

Response to reviewer PCI Anim Sci #196

We would like to thank both reviewers and the editor who provided comments that improved the quality of the manuscript. Below are some answers on the reviewers' inquiries, what we managed to do and what we did not. We hope this new version will reach the standards for the PCI Animal Science.

Responses to Reviewer 1

Interesting survey on Great Limpopo Transfrontier Conservation Area for livestock intervention

The paper shows an interesting survey and participatory approach on Livestock to define proper intervention in the Great Limpopo Transfrontier Conservation Area. The study area deserves development of knowledge and identification of good practices and adequate policies to improve livestock farming. Proper actions can be reached with involvement of local population and actors and with adoptions of systemic approaches. An adequate methodology has been presented in the proposed preprint to address information gathering and solution identifications. However, following the reviewer comments, several concerns were raised. The preprint should be revised firstly more detailing the research question. More explicitly should be indicated the role of "demand-driven" approach in reducing the risk of unintended consequences in the short medium future and why it is preferred from other approaches. Then, a revision and restructuration of the paper session is suggested as detailed by the two reviewers. A particular emphasis should be oriented in explaining in detail the terminology, and to enhance the description and properness of terms and definitions, as highlighted by the reviewers, in order to better clarify the local needs and the efficacy of interventions. The work is for sure interesting and original with relevant contribution for local development and should be revised to improve the quality of the result presentation and its replicability.

Alberto Atzori

Comment from the Managing Board: Authors should have the rights to display the names in their data following a General Data Protection Regulation (GDPR). If this is the case, information on the GDPR should be added in the manuscript. Otherwise, authors should anonymize the data and contact HAL to remove the file and add a new file without the names.

by Alberto Atzori, 13 Mar 2024 07:21

Manuscript: <https://hal.science/hal-04060712>

version: 2

Review by anonymous reviewer 1, 06 Oct 2023 08:52

Preferred livestock interventions for small-scale livestock farmers in the Great Limpopo Transfrontier Conservation Area: a demand-driven and systemic approach

My main concern about this manuscript is that i don't see the scientific question. The manuscript provides information on farmers preferences on interventions, but it is more like a fact than rising questions. The discussion provides some insight of what the methodology used involves change compare to usual way to decide but we have no clue on how intervention would have been plan without this method. In addition some comments on when top-down policies can be useful or not would have been a good plus value to introduce the need of demand driven interventions. It feels also to me that there is some data missing like the terms of the "vibrant

debate" (L.275) : what were the opposition between participants ? And also on the group work : is there ways to identify who is supporting each idea, is there some dominant stakeholder or is each proposal debated and coming from each kind of participant ? And the description of farmers surveyed is also missing some cross dimension description : are the biggest chicken owner are also the biggest cattle owner ? or is there some kind of "specialisation" ? Are the donkeys more present in larger crop farms ?

So the main suggestion is to explicit a research question, maybe just by introducing the previous intervention scheme or those present in other area of Zimbabwe and making an emphasis on the divergence (or convergence) between demand and state priorities. An other entry could be to focus on the area constraint and putting hypothesis from literature on effect of external factors on farmers needs, and discuss how the results founds with your methodology can confirm or not those hypothesis.

Response: there is indeed no "research question" in this article. The reason is because this is an action research manuscript that implemented a methodology to promote an inclusive participation of stakeholders to co-design the interventions. We have now explained it better at the end of the introduction and conclusion.

Specific comments :

L56-60 : i don't understand the link with the previous sentences : the author start from a livestock decline and then focus on the formulation of local peoples needs : i think the is some missing steps between

Response: A sentence has been added.

L62-64 : "Information" is not specific enough : what kind of information is required : quantitative data ? Preferences of farmers ? Dynamics ? Pressure / opportunities ?

Response: specified

L. 65-67 : Regulation / interventions can be seen at various level according to the topics in my mind : local action are needed but some task can require a national or larger strategy (CAP in Europe, prophylaxis is often conceived at a large scale to be efficient...)

Response: this comment has been taken into account in the new version in paragraph 86-94.

L71-73 : do you have a reference for this sentence ?

