

Interactive comment on “Socio-economic modifications of the Universal Soil Loss Equation” by A. Erol et al.

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Received and published: 10 August 2015

Interactive comment on “Socio-economic modifications of the Universal Soil Loss Equation” by A. Erol et al. Anonymous Referee #2 Received and published: 6 July 2015 In the here presented paper, the authors want to determine a socio-economic impact on soil erosion by combining two USLE- factors (C,P) with a coefficient for the socioeconomic factor derived by comparing two watersheds. The manuscript is well written and clear to understand. The introduction gives a good general overview to the topic “soil erosion“. Nevertheless, I do not recommend publication in its present form. Unfortunately, the claimed research topic is not clearly defined and does not correspond to the scientific concept in several aspects. While title, abstract, introduction and conclusion deal with very general remarks and numbers concerning both objects

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(soil erosion and social economics), only few aspects are considered with the analytical approach. Some sections such as Introduction, Material Methods and Results and Discussion, and Conclusion was revised again. Please let me know can be the title as Socio-economic modifications of the Universal Soil Loss Equation: A study on the determination of a coefficient

1. It lacks a clear research question. Maybe a clear formulation of a hypothesis would support the finding of a suitable experimental approach and analysis. The here formulated objective is a single factor, which might not be suitable to include the vast complex of "socio-economics". In the study, we were formulated only human and animal factors effect on soil erosion because there were no others factors in previous studies. Thus, the study was not arranged to all socio-economic factors conducted on only two factors as socio-economic factors. One of the others aim of the study was to see if we could modified a coefficient on USLE using these factors. We hope that the results of the study will provide the opportunity to further study.

2. The structure of the scientific approach does not correspond to the research topic. The authors want to explain an incredibly complex concept (socio economics) by applying a very simplistic analytical approach (comparison of 2 watersheds). The first step would be to precisely define the scale (e.g. tempo-spatial and complexity level) of the aspired object. According to the results of this definition, a suitable investigation method (e.g. experiments and statistics) is chosen. The experimental as well as the mathematical approach need to match the complexity of the object and should meet general requirements concerning good scientific practice.

The study was only conducted on two watersheds. When working on many watersheds, the results of the study would be useful if it such. Thus, it would be much more different experimental and mathematical approaches. In this case, the data relating to R, K, C and P from previous studies could be provided in the many watershed in Turkey. We also believe that the results obtained the study could be match the complexity of the object. I will want to study on many watersheds in the Lake Region of

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Turkey and improve to new approaches on soil erosion that the very vital problem for the region, if this study publish. Therefore I can use this study as a reference planning on a Project.

3. The authors calculate a socio-economics-factor by multiplying number of persons and number of animals, relating them to (estimated) soil erosion values and combining those to mean C and P values. This procedure implies, that the term "socio-economics" is comprehensively assessed by including the aspects "number of persons and animals" to the USLE. In the study, some steps followed to explain this phase in the step 1 and step 2 (Table 8). However, I think that Table 8 can not be understood. Thus, a flow chart was drawn to explain this case (Figure 3). This flow chart was used instead of Table 8. Please let me know what else we can do about this.

4. This questionable factor is then used to calculate questionable soil erosion rates. The actual impact of the factor on soil erosion rates is not clear. Accordingly, the only real "findings" of the study are general statements. The actual impact of the factor in the related sections was revised as you mentioned.

5. The structure of the text reflects the general impression of the work: the greatest proportion is introduction, only one page results and discussion. Furthermore, more than 50% of the results and discussion section deals with other papers instead of own results. The full text revised in accordance with your comments. In this context, I revised Material and Methods section and rewritten the Conclusions section in the text.

Interactive comment on Solid Earth Discuss., 7, 1731, 2015.

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Fig. 1.

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