

## Review for the Second Version of the Manuscript:

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

**General Comment:** This manuscript offers an insightful exploration of participatory approaches to improving livestock production systems (LPS) within the Great Limpopo Transfrontier Conservation Area (TFCA). The authors’ effort to engage stakeholders and tailor interventions to local contexts is commendable, and the revisions from the first version have enhanced the manuscript’s clarity and coherence. However, there are areas that need some clarification to ensure consistency and clarity. Suggestions include clarifying terminology, aligning the objectives with the findings, and expanding the discussion on practical implications. With these adjustments, the manuscript will better showcase the value of the participatory approach and its potential impact on LPS in the TFCA.

### Title and Abstract

**Does the title clearly reflect the content of the article?**

Yes,  No,  Partially,  I don’t know

The title captures the essence of the study but could be clearer. Terms such as “**demand-driven**” and “**systemic approach**” should be explained in the manuscript, as their current usage may not be immediately clear to all readers. If the “systemic approach” is not a major theme, its inclusion in the title might be reconsidered.

**Does the abstract present the main findings of the study?**

Yes,  No,  Partially,  I don’t know

The abstract provides a general overview but does not fully highlight the participatory approach or the connections between proposed interventions and the “**Bye Bye Poverty**” scenario. Expanding the abstract to include more context on the aims of the interventions (e.g., improving household income, productivity, or sustainability) would help the reader better understand the study’s significance. Clear statement of the objective of the study should also be included in the abstract.

### **Specific Comments:**

- **L30:** The term “**demand-driven interventions**” might benefit from clarification.

### Introduction

**Are the research questions/hypotheses/predictions clearly presented?**

Yes,  No,  Partially,  I don’t know

The introduction has improved in terms of structure and focus. However, it still lacks a clearly stated research question and objective. This would help guide the reader and establish the manuscript’s focus early on.

- **LL111-115:** The use of “hypothesis” may be misleading, as it seems the study was based on an assumption rather than a testable hypothesis. Rephrasing this section for clarity would be helpful.

**Does the introduction build on relevant research in the field?**

Yes,  No,  Partially,  I don’t know

The introduction provides useful context about livestock production in sub-Saharan Africa (SSA) and the importance of community-based approaches. To make it more compelling:

- Avoid repetition (e.g., **LL61-63** repeats ideas from **LL55-57**).
- Establish clearer links between mixed and extensive farming systems.
- Introduce TFCAs earlier and explain their relevance to the study.

#### **Specific Comments:**

- **L51:** Clarify whether all mixed farming systems are extensive or if these are distinct categories.
- **L58:** When introducing “**stocking capacity**,” define it and explain its relevance to livestock production challenges.
- **L64:** The mention of TFCAs is abrupt; introducing their role and importance earlier would improve the flow.
- **L100:** Specify the reference year for the percentages and ensure the source is clear.
- **LL101-103:** Including national-level data on agriculture’s contribution to GDP and livestock’s role would provide helpful context before discussing cattle statistics.
- **L110-114:** A clear statement of the study’s objective is missing and an introduction to the specific TFCA under investigation would strengthen the introduction.

#### **Materials and Methods**

##### **Are the methods and analyses sufficiently detailed to allow replication by other researchers?**

Yes,  No,  Partially,  I don’t know

##### **Are the methods and statistical analyses appropriate and well described?**

Yes,  No,  Partially,  I don’t know

The methods section has improved significantly, some areas need clarification to enhance transparency and replicability:

- **L149-152:** This content could be better placed in the introduction as part of the study context.
- **LL153-159:** The discussion of infectious diseases is interesting but feels out of place in this section. Consider moving it to the introduction or clarifying its relevance to the methods.
- **L232:** If this refers to a follow-up workshop, make this clear to avoid confusion.
- **LL239-241:** Explain how the survey was designed to consolidate workshop outputs and who was involved in its design.

#### **Specific Comments:**

- **Figure 1:** Improve the quality and clarity of the figure. Ensure all symbols in the legend are visible and that any numbers on the map are explained. For instance, some symbols are not present in the map.

#### **Results**

##### **Are the results described and interpreted correctly?**

Yes,  No,  Partially,  I don’t know

The results provide valuable insights but require additional explanation to improve clarity and interpretation:

- **Table 2:** Enhance the table by using consistent formatting. Ensure definitions are complete and provide a key for empty cells.
- **L284:** Clarify the process used to select the five driving forces.
- **L289:** Discuss the rationale for presenting mostly negative scenarios, as this may seem imbalanced.

