



EGUsphere, referee comment RC2
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Comment on egusphere-2022-307

Peter Finke (Referee)

Referee comment on "Transforming living labs into lighthouses: a promising policy to achieve land-related sustainable development" by Johan Bouma, EGUsphere,
<https://doi.org/10.5194/egusphere-2022-307-RC2>, 2022

Review of Bouma, J. Transforming "Living Labs" into :"Lighthouses": a promising policy to achieve land-related sustainable development?

This manuscript is a plea for a more operational way to forward agricultural systems so that they comply better with the sustainable development goals while stimulating profitability and creating a larger support base amongst the land users.

While this plea is valuable, I am, frankly, not certain whether this type of manuscript fits well in the scope of SOIL, to publish scientific research that contributes to understanding of the soil system and its interaction with humans and the entire Earth system. The manuscript is more a position paper than a scientific study. I leave this issue to the topical editor, and will with my remarks aim at objectification of some statements that now strike me as opinions rather than objective conclusions, and suggest some improvements or clarifications.

I.57: ref EC, 2021 is missing

I.62: meeting particular threshold value: Vague. Who would/should define the threshold values, and how?

At some places the intelligence and experiences of farmers are downplayed, I think this is not justified:

I.102: "farmers are confused and ill-informed": "Confused" is also a role that can be played for political reasons (posed Calimero complex). Farmers are usually very well informed, not in the least because they are well-organized.

I.115: "apparently": tendentious statement. Perhaps they are well-communicated and understood, but not attractive economically, so ignored?

At other places the role and outputs of scientific research are also downplayed.

I.119: "conflicting information" and I.122: "many of which ... part of SDG spectrum"

I would propose to be more specific.

In case of the conflicting information: who are the "highly vocal supporters"? Are these active scientists, emeriti happy to be on TV once again, influencers? Do these highly vocal supporters expose, construct or misuse conflicting information? All of these possibilities may be true, actually, but better to be clear on when part the conflicting info is named as part of a political game and when it is conflicting from a scientific perspective.

Regarding the coverage of the SDG-spectrum of the named farming systems: a table relating farming systems to SDG-coverage would be illustrative and would make the statement stronger.

I.144: "establishment of <...> and lighthouses provides a clear starting point": in I.62-63, a lighthouse is "matured/successful" Living lab, thus rather an endmember than a starting point.

I.160: ecosystem services at farm level in Living Labs: would this be feasible if export of harmful substances beyond the farm ("transformation of agrochemicals"), a 3D-problem, is at stake? Research is currently being done at the regional (transfarm) scale, searching for nature compensations or dampening of agricultural impacts, which sounds more feasible to me. Field boundaries may change, invalidating a farm study while the regional landscape is more stable.

I.179: "regional thresholds": perhaps consider referencing to this recent publication by a.o. Wim de Vries: Schulte-Uebbing, L.F., Beusen, A.H.W., Bouwman, A.F. et al. From planetary to regional boundaries for agricultural nitrogen pollution. Nature 610, 507–512 (2022). <https://doi.org/10.1038/s41586-022-05158-2>

I.186: "depends on market conditions and consumer choices": this sounds like a plea for transdisciplinary research and should not be ignored. Perhaps mention this.

I.188: "bound to be commercially more attractive": Tendentious statement; any supporting reference for this?

I like sections 3, 4 and 5. Some remarks though:

I.200: linking the definition of soil health to ecosystem services, the SDG's and the Green Deal seems to exclude soil health in, e.g., Australia (some colleagues there would not appreciate this), and also suggests a temporal perspective at the political (election) time scale. Intentional?

I.233: "ine witGthe" > "line with the"

I.273-280: Are scientists and farmers the only partners to arrive at "WE"? It would seem essential to have good mediators to streamline the process. Leads to Conclusion 5, by the way.

I.296-297: satisfying threshold values: this is of more importance than it seems here. Could be a bit expanded so that the questions behind it are identified. E.g.: Who does it, who sets the ambition level? WE will agree on RIGHT easily when the ambition level is low... Should threshold values be locally decided upon, or should they be set at a general political (EC?) level, even for a region? Can treshold values be negotiated to obtain more WE? an example in I.333: 80% Yw was decided upon by who?

I.348: remove ,

I.388: No treshold cannot lead to a positive result.

txt: do a search/replace from ":(" to "("

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