

Revision letter

Full Title: "Climate change and drought effects on rural income distribution in the Mediterranean: a case study for Spain."

Journal: Natural Hazards and Earth System Sciences

Ref:nhessd-3-C1627-2015

Revision due: 27 Nov 2015

Response to the comments provided by reviewer 2:

The comments are numbered 1 to 5. The response of the authors is following each comment within a box.

Reviewer 2 comments

1.The authors do not discuss the results in detail. They limit themselves to describe what they have done in the paper;

We have included more discussion in the results section. See the answer to comments from reviewer 1.

2.The authors do not provide examples of "larger adaptation efforts". There is a wide range of coping strategies for climate hazards such as droughts. These should be discussed in relation to the topic of the paper drought, effects on rural income.

We have added the following paragraph to the discussion and conclusions section: "This paper does not focus on the analysis of specific adaptation measures. We here remark the need for prioritizing adaptation efforts in this area and particular crops. However, specific analysis on adaptation measures in the agricultural sector in Europe has been addressed in detail in Iglesias et al. (2012b)."

Iglesias, A., Quiroga, S., Moneo, M., Garrote, L. (2012b). "From climate change impacts to the development of adaptation strategies: Challenges for agriculture in Europe" *Climatic Change*, 112, 1, 143-168

3. Can the authors better explain "consumers' welfare is the most greatly affected". Does this mean they are paying more for the products? How do authors know if they keep buying the same products or they start buying substitute goods instead?

We have added the following paragraph to the text: "Although most of the studies project important crop production being reduced due to climate change in Spain (Iglesias et al., 2012; López-Gunn et al., 2012), our results could imply rural incomes not suffering mostly the agriculture losses but consumers' welfare being the most greatly affected. We have not analysed here consumers' welfare directly, however since important effects on crop production can be expected while we do not predict so big impacts on income, probably is due to a smoothing effect through prices, what in fact highly affect consumers' welfare."

4. In the abstract the authors say: "we find disparities in the adaptation priorities depending on the crop and the region analysed." Can the authors define what they understand by adaptation? Can the authors mention which disparities they are talking about? Is it disparities between the impact on income in the different basins analysed? But is that significant? Authors also said they found that a loss of yield due to drought do not impact much on rural incomes;

See answers to Reviewer 1 coment 17 and Reviewer 2 comment 2 for more details on this question.

5. What are social aspects, social structure, social distribution of incomes, social disparities, social equity, social conflicts? Why all these concepts? Do they mean different things?

Most of them are used to express the same idea: incomes distribution affecting social aspects (disparities, structure, conflicts, etc). However, as suggested we have tried to homogenize so many different terms to avoid misunderstanding.