Response: We added several references link to this sentence in the paragraph:

- An, Z., Yang, Y., Yang, X., Ma, W., Jiang, W., Li, Y., Chen, G. et al., 2024. Promoting sustainable smallholder farming via multistakeholder collaboration. *Proceedings of the National Academy of Sciences*, 121 (21), doi: 10.1073/pnas.2319519121
- George, T., 2014. Why crop yields in developing countries have not kept pace with advances in agronomy. *Glob. Food Sec.* 3, 49–58.
- Hauser, M., Lindtner, M., Prehler, S., Probst, L., 2016. Farmer participatory research: Why extension workers should understand and facilitate farmers' role transitions. *Journal of Rural Studies*, 47: 52-61
- Parascandola, M., Neta, G., Salloum, R. G., Shelley, D., and Rositch, A. F., 2022. Role of local evidence in transferring evidence-based interventions to low-and middle-

income country settings: application to global cancer prevention and control. JCO Global Oncology, 8, e2200054.

L79-83 : that the context that can influence the choice of farmer intervention : it could be explicitly connected to hypothesis. And do you have data or references that will allow you to validate the relation between context and result obtained ? A study in another area for exemple ?

Response: No we don't. This study is part of a development project and we did not have the capacity to have a no intervention site. In addition, we don't think that you can compare between two villages with different people, different history of interventions. Our research work is more linked to action-research as we now specify in the text. What we have is previous interventions in the area and their outcomes. We currently have a manuscript under revision after correction that look at introduced livestock breed in the area and the level of adoption:

- Mudavanhu C.R., Mukamuri B., Mugabe P.H., Caron A., Imbayarwo-Chikosi V.H., Minor revision. Socio-economic and ecological dynamics associated with adopting foreign livestock breeds by Zimbabwean small-scale communities in the Great Limpopo Transfrontier Conservation area. Revue d'élevage et de médecine vétérinaire des pays tropicaux, minor revision.

L91-94 : this is not a scientific question, it is a aim for your work but not a way to respond to a lack of scientific knowledge. I agree that the data is not known but what will be the plus value of knowing those interventions demand driven for the scientific community (for Zimbabwe development services it is a precious value, but for researcher what this new knowledge will allow new questions ?)

Response: We present now our research work more linked to action-research as we now specify in the text:

“This study is rooted in post-normal sciences and research-action, re-instating the scientist in the social field and promoting the concerns of people in the transition to action (Funtowicz & Ravetz, 1993). Our hypothesis was that by enabling local farmers to coproduce interventions and their outputs, those would: i) differ from top-down interventions promoted by the state or other external organisations; ii) result in more empowerment and appropriation by local stakeholders of the interventions; iii) result in more locally-relevant interventions.”

L107-108 : add the proportion of each type of livelihoods

Response: Done

L114-116: 2 times Zimbabwe : is that normal ?

Response: Removed and replaced by “Botswana”.

L117 : seems to me that the methods is more describe in the work of Bourgeois 2017 but not a big problem)

Response: We have provided more information about the method with new paragraphs.

L136-138 : could you give the number of participant of each category ?

Response: Done.

L141-142 : how do you ensure that the farmers acted on behalf of the community and not on their own opinion ?

Response: The objective of PPA is not to have participants representing non-participants. As specified in the text, participants are present as “knowledge brokers” and were selected as such (and their capacity to express themselves in a workshop). They were here to contribute with their knowledge. After the Futures workshop, the outputs (scenarios) were shared with the rest of the villages, discussed and commented. We have reframed the text to be clearer.

L154-155 : Is this a novelty of the study : to make a relation between perceive future and changes needed ?

Response: This is standard future thinking: use the future(s) to change the present. We have added some elements and references to better explain this.

L178 : what is the variability of the number of households per village ?

Response: Added: *“By law, villages in a rural district should have up to 25 households, once they exceed such, another village is built.”*

L180 : 90% value is less than usual value of 95%. It can be understandable as the number of household needed is already high but it should be explain than this ratio is chosen.

Response: This was a mistake. We meant 95% value.

L186 : 126 households are more than the half, and up to 94% of them have livestock : so is your assumption (half of the household have livestock) false or did you choose the livestock owners in the village ?

Response: Yes the assumption was not adequate but was based on literature. We did not choose the livestock owners in the village.

L189-193 : same thing than above : only new information is your sampling of 14 household per village

Response: Aggregated.

L210-211 : Meaning is already given previously in the text

Response: Removed

L212-215 : There isn't a driving force related to the localisation of the study site (is the governance capacity is related to the proximity to other countries, to the park...)

Response: Driving forces were selected by members of the community. Some were linked to proximity of the country such as “Migration from/ to the area” and others to proximity of NP such as “Human wildlife interactions”. So these aspects were accounted to, albeit indirectly.

L222-224 : Is there a reason for livestock to be so central in the change in local livelihoods? Is it the same than in other part of the country or is it a specificity of your case ?

Response: It is specific to agroecological zones 4 and 5 in Zimbabwe which are semi-arid areas with little rain. These areas are faced with more climatic unpredictability and crops fail often (more than half time we would say in the recent years). So a part from irrigation, rainfed crops are less and less central and livestock production plays a predominant role.

L229 : You only express the vision of the driving forces but no results are presented on the most influenced : why ?

Response: the most influenced factors of change have been re-integrated in the full scenario (see Bye Bye Poverty in Box 1). You can find a future state for all factors of change based on the future state of the driving force.

L234-235 : I think the description of the various states possible for the 5 main factors is needed and not only the one for LPS

Response: We added this table in Annexes.

L239 : forgotten brackets

Response: Done.

L251-253 : from where come the water for the "well adapted irrigation" ?

Response: This is a possible and desirable future that is described here. There is no technical specification at this stage of how to achieve this future. However, based on this narrative, we had a water availability study that determined 2 sites in 2 villages in the area to create solar-powered boreholes in order to provide water for small-irrigated gardens, the diptank and for household uses. These boreholes are still functioning to day more than 3 years after we stopped activities in the area. However, the type of borehole was not detailed in the synopsis.

L275 : What was the terms of the debate ? what other scenarios were desired by some members ?

Response: We have removed the “After vibrant debating”. Yes there were interesting debates during the whole Futures workshop and after, but we cannot transcribe all this debate here. This is broader than the topic of the manuscript. For the reviewer information, once participants understood that they were free to “think about the future”, something that one seldom does, the possibilities about the future open and bring a lot of discussion about what people want, don’t want and how they want to achieve these future objectives. This is a real power of Futures thinking.

L280-283 : Already said in the M&M

Response: Removed

L293 : lack a semi-column

Response: Added

L296-297 : was there an observation of groups to identify the proposal leader ? , also there is a "d" instead of a "a" in the sentence

Response: No. This process was done without the intervention of the project team at a time when the team was not present in the field.

L299 : why is it the LPS group that defined the material needed ?

Response: The LPS group defined the material needed for the LPS activities, according to their knowledge and experience.

L312-318 : i would like to have more cross analysis : are those getting more animal of one type are also the one getting more of the other ? how many species there is in one household ? Is there some specialized farms ? Are donkeys more present in crop farms (as they are used to provide labor force)

Response: We agree that this would be interesting information but it would need an in-detail farming typology that is not required for the objective of this manuscript. The team of this paper has been working with these communities for more than 15 years. Classically, the poorest households have chicken only, then shoats, then when they are a bit healthier, they have cattle. Once their number of cattle increases, usually the number of other livestock increase as well. However, for this manuscript, working at community-level, we don't feel a detailed description of types of farming household is necessary.

L320-321 : The percentage of requested intervention on species can be over the percentage of farms having these species : how is it explain ? (exemple : sheep is owned by 8% and 10% ask for intervention on sheep)

Response: It is 10% of sheep owners who requested this intervention. This was added.

Figure 1 : color for sheep and poultry are close on my computer screen

Response: Indeed they are but poultry data is presented first and sheep at the fourth position systematically so there is no possible confusion.

L343-345 : is the those survey participant that were also in the scenario construction ?

Response: No. This is explicitly stated now.

L353-356 : explain who expresses which activities

Response: The species' owners.

L368-372 : here you could add references on how this fact is common or a new result compare to other studies in the area. Maybe some references can be found in the book :
L'élevage, richesse des pauvres
Stratégies d'éleveurs et organisations sociales face aux risques dans les pays du Sud.
2009. Duteurtre, Faye editors

Response: We don't have access to this reference.

L393 : the information on the diseases on the area should have been done in the area description.

Response: Relocated.

