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

Anonymous Referee #2

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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 socio-economic 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 (soil erosion and social-economics), only few aspects are considered with the analytical approach.

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".

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.

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.

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.

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.

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