Review of: "Palm Oil Expansion and Subnational Food Security"

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GENERAL COMMENTS

In principle, the subject matter is worthy of exploration and will interest the readers. However, in its present form, the manuscript suffers from multiple structural and technical problems—for example, a lengthy introduction (actually too long). Additionally, the presentation of the model's results is not ordered scientifically. Since the manuscript contains several weaknesses, I recommend a MAJOR REVISION. Appropriate revisions to the following points should be undertaken to justify the recommendation for possible publication.

SPECIFIC COMMENTS

Abstract

1. The abstract is not up to the mark. Mentioning the method used in this study is necessary. Authors are suggested to include a few sentences about the future direction based on the obtained findings.
2. "…results revealed a strong and negative influence of oil palm expansion on food security status. Furthermore, it was found that food expenditure has an unequivocally negative impact on food security status. However, food security status was identified as a significant predictor for a province to be classified as an oil palm grower. This suggests that provinces cultivating palm oil have a higher likelihood of achieving food security compared to those that do not engage in the cultivation of this commodity." Contradictory statement.

Keywords

1) Remove Biodiesel and Deforestation keywords. Include some pertinent ones.

Introduction

The introduction section should be backed by relevant studies and then draw a research gap to justify your study. Unfortunately, the first 11 paragraphs of the introduction section do not have a single citation, which is bizarre to me. It looks like an essay rather than a research introduction. Apart from this, the section is too lengthy. A 6-page introduction is not at all suitable for a research paper. Many paragraphs are unnecessary. Often, the author deviated from the main points of this study. I suggest the author make it more compact and specific to the point. Follow the following points to revise the introduction section.

- Set the tone of the topic to attain the interest of the readers

- Provide a brief background of the study

- Identify the research gaps

- Specify the research questions and/or objectives

- Rationale and/or significance of the study

- Novelty and/or contribution to the existing body of knowledge

Many paragraphs and sentences are presented in the introduction, and the research methodology section entirely deals with the food security theories. It would be better if the author presented them separately in a theoretical framework and then drew a conceptual framework for the study.

3) Research methodology

1. The sample size is very low to draw robust empirical evidence.

2. I think a brief background regarding the study area is necessary. The author should focus on context rather than just describing the general attributes of the study area.

3. Make a separate point regarding the Database or Data Source and briefly present the data used for the study. Also, you can present them in tabular format.

4. Paragraph 2: Provide reference.

5. Paragraph 7: Isn't it food insecurity?

6. Paragraph 7: "This independent variables… provincial government expenditure." Here the mentioned variable list does not match in the subsequent section of Results and Discussion. Check and rectify.

7. Paragraph 7: "…provincial government expenditure." Does it also include expenditure on food? If it is so, there might be colinearity problem.

8. "In logistic regression, the binary dependent variable ranges from zero (0) to one (1)." The statement is partially correct. It is more accurate to say that (i) the actual binary dependent variable in your data takes on values of 0 or 1. (ii) The logistic regression model predicts probabilities, which are continuous values ranging from 0 to 1.

9. The selection of independent variables and their rationale is missing, which is crucial from the study context.

Additional comments were made directly in the main manuscript regarding research methods, results, and discussion. Please check and clarify/rectify them.

Results and Discussion

The structure or order of the entire section needs to be revised. It should be ordered scientifically. Additionally, several things need clarification.

1. Why did you use the GLM model?

2. You mentioned about four priority categories of food security. Then why do you use binary logistic regression? Why don't you prefer ordinal logistic regression?

3. "Provinces with a higher proportion of districts falling into priority categories 1 and 2 (indicating severe food security) were classified as 0 (zero), while those with most of their districts falling into categories 3 and 4 (relatively food secure to food secure) were classified as 1 (one)." This sentence is contradictory to the sentence "From the frequency of the dependent variable (Table 3), it is apparent that 25 observations fall into the food secure category (Y = 1), while only seven observations are classified as food insecure (Y = 0)" mentioned after Table 3. Also contradicts the interpretation of results from Table 1.

4. Descriptive statistics, characteristics of explanatory variables, and other assumption tests must be taken before presenting the model's results.

5. "From the frequency of the dependent variable (Table 3), it is apparent that 25 observations fall into the food secure category (Y = 1), while only 7 observations are classified as food insecure (Y = 0)." Earlier you mentioned it was 24.

6. Model robustness evaluation results: This is unnecessarily lengthy. Present the obtained results from different findings compactly and concisely. In fact, what is the point of using so many tests to check the same thing? You can also shift many test results to the supplementary file. Only interpret the main findings and present them in the main manuscript.

7. Oil palm cultivation and food security status: Here, you repeat the same tests and their results, followed by interpretation with different variables. However, you did not mention the objective in the introduction section. The objectives of the study must be specified clearly in the introduction section.

Conclusion and Policy Recommendations

I think the conclusion and policy recommendations are not sound enough.

1. "…long-term consequences of this policy…" Which policy?

2. "However, research findings highlight the importance of allowing palm oil cultivation, as it indirectly contributes to food security in several ways." This sentence contradicts to the findings presented in the first line of this section.

3. "…impact of land allocation for palm oil crops on food crops…" What does that mean?

Tables

1. Abbreviations presented in the table need to be spelled out in the table caption or put as a note below the table.

2. The table caption in its present form is not sound enough. Do not present them as "Logistic regression (ML.Logit Model Results)" or "GLM Model results." Improve them.

3. Table 1 & 2: Asterisk missing. The issue is common throughout the manuscript. Please check and rectify.

4. In Table 1&2, inconsistency regarding the total observations. Sometimes you mentioned is 31 and sometimes 32.

Figures

1. Fig. 1: Coarse resolution. Improve it. Increase the font size a little more for better comprehension by the readers.

2. Fig. 2: The figure looks stretched to adjust the margin. Improve the quality

3. Fig. 2: I doubt that there is a correlation between C (4) and C (5)

MINOR COMMENTS

1. The manuscript needs to be shortened. Spruce up the language.

2. Check grammar. Proofread the entire manuscript.