

Review of: "Revitalizing Key Conditions and Integrated Watershed Management to Mitigate Land Degradation and Sustain Water Availability for Agriculture in Semi-Arid Regions: A Case Study of Ethiopia"

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Potential competing interests: No potential competing interests to declare.

The paper "Revitalizing Key Conditions and Integrated Watershed Management Approach to Sustain Water Availability and Agriculture in Semi-Arid Regions" is a useful contribution and a review of important research. The overall presentation of the paper is good. However, there are technical weaknesses in the approach, analysis, or interpretation of the subject. One of the weaknesses of the article is that the authors are not able to give a good overview of the problems of water resources integrated management under climate change conditions, linking them simultaneously with methods, tests, and statistics that they handle. The article is a fairly high-quality text, which would be appropriate as a chapter in a monograph on the use of natural resources, including water in Semi-Arid Regions. The paper describes several problems associated with aridity and limited water resources, but, in my opinion, the authors have to link their methods and statistical analyses to expose the main difficulties in water management in arid regions, including technical and engineering issues. No deep conclusions were presented in the work, although the author would seem to be close to them. For example, the methods mentioned in the paper do not make it clear to us which method is effective and depending on what conditions these methods can be used in, and whether the results indicate a high or low aridity index. Also, the authors did not indicate comparative analyses between years to understand the average annual change or yearly water losses because of climate change. But some data are presented and have been taken from the UNESCO index. Most of the data are not updated. For this reason, we can't see what is happening now in arid and semi-arid regions. Are there world statistics for arid and semi-arid regions? If yes, then why don't they appear in the references section? What methods could be used to solve this problem under climate and demographic changes? Were there any attempts to solve it? For example, by raising prices for water while reducing other taxes for agricultural producers (some countries are following this path to increase resource conservation). I recommend the authors to think well about what they want to achieve with this work; even if it is a review manuscript, it should have some clear aims and objectives. There is enough information in the manuscript that only needs better arrangement to achieve concrete results about the state of water resources management.