

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

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Potential competing interests: No potential competing interests to declare.

## Title: Palm Oil Expansion and Subnational Food Security

### Revision and comments

It is a study of relevance to the situation in Thailand in terms of palm oil production and its impacts, not only economic, social, cultural and food security, but also environmental and for the review and design of public policies, for this reason derived the following observations and suggestions. For example, in this asseveration:

*The rapid expansion of oil palm cultivation has had direct and unintended consequences on food security. The conversion of land for oil palm cultivation has reduced the availability of land for growing food crops both for local communities' own consumption and for generating additional income through sales. This research aims to examine the impact of oil palm expansion on the food security status at the provincial level.*

1. As a general review, it is recommended that the authors review and consider, since, throughout the study until its conclusions and recommendations, they go towards their incidence in the public policies of Indonesia, so it is recommended to consider if it is one of the main objectives.
2. On the other hand, the study needs to be revised in its structure, coherence, and consistency with the proposed objectives until all its development and methodological foundation, for example, from the selection criteria with the sources of information, its location of this information, the statistics, and your interpretation.
3. It is not clear at what point the introduction concludes, and the study methods are integrated, there is no discussion section that contrasts what was found.
4. Abstract: It is suggested to define the objective or objectives of this study. Briefly mention the impacts regarding the food security variables since mention is made of several results in this section that are not clear, such as: impact on the cost of food as well as the beneficial impact on food security with the provinces that opt for this crop; to conclude with political, social, economic, and cultural aspects.
5. Introduction: Indonesia since which year has it been engaged in this production and since which year did the increase in its production begin?
6. Analyze the increase in employment historically in Thailand with the increase in production and the number of food security of the population.
7. On page 3 the following is mentioned " i)Ensuring the maintenance of the current minimum energy per capita of 2,200

kilocalories per day and a minimum availability of 57 grams per day” , Please clarify, what does the 57 grams per day refer to?

8. On page 3 it is mentioned that in 2014, “the Food and Agricultural Organization (FAO) estimated that 8.7 percent of the Indonesian population was undernourished during the 2012-2014 period”. Integrate an analysis of the impact of palm oil production with these figures.
9. It is recommended, in addition to putting the figures on the impact of palm oil production, to put the percentage as well, since the figures do not help to summarize and describe the impacts based on the percentage of the population served.
10. The impact of forest fires, how they have been faced or addressed from a preventive approach.
11. What is the indirect cost in the environmental and health impacts of the population with the increase in oil production? Consider these variables, forest fires, respiratory diseases and air quality, water footprint, cost of food to replace farmland.
12. What are the comorbidities that have emerged or appeared with the increase in the production and expansion of palm oil.
13. Figure 1 is not legible, please provide another image with another quality.
14. