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RESPONSE

Natural forest regeneration through fire protection is a less imminent threat for truly stable savannas than afforestation

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Loft et al. (2024) argue that bistable African savannas have important biodiversity value and merit conservation. Although we agree with this main concern, here we show that their comment is based on incomplete reading of our discussion section on 'Bottlenecks and uncertainties' and on fundamental misunderstanding of our methods, intentions, and recommendations (Djiofack et al., 2024).

Loft et al. wrongly claim that we excluded savanna species from our analysis. We visualized carbon loss through the disappearance of savanna species in figure 1a and in table 1 (Djiofack et al., 2024) by using different colors for savanna specialists (orange) and forest specialists (green). We split the analysis for obvious reasons: savanna and forest specialist species represent different ecosystems, and we intended to parameterize long-term *forest* recovery trajectories. Yet for transparency, here we present trajectories pooling all species (Figure 1). The absolute species richness recovery trajectory (Figure 1a) barely differs from using only forest specialist species (compare with figure S2b in Djiofack et al., 2024). Absolute aboveground carbon (AGC) recovery is slower (Figure 1b), but this is driven by the inclusion of savanna specialists, which incorrectly inflates initial AGC.

Loft et al. focus disproportionally on our upscaling analysis (figure 5 in Djiofack et al., 2024). They give the impression that we presented this analysis as extensively verified and as a policy recommendation. In reality, we presented the upscaling analysis as a secondary outcome of the paper and only discussed it in the section on 'Uncertainties and bottlenecks', where we put the result into perspective. We did not use this analysis to 'propose' to actually 'afforest' the region, as Loft et al. claim, but we suggested that such (rare) recovery trajectories could be used to improve the calculations of forest regrowth through upscaling.

This article is a Response to the Letter by Loft et al, https://doi.org/10.1111/gcb.17369, which was related to the paper of Djiofack et al, https://doi.org/10.1111/gcb.17154.

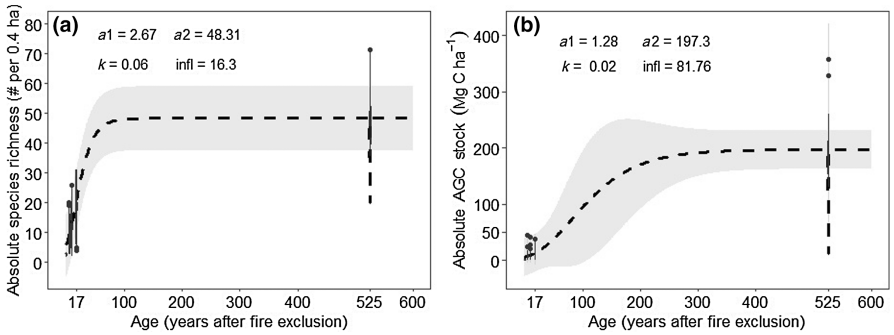

FIGURE 1 Absolute species richness and aboveground carbon (AGC) trajectories pooling all species (i.e., using forest and savanna specialist species together). (a) Absolute species richness recovery (compare with figure S2b in Djiofack et al., 2024). (b) Absolute AGC recovery (compare with figure 1b in Djiofack et al., 2024). Methods as in the original paper.

Loft et al. claim that our publication advocates 'afforestation', while we systematically used the terms 'forest restoration', 'natural forest regeneration', or 'forest recovery'. There are important differences between these. Forest restoration refers to actions helping a natural, but formerly removed, forest to re-establish (Elliott et al., 2013). In contrast, afforestation is the process of introducing trees to an area that was previously not forested (Di Sacco et al., 2021). We emphasize that the experiment we described is entirely based on natural forest regeneration through the exclusion of anthropogenic fire and that we did not advocate afforestation anywhere.

The policy recommendation we truly propose is to let nature do its work instead of channeling it into an artificial man-made ecosystem through human-induced burning or planting. We feel that natural forest regeneration efforts, as the one we described, are far less imminent threats for truly stable savannas, than the 'tree planting frenzy' (Erbaugh et al., 2020; Holl, 2022). We therefore conclude that the criticism of Loft et al. is misdirected. That said, we do agree that the choice between restoring forests or protecting savannas requires a thorough understanding of the local context, which is a major challenge for (inter)national policy makers. Nature-based solutions must be biome-appropriate. This is exactly why we propose natural forest regeneration as an alternative for planting.

AUTHOR CONTRIBUTIONS

Brice Yannick Djiofack: Formal analysis; software; visualization; writing – original draft; writing – review and editing. **Hans Beeckman:** Funding acquisition; project administration; writing – review and editing. **Nils Bourland:** Writing – review and editing. **Basile Luse Belanganayi:** Writing – review and editing. **Félix Laurent:** Project administration; writing – review and editing. **Bhely Angoboy Ilondea:** Writing – review and editing. **Laurent Nsenga:** Writing – review and editing. **Alain Huart:** Writing – review and editing. **Menard Mbende Longwwango:** Writing – review and editing. **Victor Deklerck:** Writing – review and editing. **Geert Lejeune:** Writing – review and editing. **Joris Van Acker:** Writing – review and editing. **William W. M. Verbiest:** Writing – review and editing. **Jan Van den Bulcke:** Writing – review and editing. **Tom De Mil:** Writing – review and editing. **Wannes Hubau:** Supervision; validation; writing – original draft; writing – review and editing.

CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are openly available in figshare at https://doi.org/10.6084/m9.figshare.24221323.

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