**Reply to Editor**

**Overview**: We would like to thank the editor and reviewer for their comment to refine this manuscript.

Note: The lines are according to all markup.

Dear Authors,
I thank you for having added in your manuscript the clarifications based the further comments by the two referees, but I confess that I am not sure you have fully addressed the issue that Ref#1 (and I) underlined on the adequacy of the benchmarking static model.

"2.6 So for the static model, you only use the first crop mentioned in your dynamic schedule, right? Please add, how you exactly deal with this. Is the crop harvested at the same time as in the dynamic schedule and the field is left bare after harvest? Or do you plant the static crop three times? My point is, that the static model should also have a valid representation of agriculture in the region. If you leave the fields bare during 2 of 3 seasons, it is not surprising that the dynamic model generated more ET. So, you cannot say, if your improvement is based on better information on seasonal crops or if it is based on a very basic model setup of the static model. The conclusions from your study would be much stronger if you compare your model to a reasonable static model representation.
Response: For the static model the March land use map had crops grown only in the rainy season from March to July and later the land is left bare. This is the normal practice of model implementation in the African catchment region"

As Ref#1 highlighted, for including the impact of having more than one crop in the same year in a benchmark, simplified modelling scheme, maybe it would not be necessary the use of seasonal land-use dynamics, but (at least if the crop is the same), it may be possible simulating a static model with the same LCLU, where three consecutive growing seasons are foreseen? I am not a SWAT user, so I don't know if this would be feasible, but it would be a more challenging comparison.
If this kind of procedure is not possible and it is not have been done, so far, I would ask you to add in the revised paper a specific comment on that issue, explicitating such limitation of the comparison with the static approach. And you should also support the fact that the implementation you propose for the "default" static benchmark is indeed the "standard one" in the case study region, adding references to previous works.
I believe that the value of you work does not depend only on the comparison with the "static"

modelling, since you also include the validation with the remote sensing estimates, but more clarity on this issue is definitely needed.

Response: Thank you for your comment, yes, the static model used the one crop that is represented in the dynamic then the farm is left bare, we have added the explanation in the section 2.6 line 113-115. It is true that this is not a real representation of agricultural management in the catchment, but it is how most modelers in African catchment simulate SWAT model, we have added this explanation in the introduction from line 103 to 114. This was the one of the objectives of this paper to show that better representation of cropping seasons is needed, and we showed the effect of implementing seasonal dynamic.

The referee 1 comment, it is true that we can simulate in SWAT with one LULC map then do crop rotation later. However, the nature of the small-scale agricultural practices in tropical African catchment with an example of Kikuletwa catchment is that one crop is planted in one season and harvested, and then different crop is planted (different crop). Hence the seasonal land use is important so as to identify the location and type of crop. The practice in African catchment is not same as outside African catchments like Europe, because first of small-scale agriculture practice with different kind of crops from each farmer. Also, the fact that all farmers don't have a systematic schedule to follow. Hence the seasonal land use maps help to obtain the information of crop specific, agriculture management per location.

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