

Interactive comment on “Quantifying the impact of land degradation on crop production: the case of Senegal” by B. G. J. S. Sonneveld et al.

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Received and published: 6 October 2015

Dear Sir,

We are grateful for the relevant and constructive comments given by referee #2 concerning our research article ‘Quantifying the impact of land degradation on crop production: the case of Senegal’. Below you find our responses on the comments .

We hope that the revision meets the standards.

Kind regards,

Ben Sonneveld

——— Comment Referee: In the abstract “Land degradation has been a persistent

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problem in Senegal for a long time and by now has become a serious impediment to long term development.” It will be better if you can identify the exact period, how far it is long time??? to have a sense of the problem is degrading and increasing with time.

Answer Author: The reference period is mentioned in the first sentence of the Introduction:

Already in the late 19th and early 20th centuries warnings were issued about severe risks of land degradation in Sub-Saharan Africa . . .

Yet, I gladly change the first sentence of the abstract into

Suggested text amendments: “Land degradation has been a persistent problem in Senegal for more than a century and by now has become a serious impediment to long term development.”

——— Comment Referee: Still in the abstract: “This pairing exercise is conducted under a gradual refining of the classification of circumstances, until a more or less stable response to land degradation is obtained. In this way, we hope to have controlled sufficiently for confounding variables that will bias the estimation of the impact of land degradation on crop yields.” When the authors write “obtained, In this” they need to end the first sentence with dot and start the second or make the start next sentence should be small letter

Answer author: The referee is correct. See also the suggested amendment under ‘Other remarks in the supplement. Page 1798. Correct’ referee #1.

——— Comment Referee: Page 3 the paragraph that start with “Senegal is a case in point. In an article in Nature, Mulitza et al. (2010) have shown that sharp increases in dust deposition of terrigenous sediments” The authors choose short sentence by saying Senegal is a case in point. grammatically indeed it is right but starting the next sentence with Article it didn’t make it the sentence flow smoothly, I would recommend that the next sentence reformat and make this part In an article in Nature, Mulitza et al.

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(2010) just reference at the end of the sentence.

Answer author: We have no objection against the proposed amendment. And we suggest the following sentence

Suggested text amendments: Sharp increases in dust deposition of terrigenous sediments could be related to 5 land degradation processes in Senegal that started in the 1840s, after the promotion by the French colonial power of groundnut cultivation (Mulitza et al. (2010).

—— Comment Referee: Figure two and three in their captions doesn't reflect any change , not by year or area if possible indicate in the captions what is the different.

Answer author: The difference is between the classes, light and moderate and moderate and strong. To emphasize the difference we propose to put the words between quotation marks.

Interactive comment on Solid Earth Discuss., 7, 1797, 2015.