

Interactive comment on “Assessing and analysing the impact of land take pressures on agricultural land” by Ece Aksoy et al.

Interactive comment on Solid Earth Discuss., doi:10.5194/se-2016-154, 2016.

Anonymous Referee #1

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Theme of the manuscript is in the scope of the journal and is of interest to the scientific community. Methodological approach of the study is adequate and - with a few exception - is clearly presented.

Author's response 1: Thank you very much for your comments and valuable suggestions.

The presentation of land cover flows (Table 1) should be clarified by explaining the departure land cover class (arable) as well.

Author's response 2: Unfortunately, I couldn't understand well the meaning of “departure land cover class (arable)”. The list of the land cover flows that was given in Table 1 is the major LCFs, level 1 classes and they are calculated for each of the land covers per pixel and given as a huge matrix as you know. We only used LCF 2 and 3 classes as “land take” and analyzed the impacts of those LCFs on arable land. Some details of the table is explained in page 3 and more detail can be find in Land and Ecosystem Accounting, LEAC, EEA, 2013.

Results are mostly new findings, discussed in comparison to previous studies on the field. In certain sections the comparative text is a bit wordy; simpler and clearer discussion is preferred. (eg. "The impacts of land take on regions in southern France are also already described and explained in the EEA report on urban sprawl (EEA, 2006)").

Author's response 3: Thanks for the comment. You are right, it might be long but includes necessary information to describe hot-spots and country based details. We improved this section by adding more comparisons and descriptions of countries in detail as a main output of the study, which was also suggested by former referees.

Some of the findings are not supported by facts. For example land take in Central and Eastern European countries is attributed to the EU accession of these countries. To my knowledge, land take was already a very significant process in these countries before joining the EU. Please check and verify.

Author's response 4: The analysing period of this study is 2000-2006 and reflects the high proportion of land take on agriculture land for this period (before and after accession) in Figure 5 with the red color, visible as hot-spot.

Citations in the text and the reference list should be revised as well. (eg. 2006 EC Communication "Towards a Thematic Strategy on Soil Protection" vs. Soil Thematic Strategy; CSI 014/LSI 001; Green Week 2011).

Author's response 5: Thank you for the comment. I tried to revise the references in the manuscript as you suggested.

Figures are informative and mostly OK, but there are also errors. Country abbreviations on figure 3 are switched one space to the right. Please correct.

Author's response 6: Thank you for this very careful and important comment. Corrected.

Maps on Figure 4 and 6 are too small. Consider presenting these in large maps. (As the journal is primarily uses on-line distribution, this should not be a problem. Please check it with the editors.)

Author's response 7: Yes, this is the problem of trying to map very small numbers, that's why we gave the impacts in NUTS3, otherwise, they were not visible. The original of the image is bigger and more visible but on the paper, it looks small. If it's possible to publish them bigger, I'll do it by consulting the editor. Thanks for this comment.

With these minor revision needs I suggest the paper to be accepted for publication.