

Interactive comment on “Climate change and drought effects on rural income distribution in the Mediterranean: a case study for Spain” by S. Quiroga and C. Suárez

Anonymous Referee #1

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General comments The general topic of the manuscript is very interesting and relevant to current debates about the effects of climate change. However, despite significant improvement between the first manuscript and this new version, I still think that the rationale of the study needs improvement (why Spain, why those crops, how does Spain compare to other countries with a similar climate, are results transferrable). It is not sufficient to study that topic/region solely because it has not been studied before. These choices need more theoretical and practical arguments based on existing literature.

The manuscript could gain in quality if methods and results were confronted to geographical aspects (effects of climate change on income confronted to regional/crop

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characteristics). It is mentioned in 2.3 and 3.2, but too briefly to be of real significance. The authors partly acknowledge this gap in 3.3.

The authors mention climate change at the beginning, but then only mention drought. However, they do not provide evidence that an increase in the magnitude (or frequency ? this is not clarified) of drought is due to climate change. I think they should handle the relationship climate change/drought with more caution.

Quite often, the sentences are too long and thus lack clarity.

Introduction p.2 l.21 punctuation

P2.l.25 the research presented in this manuscript is not linked enough to the macroeconomic studies mentioned : how does it differ ? are the objectives different ?

P3 l20 punctuation

p.3 l25 too vague a link between agriculture, rural development and conservation

P4 choice of crops : just because they are part of Mediterranean heritage ? What about surfaces, part in national agricultural income, number of farming households, etc.

P4 l10 to 16. Rephrase into several sentences. Hardly understandable as is

Methods Why have these functions been chosen in particular ?

Why is productivity used as an equivalent of income ? I think this choice needs to be discussed and based on solid arguments, especially that the manuscript aims to analyze very different types of crops such as grapes and cereals.

Use of scenarios E1 (optimistic) and A1B (neutral) well explained, but why not balancing with using a pessimistic scenario ?

Results and Discussion Why are the effects on grape different from effects on olive and cereals ? This is too briefly explained. What are the characteristics of these 3 industries in Spain ? How do they differ regionally ? What are the consequences of

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this difference for the grape (wine grape ?) industry ? Does it mean that the grape (wine ?) sector is less vulnerable (to what ?) ?

P18 L28-29 : repetition with the introduction

P19 L10 : Are studies that consider solely (?) physical impacts Are unclear

P19 L15-21 : The authors conclude on the greater vulnerability of the Tagus basin and the olive sector in terms of increasing inequality. However, they do not comment on this result. Why ? What consequences ?

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 3, 4353, 2015.