

Interactive comment on “Geomorphic Threshold Estimation for Gully Erosion in the Lateritic Soil of Birbhum, West Bengal, India” by Sandipan Ghosh and Sanat Kumar Guchhait

Anonymous Referee #2

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Despite my overall positive assessment of the article, I would like to suggest several adjustments which might contribute to the quality of the article.

1. The Introduction is very long. It contains information about the intensity of soil erosion processes around the world (South Asia, Europe, USA) as well as causes, intensity and results of soil erosion in relief transformation and agriculture in India. This section presents mainly quantitative data collected from numerous publications (ca 240) cited in the text. The title of the paper is “Geomorphic Threshold Estimation for Gully Erosion in the Lateritic Soil of Birbhum, West Bengal, India” but the discussion of threshold values covers an insignificant part of the text (p. 4, lines: 24-39; p. 5, lines: 9-18.) In my opinion Introduction should be shortened but the fragment about threshold

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values should be more detailed. I would like the authors to explain how they understand the terminology they use in the text: geomorphic threshold, threshold value, threshold condition, critical threshold conditions, geomorphic threshold estimation, threshold relation, threshold phenomenon, critical hydro-geomorphic situation, threshold limit, threshold line in view of study of gully development of Birbhum, West Bengal, India.

2. The authors admit that in determining thresholds of gully development in India they make use of methods devised by other researchers and implemented earlier in other regions of the world. I would suggest supplementing the text with the discussion of the results obtained by other authors. Are they much different and if so why. In figure captions one should quote not only the area to which a given line applies but provide the name of the author and year of publication (fig.4).

3. In section 3.5 there is no information about the length of the measurement period of precipitation on the basis of which the overland flow was calculated.

4. Suggestions about the figures: In my opinion the information included in figures 4, 6, and 9 was not fully interpreted especially with reference to the results obtained by other authors. Figure 8: The description of axis should be done with the fonts used for other figures.

5. Suggestions about the “Reference cited”: The items in the reference list are not all compiled in the same style (p. 12, lines:13-15,17, 19, 21,24-25, 26, 29, 30, 34, 35; p.13, lines: 2-3, 7, 10, 13-15, 16, 19, 21, 22, 28, 29,32, 35, 37-38; p.14, lines: 2, 3-4, 6, 9, 12, 14, 15, 17, 20, 23, 24-25, 27, 30, 34, 35, 37; p. 15, lines: 3-4, 6, 8, 12-13, 15, 18, 21-22, 23-24, 25, 31, 33, 36; p. 16, lines:3-4, 6, 10, 13, 16-18, 20, 22, 25, 32, 33, 36; p.17, lines: 1-2, 4, 6-7, 9, 11, 13, 14, 16-17, 19-20, 23, 26, 28, 30, 35, 37; p. 19, lines: 1, 4, 6, 9, 10-11,13, 16, 22-23, 26, 28, 29, 31, 33, 35; p. 19, lines: 1, 4, 7. It refers mainly to different styles used, spaces and dots.

I hope that my remarks will help the Authors improve their article. I do appreciate their diligence in collecting the data, which were used to establish threshold conditions

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in permanent gully development in Birbhum, West Bengal, which are an important element in the study of gully erosion mechanism.

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