Transformations in fire prone landscapes in a global biodiversity hotspot - broadening the environmental justice lens

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Madagascar is one of the few global biodiversity hotspots, where most national and international conservation and development actors still perceive fire to be the burning environmental issue. For many decades, a multitude of interventions has aimed to repress shifting cultivators' use of fire. At the same time, the increasingly restricted use of fire as well as the expansion of protected areas have raised concerns of environmental justice.
Despite the establishment of several large protected areas along Madagascar's north-eastern humid escarpment, many small-scale farmers have resisted the pressure to abandon fire, and continue to rely (at least partly) on shifting cultivation to assure their food security. Simultaneously, they have become entangled in cash crop trade networks for vanilla and clove. The rapid expansion of agroforestry systems for the production of these high value crops has recently initiated a transformation of shifting cultivation landscapes. This research was motivated by these dynamics, specifically to better understand the small-scale farmers' perspective on how these ongoing processes of landscape transformation have affected their use of fire.
To do so we conducted focus group discussions and qualitative interviews with farmers from two villages in the buffer zones of Masoala National Park and Makira Natural Park. Our results show that farmers' dependence on fire has declined over time, due to the conversion of shifting cultivation systems into cash crop plantations. Although the establishment of protected areas has led to a perceived stricter enforcement of anti-fire rules, the respondents rarely considered this a problem. Instead, some of the respondents felt that it was the increasing presence of cash crops in the landscape, which put a burden on their fire use. Specifically, the possibility of escaped fires burning other farmers' cash crop plantations made it too risky to burn. Those farmers lacking the means to make the considerable investment into cash crop plantations, might therefore become further marginalized, as they are left with very few possibilities for income generation and subsistence farming and while prices of staples increases with the arrival of the market economy. We therefore call for a broadening of the environmental justice lens to evaluate protected area impacts towards encompassing the multitude of dynamic and interlinked landscape transformation processes at play. A more explicit environmental justice framing, as we provide here, could represent an important starting point towards a much-needed equitable sustainability transformation in Madagascar and other global forest frontiers.