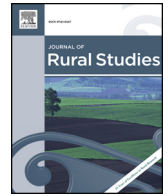




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Revisiting the drivers of deforestation in the tropics: Insights from local and key informant perceptions in western Uganda

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ABSTRACT

Deforestation has been widespread in the Northern Albertine Rift Landscape in rural Western Uganda. In this paper, we present perceptions from local residents and narratives from key informants on causes of forest loss during a 30-year period between 1985 and 2014. While the generic drivers we find are consistent with previous literature, we suggest that the specific context in which forest cover is lost in rural areas is path dependent, and this is vital for adequate management. In the Ugandan case, the history of the sugar industry and its relation to local political drivers and international considerations (e.g. biofuel) are prominent. Global drivers of forest loss therefore mask local-level complexities, but an amalgamation of local-level dynamics does not necessarily sum up to larger-scale manifestations (in a linear manner): striking a balance between understanding local-level and large-scale dynamics could be key in addressing the deforestation conundrum. We surveyed 263 households in 7 parishes around Budongo and Bugoma forests, and conducted 22 key informant interviews. Our findings indicate that the drivers and mechanisms of deforestation are local; they also vary between Budongo and Bugoma. Key amongst these include: agricultural expansion (28%–58.5% of the responses)—with large-scale commercial and small-scale subsistence farming significant around Budongo and Bugoma respectively; “poverty” (26%–76%) often alluding to heavy dependence on forests for livelihoods. Others include: population growth driven by dissimilar migratory patterns; and moving protected forest boundaries. Our data suggest that a combination of both local and key informant perceptions is instrumental in filling data gaps where a dearth of information is prevalent (especially around Bugoma forest), and is important for corroboration of other scientific data (e.g. remote sensing). However, a survey of wider literature indicates that there are significant issues missing from their stated views. While the continued expansion of cash-crop farming and lack of inclusion of local people in forest policy continues to raise concern, the stability of protected forest (i.e. Budongo and Bugoma) is encouraging and suggests a refocusing of the forest debate on practical working schemes for forest preservation and recovery might be the way forward for sustainable forestry and livelihoods.

1. Introduction

Deforestation in the tropics continues to be a major threat to biodiversity, climate and livelihoods (Bala et al., 2007; Miles and Kapos, 2008; Achard et al., 2014). Geist and Lambin (2002) reviewed the reported drivers of forest loss across the tropics in the 1990s: they categorised these into proximate (e.g. infrastructure extension, agricultural expansion, and wood extraction) and underlying causes (e.g. demographic, economic, technological, cultural, policy and institutional: Fig. 1). Whilst this categorisation was a valuable contribution, it could be criticised for being generic, covering multiple countries in the

tropics. This may mask real drivers of forest loss where more local-level complexities are ignored (Angelsen and Kaimowitz, 1999). This can lead to both inappropriate policy prescriptions and/or management strategies that are insufficiently tailored to actions that will be effective in the local context (Fisher et al., 2018). In this paper, we unravel some of the nuances in the drivers of deforestation considering local-level variations in the Northern Albertine Rift Landscape. This region underwent widespread forest loss between 1985 and 2014 as we evidenced using remote sensing imagery and ‘ground-truthing’ (Twongyirwe et al., 2015a). To detect the local perceptions of the causes of this forest loss, we report survey data and narratives by key

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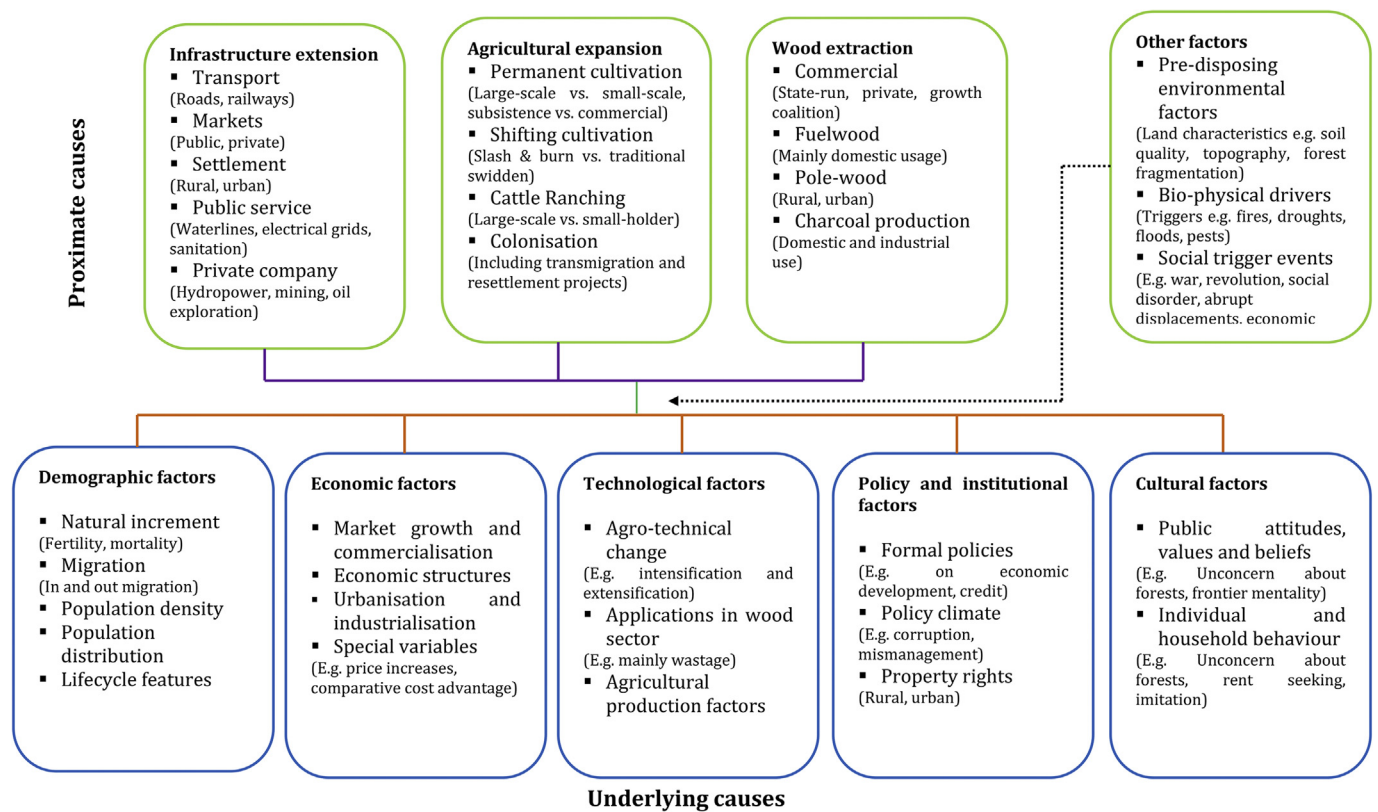