L419 : brackets should come before the author name

Response: Done

L422-424 : Same than above : these information should be given in the area description

Response: Relocated

L442 : why Newcastle is in brackets ? and it is not clear for everyone that Newcastle is a disease name

Response: Specified.

Bibliography :
Caron 2013 is written two times

Response: Removed.

de Garine-Wichatitsky, M., Miguel, E., Mukamuri, B., Garine-Wichatitsky, E., Wencelius, J., Pfukenyi, D.M. and Caron, A., 2013. => seems to not be cited in the article

Response: Now cited.

L564 : verify the authors citation in text (is PCI want both name in citation when there is only 2 authors ?) And you sometime use & in citation for other citation and also "and" : harmonise citation format

Response: Done

L633 : Sandru or Şandru ? (difference between citation and bibliography)

Response: Şandru. Corrected.

Responses to Reviewer 2

Overall Assessment:

The manuscript offers valuable insights into an engaging project with significant potential for advancing understanding in the field. However, in my opinion, for the manuscript to be viable for further publication, it necessitates comprehensive revisions to solidify its structure and to augment the clarity and impact of the results presentation. Currently, the manuscript is deficient in the requisite details and depth to accurately convey the undertaken work.

Specific Suggestions for Improvement:

Introduction

- The introductory section should be reworded to better delineate the scope and context of the study, specifically clarifying the focus on small-scale livestock farmers.

[Response: We have extensively revised the introductory session.](#)

Definition of LPS: the term "mixed crop and livestock systems" requires clearer definition and reference support. Sere & Steinfeld (1996) offers a robust classification system that could enhance understanding.

[Response: the term has been defined with a recent reference.](#)

Definitions of terms like "extensive" and "landless" should be provided to avoid ambiguity.

[Response: Done](#)

Expand on the challenges and operational constraints faced in sub-Saharan Africa, including the impacts of climate change and land degradation.

[Response: Done with new reference.](#)

To improve the structure of the introduction I would suggest the following points:

1. Establish the general context and definitions pertinent to the study.
2. Discuss the sector's challenges, particularly the need to increase the supply of animal protein and the selection of suitable interventions.
3. Highlight the specific challenges inherent in TFCAs, such as resource competition, wildlife interaction, and zoonotic diseases.
4. Advocate for the development of bespoke strategies that engage local communities and stakeholders through participatory methods, while noting the current shortfall in such inclusive approaches.
5. Conclude with a definitive statement of the research's objectives, underscoring how the work aims to address these identified needs and gaps.

[Response: we have followed this structure for the introduction. We hope this new version brings more clarity to the manuscript.](#)

L43: To enhance clarity and precision in your manuscript, it may be beneficial to define "mixed crop and livestock systems" explicitly. If the term "mixed crop" is intended to denote integrated crop and livestock farming, it would be advantageous to state this clearly. Additionally, contrasting this with "landless" systems could elucidate the distinction for readers.

Furthermore, it would be advantageous to cite a source for the classification system employed. For instance, you may reference the taxonomy proposed by Sere & Steinfeld (1996), which categorizes agricultural systems into three primary classes: (1) grassland-based, (2) landless, and (3) mixed farming systems. This citation not only lends credibility to your classification but also aids readers in understanding the broader context of agricultural systems.

Response: Done including using the reference provided.

LL43-49: The introductory segment should serve to immediately orient the reader within the study's framework, which is centered on small-scale livestock farmers. It is essential that these initial lines dispel any ambiguity by providing clear definitions and a concise overview of the study's focus, ensuring that the scope and relevance of the research are unmistakably communicated from the outset.

Response: Done.

L43-44: if the data is available, information on the contribution of the sector to national GDP could be also relevant here

Response: Added.

LL44-46: see comment above on LPS, it also applies to “extensive”. Please, if relevant provide a definition.

Response: Now defined.

LL47-49: as the topics mentioned here are extremely relevant ((1) challenges for extensive LPS in sub-saharan Africa; (2) operational constrains of small-scale LPS), I would suggest to further expand this with additional information on the causes. Among the challenges I am surprised of not seeing mentioned related to climate change and land degradation.

Response: Now done.

L52: please, provide a brief explanation on the main aims of the early 2000s land reform. This would allow the reader to have a better understanding of the mechanism causing the livestock species population decline.

