Interactive comment on "Soil erodibility estimation by using five methods of estimating *K* value: A case study in Ansai watershed of Loess Plateau, China" *by* Wenwu Zhao et al.

Wenwu Zhao et al.

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Dear reviewer #2, Thank you very much for your comments and suggestions. The comments inspired us to think more about the details of the analysis and the correction of explanation such as abbreviations and annotations. The following is a point-by-point response to all of the comments. Once again, we appreciate for your kind work, and hope that the correction will meet with approval. Best regards,

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Point-by-point responses: 1. Abstract. Hardly any quantitative result is found in the ab-

stract. Reply: The main conclusions of this paper are (1) Shirazi and Torri model was considered as the optimal models for Ansai watershed; (2) since soil erodibility is estimated by soil properties, soil erodibility has an indirect relationship with environmental factors, including elevation and slope degree, and to a lesser extent, human activities; (3) by changing vegetation density, biomass, and cover, human can indirectly affect soil erodibility. The abstract will be revised by clearly express the quantitative results of the study. 2. Results. Sections 3.2 and 3.3: where is Tables S1–S5? I try to find the relationships of the text with Tables 1-4, but I am failed. I am sure some tables have been lost in the manuscript. Reply: We feel so sorry for this. The Tables S1–S5 (also including S6) will be further submitted as Supporting Information. The clear citation of these tables will be added in the manuscript and this Supporting Information will also be noted to this comment. 3. Lines220-222, Page 11: Table 3 in page 22 presents the Principal component analysis (PCA) of environmental attributes, instead of the MDS of the soil erodibility. Reply: We are sorry to make this mistake. This should be the S1-S3 in the Supporting Information. This mistake will be corrected and all the citation of tables and figures will be checked. 4. Some of the tables have been published in a Chinese journal. For example, Figure 2 in the manuscript is similar to Figure 3 in Reference (Zhao et al., 2017). I have uploaded the published paper together with the comments. Reply: We are sorry for causing this confusion. Some parts of these two papers used the same group of data which was obtained from field work. But the topic of these data and analysis are totally different in these two papers. The figure 2 in the manussript will be removed and relevant discussion will be added to show the differences between these two papers. 5. Too many abbreviations have been found in the manuscript. I think you may make a list for the abbreviations as an accessory of the paper. Moreover, some of the abbreviations are not needed, e.g., the words skewness and kurtosis in Table 2. Reply: A list of the abbreviations will be added as an accessory of the paper and the abbreviations that are not needed will be removed. 6. Errors exist in the annotations. Some of the annotations followed with the tables are duplicated, e.g., the annotations in Tables 1 and 3. I suggest the parameters s in the

may be emerge according to their order in the table. I am sorry I could not find SP and SS in Table 1, although the terms have been explained in the annotation. Reply: All the annotations will be checked and corrected by emerging them according to their order in the table and ensuring all the abbreviations and labels are noted in the annotations. 7. English writing of the manuscript is readable. Nevertheless many language errors exist. I strongly suggest you ask a soil scientist whose native language is English to polish the whole manuscript. Reply: We will check our manuscript carefully and correct the errors. Then the manuscript will be polished by soil scientist whose native language is English.

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