Fig. 1. Drivers of land use and land cover change (re-drawn from Geist and Lambin, 2002).

informants including elderly residents (> 70 years) that have witnessed the landscape evolve over the study period.

Local and key informant perceptions on the historical and current status of forest cover can shed light on deforestation, forest gain and forest stability (Sheil and Wunder, 2002; Sunderlin et al., 2005; Agrawal, 2007). While local perceptions are often context-specific in nature, enhanced by individual and group interaction with their socio-ecological settings, and often a basis for rural survival (Dei, 1993), this information base accrues credibility from feedback-based learning (Thompson and Scoones, 1989; Chalmers and Fabricius, 2007). Key informant perceptions (in some cases from experts on the subject), on the other hand, are often grounded in theory, attained as a result of deep understanding, practice and interaction with the subject matter (Chalmers and Fabricius, 2007; Martin et al., 2011). These information constructs are especially beneficial in under-researched areas and where evidence from scientific techniques such as remote sensing produces fuzzy results. Although remote sensing can provide quantities of forest cover change (useful in informing management strategies), we cannot obtain causal information from these data; this can be perhaps be revealed from interviews with local people and key informants. Local people have understandings of land use and forest cover trends and causal mechanisms, which provide rich, contextually specific detail to complement the perspectives of key informants with local expertise on forestry issues: a combination of both information bases may therefore prove useful.

The merits of local perceptions are not without criticism in the literature. On the one hand, some scholars argue that local perceptions are fragmentary, partial, and provisional in nature, often emerging from localised experience shaped by cultural, economic, environmental, and socio-political factors (Thompson and Scoones, 1989). Furthermore, information from local informants is loaded with ethical and methodological challenges which may obscure its interpretation, and its complementarity to other kinds of science is not always obvious (Chalmers and Fabricius, 2007). Methodological complications may

include assessing whose perceptions should be considered credible; the males' or females', rich or poor, old or young, native or migrant (Thompson and Scoones, 1989). Also, how questions are framed during data gathering could affect the answers, and requires careful ethical consideration. Furthermore, literature on positionality highlights that the interviewees can be affected by their perception of the interviewer, while the interviewer could introduce his/her own bias (Kahan et al., 2008; Rice et al., 2015).

Key informant perceptions on the other hand may be biased by the definition and selection of key informants, their experiences in the study area, and their disciplines (and academic qualifications). For instance, an agriculturalist may highlight agricultural causes as the leading drivers of deforestation or downplay the role of agriculture in this negative context while a political scientist may highlight the historical political unrest in the region as the key driver of forest loss in the landscape. An elderly local leader who has witnessed the processes in his/her local village over the study period may be the 'key informant', best placed to provide a detailed account of what happened and why. "Key informants" in this paper therefore refer to people that are able to provide a detailed account of the landscape forest and land cover changes.

The main aim of this paper therefore is to examine local and key informant perceptions on the drivers of deforestation around Budongo and Bugoma over a recent 30-year period (1985–2014) and to try to interpret these to fill knowledge gaps given their necessarily partial nature. The aim has been largely motivated by our extensive remote sensing research over this region. The paper is structured as follows: next, we provide a context within which the study is premised, followed by a description of the methodology. In the results section we present perceptions of the local residents – from the survey, as well as detailed narratives from key informants to enrich survey data. The discussion section illuminates potential reasons for the variations in the data, and provides critical perspectives in the light of peer reviewed literature.

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