Response: Done.

“Changes in land use patterns following the land reform of the early 2000s have influenced livestock production patterns across Zimbabwe, whereby the national livestock herd sizes declined by about 20% for beef, over 83% for dairy, and 26 and 25% for pigs and small ruminants respectively (Ossome and Naidu, 2021).”

LL60-61: please, provide further details and data on the projections of increased output and productivity to meet the increased demand for animal protein in Zimbabwe (what is the expected increase in %, what is the projected gap...etc.). I would suggest moving this part in the beginning of the introduction.

Response: Done. We started the introduction at African level to focus on Zimbabwe only later so we kept the position of this information. We hope it reads well now.

L78: I would suggest replacing the first “and the” with a comma

Response: Done

LL80-83: I would suggest rephrasing with something like “..including livestock predation, competition for natural resources and increased risk of infectious disease spreading among wildlife, livestock and also human, if zoonotic.”

Response: Done

L90: include here the problem statement of lack of participatory approach

Response: Done

L93: Mention here the ProSuLi project (taken from M&M). For instance: “Given the agro-ecological, institutional and socioeconomic contextual issues described above, this study, taking place within the context of the *Promoting Sustainable Livelihoods in TFCAs (ProSuLi) development t project*, used an inclusive and participatory.”

Response: Done

Materials and methods

In general:

- I would suggest to relocate the context of the ProSuLi project to the beginning of this section, before 2.1, for better flow (what is now in LL110-116)

Response: Done

- A map of the study site should be included to aid geographical context.

Response: Done

- Avoid repetitive information across sub-sections, consolidate content where possible.

Response: Done.

- Ensure the methodology reflects an inclusive and participatory approach, particularly the representation and selection criteria for workshop participants.

Response: Done.

Paragraph 2.1

L107: what do you mean by “non-farm based” and “cattle-based”?

Response: example provided

L110-113: I would suggest mentioning ProSuLi also in the last section of the introduction,

Response: Done

L98-108: I would suggest to also include a map of the study site

Response: Done

Paragraph 2.2

LL110-116: I would suggest moving them before section 2.1

Response: Done

LL121-126: In my opinion, these lines are a repetition of what is already included in 2.3 and 2.4. I would suggest to merge them together.

Response: We removed the repetition.

Paragraph 2.3

Sub- Paragraph 2.3.1 and 2.3.1: I would suggest reordering this, and classify them as sub-paragraphs of 2.2 (2.2.1 and 2.2.2)

Response: Re-organized accordingly.

L134: provide a brief definition of “Participatory Prospective Analysis”

Response: Done

L135: was “Futures” the name of the workshop? I would suggest to either remove it, or to put it at the end of the sentence in quotation marks.

Response: Done

L121: The selection process for participant representatives requires clarification. It is crucial to understand the methods used to accurately reflect the diversity of stakeholders involved. Additionally, the manuscript does not adequately address the measures taken to encourage participation among women and young people in the workshop. These details are significantly important and should be emphasized. A table delineating the participant counts from each stakeholder category would be a valuable addition for illustrating the representativeness of the workshop's demographic composition.

Response: Done with reference.

L141-142: How did the team ensure that the farmers were acting as representative of the community? Were they elected by the other community members?

Response: The objective of PPA is not to have participants representing non-participants. As specified in the text, participants are present as “knowledge brokers” and were selected as such (and their capacity to express themselves in a workshop). They were here to contribute with their knowledge. After the Futures workshop, the outputs (scenarios) were shared with the rest of the villages, discussed and commented. We have reframed the text to be clearer.

L145-146: The description of the step involving 'connecting the future with the present' is ambiguous. Can you elaborate on what this entails? Additionally, it would be helpful to know what specific information was shared with the participants. It's also worth considering whether this information could potentially influence the responses provided in the survey.

Response: This is well explained in the 2 cited references: Bourgeois et al. 2017 and 2023 (the latter being an article from the same project and process). We tried to be clearer in the text.

L148-156: The method by which these scenarios were developed and their intended significance remain unclear. It would be beneficial to include additional details to elucidate their formulation and purpose.

Response: We had a couple of paragraphs on the process.

L155: which definition?

Response: Available in table 2. Reference added.

L156: factors of change to what?

