Understanding Conservation Challenges: Investigating Conflict in a Forest-Agriculture Fringe in Southern India Using Multidisciplinary Approaches

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CERTIFICATE OF ORIGINAL AUTHORSHIP

I certify that the work in this thesis has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree except as fully acknowledged within the text.

I also certify that the thesis has been written by me. Any help that I have received in my research work and the preparation of the thesis itself has been acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

Meera Anna Oommen

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ABSTRACT

Lying between farmland and forest, the fringe is a contact zone for people and wildlife. In the tropics, these productive zones are beneficial to wildlife such as pigs, deer, monkeys, elephants and carnivores. Tropical commodity agriculture and subsistence benefits also accounts for vital support for people living in such landscapes. However, balancing human livelihoods, biodiversity protection and ecosystem services is frequently characterised by conflicts and disagreements between stakeholder groups who entertain divergent aspirations for the same land, and whose perceptions are backgrounded by a number of historical and contemporary factors. This research attempts to understand the different ecological and social themes that interact in tropical forest-fringe landscapes and looks at ways to integrate them meaningfully.

The theoretical and methodological novelty of this work is an attempt towards integration across disparate themes, data structures and disciplinary boundaries. This is carried out through a case study which examines the dynamics of a heavily populated forest fringe in the Western Ghats hotspot of Kerala, India. Here, extended periods of crop depredations and agrarian distress have ushered in an atmosphere of conflict resulting in retaliatory killings of wildlife and widespread opposition to conservation. On the basis of multidisciplinary theoretical inputs and a mixed methods protocol ranging from quantitative and qualitative approaches (Bayesian belief networks, generalised linear models, qualitative probabilistic networks) to discursive methodologies (oral history analyses and ethnographical inputs), a suite of different components related to conservation conflict are examined.

Two key themes receive special attention on account of their critical significance to the research topic. The first is an exploration of species-habitat relationships in modified landscapes and their predictions based on available expertise, fast and frugal methodologies and simple models such as naïve Bayes networks. Methodologically these analyses attempt to move away from conventional data and effort intensive methodologies and the development of good enough solutions in data-deficient, uncertain systems. The second relates to a detailed understanding of the social aspects of conservation by means of an analysis of place-based explorations relating to the engagements of different groups

of stakeholders and the analysis of historical and political ecological chains of explanations. Here, contrasting engagements between different groups such as migrant settlers, indigenous forest-dwelling communities, and state actors are examined in the context of forestry protection and conservation.

Further, using the conservation conflict as a case in point, an interdisciplinary analysis has been attempted to integrate different disciplinary themes and data on a common platform. Model building was carried out by the construction of a probabilistic network based on qualitative reasoning framework. For this, other thematic foci such as the analysis of ecological factors driving crop-depredations, socio-economic factors relating to agrarian distress and vulnerability, inputs from cognitive psychology and the behavioural studies were also incorporated. The methodological significance of this modelling exercise lies in its ability to synthesise disparate (yet necessarily complementary) types of data from different disciplinary spheres to project an emergent view of conservation conflict. This holistic perspective is typically missing from single-dimensional research and associated methods of analysis which only afford a partial (and often distorted) view of conflict. In terms of real-world significance, this research points to the benefits of expanding conservation query frameworks towards identifying root causes as opposed to proximate causes and symptoms. Using a combination of research methods and disciplinary perspectives, this research demonstrates that in addition to visible causal mechanisms (e.g. crop damage, direct attacks), opposition to wildlife is also a reflection of numerous typically unaccounted costs (e.g. opportunity costs, repercussions on food security), invisible psycho-social impacts (e.g. emotional distress, poor physical health, stress), historical contingencies (e.g. migration, agricultural choices), subaltern and mainstream resistance strategies (e.g. everyday resistance, periodic retaliation) and perceptions of marginalisation and distributive justice.

As this study focused on understanding the dynamics of a forest fringe landscape where conservation conflict a recurring phenomenon, some concrete avenues towards conflict resolution can be proposed. This study traced the evolution of conflict and shows that local resistance to conservation is backgrounded by a number of historical factors including prior marginalisation, migrancy, and memories of deprivation. Two issues that require immediate attention include high levels of pestilence by wildlife, especially

wild pigs, and the problems surrounding tree preservation which is opposed by the local community citing agricultural losses and livelihood concerns. Given the complex nature of these problems, simplistic conservation interventions such as forced protectionism through legislation or compensation measures alone are unlikely to resolve the current situation. In this scenario, the most significant avenue towards successful conservation engagements will be the adoption of a more democratic form of conservation and the facilitation of dialogue between local community representatives, civil society groups, and the Forest Department.