

**Authors reply to comments on essd-2023-206 made by Topic Editor Zhen Yu on the 17<sup>th</sup> October 2023.**

**We wish to thank the editor (Zhen Yu) for taking the time to provide feedback on our manuscript and for his constructive comments. Comments by Zhen are included below followed (in bold) by our changes made to the manuscript based on his feedback.**

17 Oct 2023

**Topic editor decision: Reconsider after major revisions**

by [Zhen Yu](#)

I have a few suggestions:

1. Please note that your data set DOI and its in-text citation must be provided in the abstract.

**As per line 37 of the abstract we have now added:**

**“Information from the present study is available from DOI <https://datadryad.org/stash/dataset/doi:10.5061/dryad.hx3ffbgkh> (Ludemann et al., 2023b) as well as at the FAOSTAT database (<https://www.fao.org/faostat/en/#data/ESB>) (FAO, 2022a), with annual updates.**

2. For consistency in Figure 1, please use "AD" instead of "ND." I would also suggest creating a more visually appealing conceptual diagram for Figure 1.

**For brevity and considering the information in Figure 1 is available in Equation 1 and as text in the Methods section we decided to delete this figure and any referral to it.**

3. When deriving nutrient balances per unit of area, have you included fallow land in the calculation?

We used the area of cropland as the denominator for deriving nutrient balances per unit area. As per line 93 cropland is defined as:

“land used for cultivation of temporary and permanent crops in rotation with fallow, meadows and pastures within cycles of up to five years.”.

4. I recommend restructuring your Results and Discussion sections. Why is there only a "4.1 Comparisons with previous studies" section in your Discussion? The figures and tables comparing your results with previous studies may be more suitable in the Results section.

We have now created a combined Results and Discussion section where we include:

### **3. Results and Discussion**

**3.1 Global and regional estimates (same as previous version of manuscript)**

**3.2 Country estimates (same as previous version of manuscript)**

**3.3 Major trends (I used text from lines 353 to 372 from the previous version of the discussion section)**

**3.4 Comparisons with previous studies (used text and figures/tables from the section named '4.1 Comparisons with previous studies' from the previous version of the manuscript)**

**4.0 Conclusions (same as current manuscript)**