Response: Definition added: *“factors that could impact the livelihoods of local communities in the study site”*

L161: see comment above on selection criteria. Where then the same participants of phase 1? In the results section “driving forces” are mentioned, please provide all the definitions and the detailed description of the approach here.

Response: *“Participants from the first workshop”* now indicated. Definition of “driving forces” now provided.

Paragraph 2.4

L169-170: How was the survey formulated? Where there already proposed potential livestock interventions? In my opinion it would also be relevant to add the survey as an annex.

Response: Done. There were not proposed livestock interventions in the survey. Question were open to suggestion of interventions by interviewees.

Results

In general:

- Restructure subsections to eliminate unnecessary layers (e.g., I would suggest restructuring the paragraph levels and avoid a sub-sub- level if not necessary (e.g., avoid 3.1.1)).

Response: We have restructured but remained with the sub-structured as we feel it provides better clarity.

- Remove duplicated information from the M&M section.

Response: Done

- Explain the criteria for defining "driving forces" and other key terms.

Response: This is now explained in the M&M section.

- Provide a more comprehensive analysis of the data, potentially through tables or visual aids.

Response: Table 3 was added.

L205-206: This information is repeating something already present in Materials and methods. Please, integrate and delated from results section.

Response: This was restructured with M&M section.

L207-208: Please, see comment above in stakeholder participation and on the approach to ensure gender and youth inclusion. I think it would also be relevant to have information on the age classes of the respondents.

Response: Done

L209: The rationale behind choosing 2038 as the time horizon for projections is not immediately apparent, as the common practice is to set such forecasts around benchmark years like 2030 or 2050. The selection of 2038 could appear arbitrary without proper context. It would be beneficial to elaborate on the factors that influenced this particular choice of year in M&M.

Response: The selection of 2038 was based in a 20 years projection (the workshop was held in 2018). Twenty years was agreed with workshop participant after proposition as roughly a “generation”.

LL209-2015: I think that most of this information should be moved to materials and methods section.

Response: Done

L210: were identified by whom? By the participants to the workshop?

Response: Yes, more information is given now.

L212: How were the driving forces selected? What was the criteria?

Response: More information is provided now.

L212: What do you mean by “LPS was regrouped with farming production systems”?

Response: The factors of change “LPS” and farming production systems (crops) were grouped together by participants as being interlinked (i.e., mixed farming systems). Added.

Table 1: Tables should be self-explanatory and comprehensible independently of the text. It is advisable to define the abbreviation "ICT" within the table's footnote or legend for clarity. Additionally, the reasoning for the shading, such as the "type of livestock farming system" being highlighted in grey, should be clarified to avoid confusion for the reader.

Response: Done

LL222-224: please, include in M&M an explanation of the approach to define the direct or indirect link with LPS

Response: Done.

L232-240: again, I think that details are missing to be able to capture how the future states proposed where selected. Based on what? Please, provide background. I think that all of these should still go in M&M.

Response: Done. Entire paragraphs have been added.

L275: I would suggest the use of word that connect with a personal perception, such as “vibrant”

Response: Removed.

L275: the preference was based on what? What was the criteria to decide?

Response: Added: *“After discussion and debate about the pros and cons for the different scenarios, the workshop participants finally agreed collectively that they preferred the Bye Poverty! Narrative”*

L286-300: I think that most of this section should be moved to M&M

Response: Done

L306: The notable discrepancy in gender representation among respondents, with females constituting 57.9%, juxtaposed against the predominantly male participation (80%) in the collaborative scenario-building workshop, merits discussion. This contrast raises questions about the underlying causes, such as whether women are more likely to respond to surveys or if there is a distinct gender distribution among farmers compared to the broader community's social structure. Delving into these specifics could shed light on societal dynamics and ensure a more nuanced understanding of the data. Providing detailed information, possibly in a tabular format, about the participants at each project phase would significantly enhance this analysis.

Furthermore, it would be pertinent to ascertain whether the farmers who were surveyed include those who participated in the workshops, as this could have implications for the representativeness and interpretation of the findings.

Response: Done in discussion section.

L312-316: I would suggest summarizing this in a table

Response: Done in Table 4.

L320: what do you mean by “requiring interventions”?

Response: Rephrased.

