

## Review – Peer J - Nepal Leopard conflict

Thank you for giving me the chance to review this interesting paper that aims to identify risk zones and landscape features that affect leopard depredation in the mid hills of Nepal. I think the data and approach used by the author is useful in delimiting these important “conflict” regions. While I think this is a useful paper, I do think there are several nuances needed before this can be accepted. I highlight them below and hope you find these useful:

Abstract: Be careful between human-wildlife conflict and human-wildlife interactions that are negative (eg. Redpath et al., 2015: Redpath, S. M., Bhatia, S., & Young, J. (2015). Tilting at wildlife: reconsidering human–wildlife conflict. *Oryx*, 49(2), 222-225.). It would be nice to have this nuance throughout the paper.

Introduction: I would recommend that rather than starting with the leopard and then moving to the theme of HWC, especially in Nepal, do it the other way around. It would be nice to briefly speak about human-wildlife interactions (not conflict) and then talk a bit about how there are negative interactions which are termed as HWC and then come to the specific case of the leopards in Nepal’s mid-hills. See also Bhatia et al. 2020: Bhatia, S., Redpath, S. M., Suryawanshi, K., & Mishra, C. (2020). Beyond conflict: exploring the spectrum of human–wildlife interactions and their underlying mechanisms. *Oryx*, 54(5), 621-628.) which talks about HWC as a spectrum rather than either/or. Again getting this nuance into both your introduction/discussion and also results is important

Line 56: “As a habitat generalist...”

Material and Methods:

Line 101-105: Just wondering why the study was limited to such a small percentage of the Gandaki province?

Line 131-133: It would be nice to elaborate a bit on the what provisions there are by different government agencies to “compensate/provide relief” for victims?

Line 143: how many FDGs were done? What was the composition of each? See Nyumba et al. (2018) (O. Nyumba, T., Wilson, K., Derrick, C. J., & Mukherjee, N. (2018). The use of focus group discussion methodology: Insights from two decades of application in conservation. *Methods in Ecology and evolution*, 9(1), 20-32.) on the key insights for use of FDGs. Were these followed? If not, do discuss any limitation in the discussion section

Line 158: Was the time of the event also recorded? (Season and day time) as I feel that is also a factor impacting depredation. If not this needs explicit discussion later.

Table 1: In table it will be very useful to add another column describing the predicted relationship of each variable with your model output. This will help readers see the reasoning in using those variables. Additionally, and importantly, did you check for auto-correlation

between each variable? This would have been useful to ensure you are not using variables that might ecologically mean similar things.

Line 211-212: I see you have looked at multicollinearity which is great! Can you add the process and results in supplementary material, please?

Results: I wonder if the authors are missing out on some nuance by only conducting the MaxEnt analysis. Was there some interesting "micro-scale" information that was received through the FDGs about leopard depredations? It would be great if you could add, even if qualitatively, what was said in the FDGs.

Results: Also, is it not possible to look at leopard attacks based on livestock type? I would imagine this would change the results and the predictors? There might be socio-economic reasons for people to keep certain type of livestock (eg. Small-bodied) over others (eg. Large bodied) and that might impact depredation process.

Model accuracy: can you justify using reference, why the quantities you are quoting are "good"

Discussion – risk zones with respect to leopard attacks – is there some data on prey apart from overall trends? Also, what about dogs and their importance as prey for leopards? In many parts of India, dogs are the main prey for leopards and they (dogs) might then impact how leopards interact with humans/livestock. See for example Athreya et al., 2016 (Athreya, V., Odden, M., Linnell, J. D., Krishnaswamy, J., & Karanth, K. U. (2016). A cat among the dogs: leopard *Panthera pardus* diet in a human-dominated landscape in western Maharashtra, India. *Oryx*, 50(1), 156-162.)

Discussion – Important environmental variables predicting the leopard risk zone: While you have done a great job of referencing different studies and discuss similar results from other systems, I think it would be valuable to have a short discussion about how socio-economic changes in your system (example more development leading to, perhaps, more roads being made), maybe impacting human-wildlife conflict with leopards.

Discussion: I would like to see some more discussion on the caveats of your studies, especially your modelling approach.

Conclusion: Line 342-344: I think you are missing a point here: Local stakeholders are also the herders and villagers, whereas the DFOs and local government officials, are indeed local but more administrative.

- Munib Khanyari