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Discussions

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Interactive comment on "Development of a composite soil degradation assessment index for cocoa agroforests under tropical conditions of southwest Nigeria" *by* Sunday Adenrele Adeniyi et al.

Anonymous Referee #2

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This paper aimed to investigate the effect of land use change on soil in southwest Nigeria. The authors attempted to use different and advanced statistical methods to classify soil in different groups in terms of degradation.

Title: It sounds good. I like it as in the title the study area is mentioned.

Abstract: The abstract was written well.

Keywords: Firstly, I suggest to write the order of key words based on alphabet or their importance. Secondly, I highly suggest to not having more than three words for each key word.

Introduction: The introduction in line 75-97 is quite large, especially the first sentences which are very similar to previous paragraphs. Instead, I have two suggestions. At first, divided this paragraph into two paragraphs that one of them will talk about alteration of soil characteristics, and second one will talk about the statistical approaches, which the authors used. Secondly, I suggest to authors to write a full paragraph regarding multivariate analysis, such as PCA, FA . . ..., and the statistical methods which they have used.

Materials and methods This section was explained very well. However, the authors should mention geographical location of the study area in degrees minutes seconds format. And in the Figure 1, the authors can also add grid using Graticule in ArcGIS desktop.

Results and Discussion: Results are descripted well; however, Discussion of some parts is weak, especially 3.3 and 3.5 sections.

Figures and Tables: The quality and performance of Figures are not very good, so they should be improved. The words "Table" and "Figure" in the text should be capitalized and written completely, no abbreviation.

Reference: Unfortunately, the review literature is not new, just one reference in the year 2016, while there a great number of publication regarding soil degradation in 2016 and 2017. Therefore, I highly suggest to add new references from very good journals, such as Land Degradation & Development, Catena, Geoderma and so forth.

Such as:

-Khaledian Y, Kiani F, Ebrahimi S, Brevik EC, Aitkenhead-Peterson J. 2016. Assessment and monitoring of soil degradation during land use change using multivariate analysis. Land Degradation & Development. DOI:10.1002/ldr.2541.

-Parras-Alcántara, L., Lozano-García, B., Keesstra, S., Cerdà, A., & Brevik, E. C. (2016). Long-term effects of soil management on ecosystem services and soil loss

estimation in olive grove top soils. Science of the Total Environment, 571, 498-506.

-Romero-Díaz, A., Ruiz-Sinoga, J. D., Robledano-Aymerich, F., Brevik, E. C., & Cerdà, A. (2017). Ecosystem responses to land abandonment in Western Mediterranean Mountains. Catena, 149, 824-835. Chicago

To sum up, to me the paper needs major revision before publishing. I hope my comments contribute the authors to improve the manuscript.

Please also note the supplement to this comment:
http://www.solid-earth-discuss.net/se-2016-175/se-2016-175-RC2-supplement.pdf

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