Figure 1: I recommend implementing a hierarchical structure for presenting data, beginning with overarching themes such as health or nutrition, followed by their respective sub-categories, for instance, within health, including specifics like drugs and vaccines or dipping and dosing procedures.

Response: This has not been done for technical reasons. However we introduced this hierarchy in the discussion section.

The rationale for categorizing data by livestock species warrants clarification. It seems this categorization could indicate the farming focus of respondents, allowing for an analysis of whether the type of livestock raised—cattle versus chickens, for example—influences a farmer's perspective.

However, this assumption needs confirmation. Further explanation is necessary, particularly regarding how responses were categorized for farmers who raise multiple species.

It would be beneficial to detail whether farmers were prompted to provide feedback exclusively on the species they raise or on all species mentioned in the study. Additionally, supplying the number of respondents corresponding to each livestock category would greatly enhance the transparency and interpretability of the data.

[Response: Farmers were prompted to provide feedback exclusively on the species they raise. This is now indicated.](#)

Discussion

The discussion section currently lacks a cohesive structure and falls short in offering a comparative analysis with existing literature, particularly evident in paragraph 4.1. Instead of delivering a comparative synthesis, it seems to summarize the methodology. I recommend restructuring this section to incorporate a comprehensive review of relevant studies, which would provide readers with a broader contextual understanding and facilitate critical comparisons with the findings of this research.

I would suggest to (1) refine the discussion to establish a coherent structure and provide a comparative analysis with existing literature and (2) Ensure all claims are substantiated with references.

[Response: The structure of the discussion has been re-worked with now: 1. Relevance of the participatory-approach; 2. Discussion about requested LPS interventions structured around health-, food- and reproduction-related interventions.](#)

L339: what do you mean by “research-action”? I would suggest using another term, as the present project did not implement actions, but rather provides information about the possible interventions to be implemented.

[Response: We meant “Action research”. Action Research is a standard term defining a post-normal type of research.](#)

- [E.g., Somekh, Bridget. Action research. McGraw-Hill Education \(UK\), 2005.](#)

L339-341: this is a repetition of the scope, I would suggest rephrasing it, summarizing the main findings of the work

[Response: Removed](#)

L390-392: I think that some additional discussion should be provided around this “dipping livestock in diptanks”, as, although might be effective on the short period, it does not allow to perform selective treatments, enhancing the risk of anthelmintic resistance

[Response: we have extended significantly this part of the discussion with additional information and references.](#)

LL392-400: Missing references to support the information provided

Response: References added.

L405: “lack of funds to purchase dosing chemicals” has never been mentioned in the results section, please, integrate this if relevant

Response: in the new version of the discussion, this part has been removed.

L422: Drought (as well as lack of access to fundings) could be seen as limitations to the implementations of the proposed intervention. I would suggest integrating some consideration about that in the discussion

Response: This is done now in the first section of the discussion.

L433: The assertion that restocking is the preferred intervention for poultry, possibly due to a higher proportion of women respondents who typically manage chickens, while men manage cattle, requires further clarification. It is not immediately clear why a higher representation of women would correlate with a preference for restocking. Could you provide more insight or evidence to support this claim and explain the underlying reasons why women might favor this particular intervention?

Response: we modify the commentary relative to his result. We agree with the reviewer that there was a lack of clarity.

L451: “some would say they find their own means of survival somehow.” I would suggest rephrasing.

Response: rephrased.

Conclusion

The conclusion should synthesize the main findings and their scientific relevance succinctly, outlining possible next steps for the project.

I would suggest rephrasing the also to specify how the results of the work could be relevant for the scientific community and from a policy-making and societal perspective.

Response: Done

Annexes:

In general, provide a brief introduction to each annex to contextualize its content (and a reference in the manuscript, when possible)

Annex 1: An introduction to what the annex presents should be included

Annex 2: While the provision of the database is appreciated, it appears to necessitate refinement and the inclusion of comprehensive details that elucidate the meaning of the data and codes for the user. As it stands, the database seems to be not readily accessible in its utility and interpretation.

Annex 3: I recommend the authors reassess the inclusion of this particular annex, as it comprises the project report which may contain sensitive personal details of workshop participants, such as names, ID numbers, and signatures. It would be prudent to consider the privacy implications and potentially remove this annex from the document.

Response: Done. We have added a new annex.