

Interactive comment on “Should oasisification be ignored when examining desertification in Northwest China?” by Dongwei Gui et al.

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RC1: 1. The subject is very interesting, hence it deserves to be proposed in the SE journal. A: Thank you for your encourage. 2. The basic scientific question in the manuscript was: how the relation between oasisification and desertification processes happen (Page 3 Line 13-14). A: Actually, as a short communication, this manuscript mainly want to express why the oasisification shouldn't be ignored in NW China. The relationship between oasisification and desertification is only one part to answer our question and has been clear in the part 2, especially in figure 2. 3. The manuscript draws attention to the process of oasis expansion, which its subject was clearly treated as the major issue for the research (Page 3 line 15). A: Yes, because this topic is ignored more or less in the international research, and even in China. 4. Other objec-

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tives were a) to discuss about the importance of oasis-desert relation research and b) to propose topics for future researches. A: Firstly, "to discuss about the importance of oasis-desert relation research" is not our objective. The oasis and oasisification are different concepts, just like desert and desertification. We only discuss the importance of oasisification and its relation with desertification in arid area. Then we propose topics for future researches. In the first version, it is expressed not very clear, and we have re organized in the revised version. 5. However, in the manuscript there are certain gaps. I listed below some major weakness points which need to be addressed: a) In fact, what are the major mechanisms involved in oasis-desert relation? They should be presented accurately and, also observe the good balance of importance among the mechanisms in their presentation. A: There are many researches to discuss the "mechanisms involved in oasis-desert relation". In this revised version, we have simply introduced the basic situation in page 2, and in the page 14 line 9-22. This manuscript is submitted as short communication type, we want pay more attention to present the importance of oasisification research on oasis sustainable development and on desertification research, then we hope to arouse more researchers' attention on oasisification rather than just desertification in arid area. As to the "mechanisms involved in oasis-desert relation" research can be found in many literatures. 6. The manuscript did not establish a strong connection between the mechanisms of the oasisification-desertification processes. I think that this can be the major lack in the manuscript. b) In the subsection 2.1. (Description of the desertification process) the readers expect information about the vegetation, water and soil qualities found in oasis and deserts. Concerning the aspects of the desertification process, is the information clear to readers? A: In the revised version, the section 2 was used to explain: a) the desertification process occurred in semi-arid and dry semi-humid regions (figure 3a); b) desertification and oasisification process in arid and hyper-arid regions (figure 3b). Actually, the figure 3 is the essence and the most important content in this manuscript. The figure 3 is a conception flow chart, it help us to understand the logical process of oasisification and desertification happen in arid area. As to "readers expect information

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about the vegetation, water and soil qualities found in oasis and deserts ", we think it is not the topic in the manuscript and these detail information can be found in many researches. We more hope answer the title question from a macro style. 7. c) For the readers, it does not clear the anthropogenic pressure contribution in the oasisification or desertification process (subsection 2.2 and conclusions). A: In the revised version, we use one section to introduce "the anthropogenic pressure contribution in the oasisification or desertification process " , it is in page 5 line 9-22, and page 6, page 7 line 1-10. 8. d) The figures are not clear and they have low information quality provided in the text. The descriptions of the figures in the manuscript should be improved to provide a better understanding of the context by readers (mainly figures 2 and 3). A: In the revised version, we have modified the figure 3 (it is figure 2 in the revised version) to clear show the process of transforming desert into oasis. However, the original figure 2 (it is figure 3 in the revised version) is conception map, we didn't change. Since we set the paper is comment or opinion type, we just provide more simple and logic map rather than specific data map. 9. e) The subsection 4.2 (Choice of oasis size. . .) was presented in a detailed way while the 4.1 subsection did not. In fact, the human activity role in oasisification process was underachieved (4.1 subsection). A: This subsection (it is subsection 3.2 in the revised version) is simple introduced how to research oasisification in the future. Actually, the style of this section is just like other parts, which actually is also a simple style, it is only a concept model. However, as one modes with equations, we need show reader how this model is derived. 10. f) On the line 5, page 10, the phrase is too general to explain the process accurately. A: The phrase is "Regardless of whether an oasis is initially expanding or shrinking under the change of water resources, it will eventually reach a dynamic balance with the surrounding desert". We have changed as "the oasis scale will eventually reach a dynamic balance with the surrounding desert under the water resource limit". g) Are you sure that the subtitle 2.2 should repeat the title 2? A: We have reorganized this section. In the revised version, We have change subsection title of 2.1 and 2.2 as " The process of oasisification and desertification in arid areas ", " Oasisification research

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is supplement of desertification research in arid area ", respectively. 11. h) Why the manuscript was proposed as a Short communication instead of a review article?. A: Since we want express our opinion that the oasisification shouldn't be ignored, we think Short communication is enough. After all it is not case study.

Please also note the supplement to this comment:

<https://www.solid-earth-discuss.net/se-2017-59/se-2017-59-AC2-supplement.pdf>

Interactive comment on Solid Earth Discuss., <https://doi.org/10.5194/se-2017-59>, 2017.

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