

Interactive comment on “Rangeland degradation assessment: a new strategy based on indigenous ecological knowledge of pastoralists” by B. Behmanesh et al.

Anonymous Referee #1

Received and published: 18 November 2015

GENERAL COMMENTS:

The work of Behmanesh et al. shows a list of 18 rangeland quality/health indicators obtained from the consensus between scientists and local pastoralists from two sites located in the Golestan National Park, NE Iran. These indicators have also been categorized using a Likert scale and tested in field, helped by the pastoralists, comparing areas inside and outside the park in these two sites (flat area Mirza-Baylu and hilly area Dasht).

This research is valuable mainly by two reasons: originality and usefulness. However, in my opinion, this article is not yet worked enough to merit publication in a prestigious

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journal such as SOLID EARTH. The process to obtain indicators and their categorization should be treated more thoroughly in the Results chapter. Furthermore, the system of indicators (n=18) that this work proposes should be discussed with other existing rangeland health/quality indicators systems (e.g. Pellant et al., 2005). Therefore, I am going to suggest to the Editor that this article is provisionally rejected, at least this version.

SPECIFIC AND TECHNICAL COMMENTS:

Introduction

Page 3000, lines 21-22: “Rangelands are the vastest terrestrial ecosystems on the earth, covering close to 40% of the world landscape, of which more than 80% located in arid and semiarid zones”. A citation is required.

Page 3000, line 26: “Rangeland soils offer services to the human societies and makes the Earth system stable”. Please replace “makes” by “make”.

Page 3001, lines 5-6: “Each of these factors has led to the reduction in the quantity or nutritional quality of the vegetation available for grazing that called rangeland degradation”. A citation is required.

Page 3001, line 6: “And this resulted also in higher soil and water losses”. Are you referring to soil losses by water erosion? Please revise it.

Page 3001, 2nd paragraph: This paragraph is too long. Please divide it in other two paragraphs. That makes easier reading the article.

Page 3003, line 3: “as fallow”. Please replace “fallow” by “follow”.

Material and methods

Study area

Page 3003, line 13: 87242 ha. It is much better to write “872.4 km²”.

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Page 3003, line 21: "there is a village known Robat-e Qarebil". What does provide this information? In my opinion, that is superfluous.

Field assessment

Page 3006, line 2: "28 x 8 m2 quadrats". I think that it more proper to write "28 quadrats of 8 m2 in size"

Page 3006, line 3: "22 x 8 m2 quadrats". The same comment. Furthermore, 15 quadrats inside and 18 quadrats outside total 33 quadrats, and not 22.

Questionnaire should be explained with much more detail.

Results and discussion

These chapters should be rethought and rewritten.

Conclusions

"Traditional knowledge of local pastoralists was important in the management of range-land resources" I totally disagree.

Many conclusions can be drawn before to read the article.

Table 1

In my opinion, "Decrease of ground cover" and "Increase in bare soil" are redundant indicators. Furthermore, are they vegetation or soil indicators?

There are 4 indicators that have been proposed exclusively by the scientists. Why?

Table 3

What does it mean CV?

Why are only presented 13 indicators?

What is the meaning of the ranking?

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Figure 1

From an aesthetical point of view, this figure is not very interesting.

Suggested references:

Pellant, M., Shover, P., Pyke, D., Herrick, J. E., 2005. Interpreting indicators of range-land health. Version 4. Interagency Technical Reference. 1734-6, Bureau of Land Management, Denver, Colorado, USA.

Interactive comment on Solid Earth Discuss., 7, 2999, 2015.

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