

Flare 2018 Annual Meeting Abstracts

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Title: *Shifting capabilities in northeast Madagascar: Methodological advances to explore land-use change and human well-being.*

Land-use change plays a pivotal role across scales, prominently visible in forest-frontier contexts in the humid tropics, a key target region for forest conservation initiatives and under parallel strain due to mounting demand to produce commodities for the global market. Whilst landscape dynamics in these regions are increasingly influenced by factors beyond the local scale, implications of these processes for rural communities' well-being are not always clear. Due to two recent developments, northeast Madagascar provides a vivid illustration of the trade-offs and synergies in local well-being these cross-scalar dynamics might entail. First, several protected areas for biodiversity conservation and carbon sequestration have been implemented in the last decades, meaning the closure of the forest frontier in an until recently shifting cultivation-dominated area. And second, vanilla and clove, the main cash crops produced in the region and linking the local economy to global markets, are experiencing a sharp price spike, profoundly shaping land-use decision-making processes by local populations and triggering feedback effects onto the ecological system.

To explore these processes in our four study sites in northeast Madagascar, we apply an integrative approach combining participatory land-use change mapping based on very high resolution satellite imagery, with a mixed methods approach to explore local well-being dynamics. Thanks to this methodology, our study shows two key results. First, that distinct regime shifts prompted by external influences have occurred in our study period, paralleling changes in human well-being, operationalised in terms of capabilities. And second, that local populations' capabilities present a bundled character, where, besides instrumental or intrinsic values, relational ones play a central role as they underpin many of the capabilities valued by local communities. Our approach constitutes a significant conceptual and methodological advancement to explore the relation between spatially-explicit land-use change and well-being dynamics in forest-frontier contexts under rapid global change, which might be key to better monitor and predict feedback effects with potential implications for sustainability. Furthermore, our findings hold significant potential to further understand and generalise patterned relationships of human well-being dynamics and environmental change, which might serve to inform governance mechanisms in rural socio-ecological systems in the humid tropics.