#### Specific Comments:

- **L333:** Link the proposed interventions to the “**Bye Bye Poverty**” scenario or other future goals to clarify their purpose.

#### Table 2:

I suggest improving the overall quality of the table for clarity and readability. Instead of using bold text to identify the driving forces, consider an alternative strategy, such as using an asterisk, creating a dedicated column, or applying a distinct symbol. This will make the table easier to interpret and less visually cluttered.

In the “**Link to LPS**” column, there are several empty cells. The meaning of these blanks is unclear. A key should be included in the table caption to explain whether they indicate a lack of association or unavailable data. This will ensure that readers can accurately interpret the table.

The “**Definition**” column requires further refinement to ensure precision and comprehensiveness. For example:

-The definition for “**State of animal health**” currently reads as “**including domestic and wildlife**”, which is too vague. A more accurate definition might include metrics or indicators such as disease prevalence, vaccination rates, or health outcomes in domestic and wild animal populations.

-Similarly, the definition for “**State of natural resources**” could be expanded to include “quality and extent of vegetation cover, availability of water resources, and biodiversity.”

The exclusion of “**quality of air**” and “**movement of people**” as factors influenced by LPS is worth addressing in the discussion section. It would be useful to explain why these aspects were not considered relevant or significant within the context of the study. For example, is the impact of livestock on air quality (e.g., methane emissions) negligible in this specific context? Similarly, are changes in human movement patterns unrelated to LPS in the TFCA? Providing a brief discussion or justification would enhance the reader’s understanding

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#### Table 3:

- In the “**Production**” sub-theme, the last bullet point appears to be incomplete. Please ensure that all points are fully articulated to avoid confusion or misinterpretation.
- In the text (L332), it is stated that the discussion was divided into **thematic groups**, yet **sub-themes** are presented in Table 3. The relationship between these thematic groups and sub-themes is unclear. It would be helpful to explicitly describe how these sub-themes were derived from the thematic groups and whether they represent a refinement or categorization of the initial themes.

- There seems to be some overlap between concepts presented in the table. For example, “**supplementary feeding**” could be considered a specific action under the broader sub-theme of “**Production**” rather than a separate concept. Consider reorganizing the table to group related actions or strategies hierarchically, ensuring that sub-themes and their associated actions are clearly delineated

## Discussion

**Have the authors appropriately emphasized the strengths and limitations of their study/theory/methods/argument?**

Yes,  No,  Partially,  I don't know

The discussion highlights the importance of participatory approaches but could benefit from a more balanced analysis:

- Expand on how the proposed interventions address challenges and align with the scenarios presented in the results.

Key questions to be addressed might be:

How will the proposed interventions contribute to the future scenarios?

Which resources will be needed to implement these? What are the challenges for implementation?

What are the potential trade-offs?

In what way is the ProSuLi project aiming to implement these strategies?

How do these interventions differ from the “top-down” approaches mentioned several times in the paper?

- Acknowledge the study's limitations, such as the scope of stakeholder engagement or potential biases in participatory processes.

## Conclusion

**Are the conclusions adequately supported by the results (without overstating the implications of the findings)?**

Yes,  No,  Partially,  I don't know

The conclusion should be revised, as it currently includes some overstatements. For instance, in **LL548-549**, the statement “**This process ensured that LPS interventions were not repeating previous mistakes**” is quite strong and should be contextualized and moderated. The study, as presented, primarily reports the results of a workshop and questionnaire, with no validation of the effectiveness of the proposed interventions. Therefore, the authors cannot confidently claim that the process has avoided past mistakes. This statement should be rephrased to reflect the exploratory and preliminary nature of the findings.

Furthermore, the potential limitations of the approach or study should also be addressed in the conclusion. Highlighting these would provide a balanced and realistic perspective on the research and its implications.

Additionally, the authors mention that stakeholders “**are now prepared... to negotiate with these stakeholders the terms of any LPS intervention in the area.**” The term “**negotiate**” is unclear in this context. If negotiation was indeed part of the project, details should be included in the **Materials and Methods**, **Results**, and **Discussion** sections to explain how this aspect was integrated. If it was not, this statement should be revised to clarify the intended meaning.