

## ***Interactive comment on “Climate change, vegetation restoration and engineering as a 1 : 2 : 1 explanation for reduction of suspended sediment in southwest China” by X. Ma et al.***

**X. Ma et al.**

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River sediment is sensitive to a variety of factors, such as climate change, human activities, etc. It is a very interesting topic to disentangle these factors, though still hard till now. The present paper provided a case study on this issue.

Specific comments: (1) This paper is not well organized in Section 4: Results and discussion. The entire of this section should be re-structured. Some part of this section (e.g. how to partition the contribution of different factors) should be removed to Section 3: Materials and methods.

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Answer: Section 4 will be re-structured according to the comments from the referee. The description of the method will be removed to Materials and methods section.

(2) Page12427, line 9-10: This statement is somewhat arbitrary. Generally water yield has directly linkage with the temperature in the drainage basin.

Answer: We totally agree with this comment. As mentioned by the anonymous referee #1, we did not pay more attention to the effect of temperature on suspended sediment. This statement will be removed and a little more discussion of the role of temperature in suspended sediment process will be added later.

(3)Page12428, line 21: Please indicate that how the table 4 was built up? The data source and methods?

Answer: The source of the table 4 was provided by Baoshan Water Conservancy Bureau. They evaluated the effects of the different measures on soil erosion by using the experimental formulas. In term of ecological measures and terrace, the treatment areas by different measures were estimated, then the reduction of soil loss was estimated by the treatment areas multiplied an experimental coefficient, which indicates how much soil loss will be reduce by implementing a hectare of specific treatment. In term of silt check dam, the reduction of soil loss was simply estimated by using the number of the silt check dam to multiply one experimental coefficient which derived from previous work indicating the capacity of a silt check dam to reduce the soil loss. A short method description of the estimated soil loss for different measures will be added to this part.

(4) Page12430, line 5-10: Please provide a detailed description on this equation, including the parameters and their values used in each case.

Answer: Firstly, this equation will be moved to section 3.5. Secondly, the detail description of the parameters will be added in section 3.5. The values of the parameters will be clarified in the section 4.4

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