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Interactive comment on "The challenge and future of rocky desertification control in Karst areas in Southwest China" *by* J. Y. Zhang et al.

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We are very thankful for the time and work of the reviewer reviewing our manuscript. All of the reviewer's comments are important to improve the manuscript. Thanks. The replies to the reviewer's comments are as follows: Comment1: This manuscript examines the first part of a project implemented by the Chinese government in order to try to reduce the karst rocky desertification in the country. The structure of the paper does not follow the conventional structure for a scientific paper. My feeling is that it is more an internal report of the project than a scientific paper. In order to publish it as a scientific paper, the data needs to be more accurately examined and compared with similar studies in other regions. No data about climate, soils, geomorphology, etc are shown, just a list of big general ideas. Reply1: As a commentary and analysis

paper in view of current rocky desertification control in China, the structure of the manuscript is different from traditional scientific papers. We mainly analyzed the mechanism of the rocky desertification caused by human irrational activities from the economy aspects, and pointed out some problems of existing research. Because many researchers have studied the causes, processes and the influences of the karst rocky desertification in Southwest China from the aspects of vegetation, soil, geology, ect, we simplified a lot in describing the natural environment. We will add the regional climate, vegetation and other natural environment data according to the reviewer's comment, and increase similar foreign research in comparison with domestic research. Please see specific amendments in the revised manuscript. Comment2: I am not sure that Solid Earth is the appropriate journal for this manuscript. The paper could fit more within the scope of other journals with land degradation (e.g. Land Degradation and Development) as a short note, but in its present state I have serious concerns that it can stand alone as a single paper. Reply2: We think that it is suitable to submit our manuscript to Solid Earth, and we found that there were already similar papers (for example, Xie L W, Zhong J, Cao F X, et al. Evaluation of soil fertility in the succession of karst rocky desertification using princi-palcomponent analysis.Solid Earth. 2015, 6(2):515-524.) published in the same topic. So we submit our manuscript to Soil System Sciences section of Solid Earth. Comment3: Section 1 This section does not clearly present the state-of-the-art in these topics. It is only focused in China, with no references to the works and efforts that are being done in similar areas with the same problems. For example, karst rocky desertification is widespread in many Mediterranean regions. Are processes and measures undertaken similar? Reply3: We will increase the latest research results in the similar areas with the rocky desertification problem in foreign countries in Section 1tocompare the results with domestic research. Please see specific amendments in the revised manuscript. Comment4: Section 2 General data is provided about the magnitude and areas affected in China, but the reader is lost if he/she is not used with China's geography. The paper would benefit from a map showing where the mentioned regions are.

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In addition, complementary information is needed to properly frame these areas: geomorphology,soils,vegetation,climate(temperatures/intensity/seasonality/amount of precipitations, etc). Non-Chinese readers may be also lost when referring to some programs such as the “Great Leap Forward”, the “Work for Food Program” (page 5, line 12). What are the consequences of these initiatives? Reply4: Firstly, we are sorry for the neglect of the problem. The geographical location and distribution of the rocky desertification in China is more familiar to the Chinese readers or the readers who expert on rocky desertification problems, but it is not conducive to the general readers. We will provide a picture of the main provinces distributing the rocky desertification in China and add complementary information about local environment in the revised manuscript. The "Great Leap Forward" is a movement in China between 1958 and 1960 when people blindly pursuited high economic development. Such as in agriculture, Chinese people pursuited the increase of grain yield by 80%from 1957 to 1958, leading to large-scale deforestation and serious environmental degradation. The "Work for Food Program” is an agricultural production goal which was put forward and implemented around 1970 in China. Similarly, it aimed at increasing grain production, leading to the deforestation phenomenon and environmental degradation. We will add necessary information in the revised manuscript. Please see specific amendments in the revised manuscript. Comment5: Section 4 Page 11 - Climate change has severely affected some aspects of karst ecosystems, such as water resources (Loáiciga et al., 2000), This is an old general reference. In what way is affecting your study area? Reply5: we will put this part in the final conclusion. we will modify and supplement the impacts of climate change on regional water resources, and update the reference literatures in the revised manuscript. Please see specific amendments in the revised manuscript.

Please also note the supplement to this comment:
http://www.solid-earth-discuss.net/7/C1557/2015/sed-7-C1557-2015-supplement.pdf

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Interactive Comment

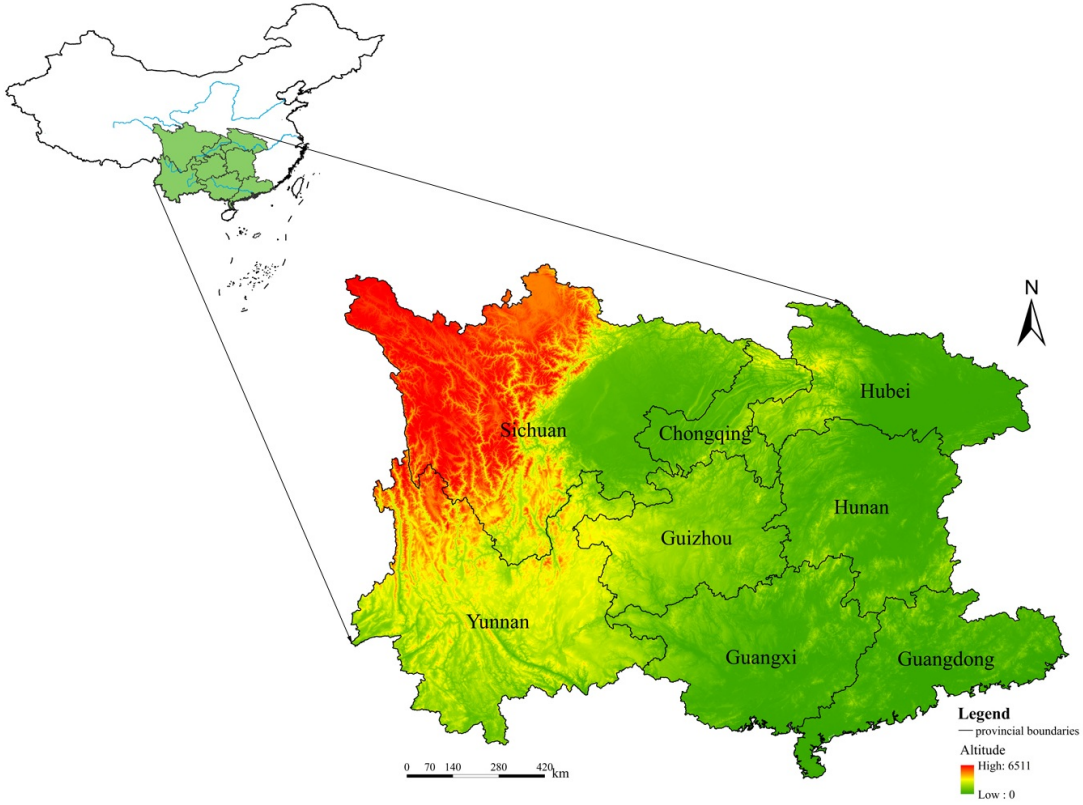

Fig. 1.

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