as these areas were seasonal route of elephants and now they are encroached and fragmented by human activities. Furthermore, it is found that the crop riding and property damage by elephants are most frequent and high soon after the harvesting seasons of Yala and Maha and mostly between 6.00 p.m. and 7.00 a.m. The farmers in the surrounding areas of the Welikanda corridor and the elephants are the victims of this conflict. To manage HEC successfully in Welikanda, we should consider migration routes of elephants, forest patches occupied, diurnal and seasonal variation in elephant's movement and human activities in the conflict hotspots. Moreover, the Department of Wildlife Conservation and Mahaweli Authority should work together in development activities in wilderness areas. To reduce the HEC in a productive way, we should conserve the existing elephant habitats, corridors and link habitat patches using new corridors, and should improve the awareness among people and use effective management practices etc.

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