Reviewer 1

This is an interesting paper that explores the interactions between land use change on soils with two contrasting parent materials in Congo. There is a significant amount of work here and the team are to be congratulated on collecting a significant data set for the region. The results point to the importance of understanding the soil quality and, in particular, the availability of aluminium as the lower soil horizons are brought closer to the soil surface due to soil erosion. The focus on soil depth and its interaction with soil quality is often overlooked in erosion studies so this is good to see.

We appreciate the reviewer's time and effort reading and commenting on our manuscript. We thank the reviewer for their encouraging feedback and for highlighting the value of our dataset. We appreciate the recognition of our focus on soil depth, as the exposure of subsoil horizons via erosion is a critical yet frequently neglected factor in assessing aluminum-related constraints on soil quality. Rephrasing of mentioned sentences, graph descriptions, and methods section on the soil loss calculation will make our manuscript clearer and easier to follow.

I have made a few of mostly minor comments below:

Page 5 L123. Results are being introduced here. Suggest that they are placed in the results. The same data also needs to be presented for the mafic area.

We agree with the reviewer that the description of the allophanes using the $Al_{ox}:Al_{py}$ ratio and pH values should be moved to the results. Initially, we had found it important to include it in the methods since these allophanes confirm volcanism in the region. However, we will remove these results from this section (see also Reviewer 2).

P7 L155 change to 'difficulties in finding'

We thank the reviewer for the suggestion, which will add more clarity to this sentence.

Page 11 L225. The calculation of soil erosion depths and then the calculation of the land use change age are key to the paper, but the explanation here is hard to follow. Given the importance to the overall paper I suggest adding a figure and using it to help explain the concept of matching SOC contents to calculate soil depth change.

We agree with the reviewer that the description of the soil loss estimation is not clear enough. Since we already have a high number of figures in this manuscript, we will focus on improving the understanding in the description and figure (see reviewer 2).

Page 14 Figure 4 Depth in forest profile is a rather confusing term. Do you mean depth of forest profile? See my previous content about adding a diagram to help make this term clearer. Also label the axis the same as in the caption 'equivalent depth in forest profile'. Better, consider using the term 'calculated soil depth change'.

We are grateful to the reviewer for pointing this out. We will adopt the term 'equivalent depth in forest profile' and use it consistently throughout the manuscript.

Page 25 Line 501. While there is a nice bit of symmetry with the introduction here. It seems to me that the requirement for more sustainable soil management is not restricted to just *kalongo* soils.

The reviewer is correct. We will rephrase the sentence in a more general way.