Human-wildlife conflict in tropical agriculture: The case of Sri Lanka

Sören Köpke[1*]
Sisira Saddhamangala Withanachchi[2]
Ruwan Pathiranage[3]
[1] Research fellow, Section for International Agriculture and Environmental Governance, University of Kassel, Germany
[2] Postdoctoral researcher, Specialized Partnerships in Sustainable Food Systems and Food Sovereignty, University of Kassel, Germany
[3] Researcher-activist, Protect Sri Lanka, Colombo
*Corresponding author: soeren.koepke@agrar.uni-kassel.de

Presented at Tropentag 2019, Kassel, Germany

Introduction: Human-wildlife conflict

In rural Sri Lanka, human-wildlife conflict has increasingly become a hindrance to sustainable development in different aspects. In small-scale farming, a number of animal species are ravaging crops, contributing to the socio-economic insecurity of peasant cultivators. Also, wild animals are threatening the safety of villagers (Fernando 2015). Human-elephant conflict in Sri Lanka gains the most attention, as each year many Sri Lankan elephants *(elephas maximas maximas)*, a species listed as threatened by the International Union for Conservation of Nature (IUCN), are killed (see table 1). Annually, around 70 deaths were reported due to elephants attacks on humans. Rural farmers are the most vulnerable group from such attacks. However, crop damages are the most frequent form of human-wildlife conflicts in Sri Lanka (Anurudha et al. 2019). Also, in recent years there has been evidence of increased illicit killings of leopards (*Panthera pardus kotiya*), likely in reaction to livestock predation and isolated attacks on humans. Beyond elephants and leopards, less threatened animals like peafowl (*Pavo cristatus*) and monkeys (Nahallage & Huffman 2012) are perceived as agricultural pests.

FIGURE 1:
A farmer demonstrates elephant tracks, near Maho, Northwestern Province.
Photographer: S. Köpke

Year	Elephants killed	by *hakka pattas**	Gunfire	Train accident
2010	227	82	11	-
2011	255	60	30	-
2012	250	49	49	9
2013	206	35	32	7
2014	231	44	51	10
2015	205	44	51	12
2016	275	52	47	12
2017	256	36	35	7
2018 (prel.)	226	36	48	11
Total	2.131	448	354	68

TABLE 1:
Violent deaths of elephants in Sri Lanka and causes, 2010-2018.
*The hakka patas is a small ball-shaped explosive containing lead and iron, which is hidden inside vegetables like cucumber or pumpkin (Bandara 2010).
Data source: Department of Wildlife Conservation, Sri Lanka

Theoretical approach

The study employs a political ecology approach (Robbins 2012) as a theoretical framework, highlighting the impact of historically evolving state-led development programs and economic processes on nature conservation. It asks for the specific "animal geographies" (Lorimer & Srinivasan 2013) in spaces of human-wildlife interaction. The study also incorporates insights from the upcoming field of human-animal studies (Kompatscher et al. 2017); most specifically, it questions overtly managerial concepts of wildlife and highlights the specific agency of animals in their encounter with humans. In identifying the most crucial variables driving conflict, the authors would like to contribute to efforts to enhance animal and human wellbeing.

FIGURE 2:
Traditional watchhut to look out for animals in *chena* (swidden) cultures, North West province.
Photographer: S. Köpke

Methods

This presentation is part of an on-going research project. The study is based on ethnographic methods: Field interviews, participant observation, as well as secondary data analysis. Field research has been undertaken in several communities in the Sri Lankan dry zone, including Maho (NW province), Horrowpothana (NC province), Hunuwilagama (NW Province), Kantale (Eastern Province) and Padeniya (NC province). It seeks to combine cultural, socio-economic, political, geographic and ecological factors to provide a better understanding of human-wildlife conflict in the Sri Lanka.

Preliminary Findings

Efforts to protect endangered species are undermined by lack of acceptance by rural populations due to problems associated with wildlife. What is more, deforestation and habitat fragmentation have occurred throughout the country over decades or even centuries. We argue that modern agricultural production systems exacerbate the situation through adverse impacts on ecosystems, e.g. in excessive use of agro-chemicals. National policies are marred by inconsistencies due to conflicting interest, split between nature conservation and the protection of crops and livestock. There are indications that traditional farming methods may be more suitable to foster cohabitation with wildlife.

References

Anuradha, J. M. P. N., Fujimura, M., Inaoka, T., & Sakai, N. (2019). The Role of Agricultural Land Use Pattern Dynamics on Elephant Habitat Depletion and Human-Elephant Conflict in Sri Lanka. *Sustainability*, 11(10), 2818.

Bandara, A. (2010). Hakka patas inserted in vegetables brings slow, painful death to elephants. *Sunday Times*, December 26, 2010. Online: http://www.sundaytimes.lk/101226/News/nws_15.html

Fernando, P. (2015). Managing Elephants in Sri Lanka: Where We Are and Where We Need To Be. *Ceylon Journal of Science (Bio.Sci)*, 44 (1), 1-11

Kompatscher, G., Spannring, R., Schachinger, K. (2017)*: Human-Animal Studies. Eine Einführung für Studierende und Lehrende.* Münster: utb/ Waxmann.

Lorimer, J. & Srinivasan, K. (2013). Animal Geographies. In *The Wiley–Blackwell Companion to Cultural Geography* (eds N. C. Johnson, R. H. Schein and J. Winders). Hoboken, NJ: Wiley-Blackwell. Chapter 29

Nahallage, C.A.D.& Huffman, M. (2012). Macaque–Human Interactions in Past and Present-Day Sri Lanka. In: S. Radhakrishna et al. (eds.): *The Macaque Connection: Cooperation and Conflict between Humans and Macaques*. New York and Heidelberg: Springer

Robbins, P. (2012). *Political Ecolgy. A Critical Introduction*. London and Malden: Wiley-Blackwell