

DOCTORAL PROGRAMME

CROPPING PATTERN AND THE HUMAN-ELEPHANT CONFLICT IN
SOUTH INDIA

By

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Abstract

Dissertation title

Cropping Pattern and the Human-Elephant Conflict in South India

Conservation of biodiversity is pivotal to the survival of mankind. The past few decades have registered several conservation efforts by various national and international bodies and governments which has helped the recovery of endangered species. However, one of its negative consequences of conservation success is the increase in human-wildlife conflict, which has become a major threat to conservation itself. Human-elephant conflict in South India is a major problem which significantly affects the present wild elephant population and its future. The humans and elephants are two very similar species in their intelligence, social organisation and as a result compete for the same landscape, water source, forest and vegetation; probably, since the time humans started cultivating crops. The food crops cultivated adjacent to the forest boundary have been a cause for conflict between elephants and humans. Every step taken by humans to stop crop depredation by elephants seems to be countered intelligently by the elephants. It is not clear whether the crops grown outside the forest area lure the elephants to consume them or elephants are consuming crops that have come up in their natural path. The conflict is a spatial problem with characteristics like land use and cultivation in the area influencing it. A policy intervention without proper appraisal of the problem is not going to yield the desired results. The influence of cropping patterns on elephant behaviour and vice versa is one area which has not been studied well. The handful of studies available on the subject is not conclusive as they fail to consider 'counterfactuals'. Many of them lack spatial approach to the problem.

Several seemingly problematic conflicts in ecology are known to be resolved by adopting spatial approach in finding an appropriate solution. This research has tried to fill these gaps. This study, the unit of analysis is at highest resolution, i.e. at the farmer's field where the crop depredated by the elephant is analysed with respect to the cropping history of that field and the surrounding crop fields. In addition, other spatial factors like drainage, forest, elephant migration and water sources are also analysed. The research reveals that the conclusion drawn on preference of crop by elephant without considering the local abundance of crops is misleading. It shows that the spatial factors significantly affect the vulnerability of the crop for depredation. It also throws light on the how farmers react to depredation of crops and its effectiveness in reducing the same. The pattern that has emerged after the analysis adds to knowledge on the relationship between the crop cultivated and the human-elephant conflicts. This also gives a direction for policy intervention in management of elephant movement and the crops cultivated in such conflict area.