

Interactive comment on “Estimations of soil fertility in physically degraded soils through selective accounting of fine earth” by M. S. Nagaraja et al.

M. S. Nagaraja et al.

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Anonymous Referee #1 Comments (Published: 9 March 2016)

COMMENT: FIGURES: it could be possible to add colors to figures 2, 3 and 4? In the on-line version they are for free.

REPLY: Agreed; the figures were changed to colour.

COMMENT: INTRODUCTION: These two references (Lozano-García et al., 2016 [Science of the Total Environment 544, 963-970. <http://dx.doi.org/10.1016/j.scitotenv.2015.12.022>] and Parras-Alcántara et al., 2015 [Land Degradation and Development 26, 800-806. <http://dx.doi.org/10.1002/ldr.2231>])

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are more appropriate here (to support the idea of “help land developers and farmers to select management plans. . .”) than ParrasAlcántara et al., 2015. Because the first one is related to natural areas with different kinds of vegetation [native or reforested] and the second one is referred to agricultural lands under different managements.

REPLY: Agreed; the references were added to relevant sections.

COMMENT: MATERIAL AND METHODS: Please, clarify some aspects related to the sampling process and the methodology: 1. How many samples were taken in each sampling point? 2. How many replicas? 3. Could you locate the sampling points in the Figure 1? 4. Could you add a table with the main soil properties of the 18 soils sampled? 5. Between 2.2 and 2.3 sections I suggest including a new one in which you define the three methods (equation included) for the assessment of soil C and nutrient stocks.

REPLY: Agreed; new sections (section 2.3-stock estimation methods) were added in the manuscript describing samples taken, and methodology part was improved. The sampling points cannot be located on the map because of unavailability of GPS with student at the time of field work but a new table (Table 1) was added describing the general properties of degraded soils compared to normal soils in the area at eighteen sampled locations. A new section was added between 2.2 and 2.3, describing the three methods for the assessment of soil C and nutrient stocks, briefly. Other section numbers were accordingly changed.

COMMENT: RESULTS AND DISCUSSION: Please, be uniform respect to the use of acronyms. On the one hand, you use SOC in lines 12 and 13 in page 6 but you do not have defined this acronym previously, in fact you use soil organic C in the rest of the text. On the other hand, in the Abstract you refer to P and K, but in the 3.3 section you write P₂O₅ and K₂O. Furthermore, you must improve and enrich the discussion by adding more current references.

REPLY: Agreed; the acronyms were changes to maintain uniformity. SOC at L7 Page

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6 and M&M Page 7 was changed to 'soil organic C' as used in all other sections of manuscript. P and K notations, in abstract and main body of the manuscript, were changed to P₂O₅ and K₂O, as represented in the graphs. Discussion was enriched with more relevant references, as suggested.

Interactive comment on Solid Earth Discuss., doi:10.5194/se-2016-26, 2016.

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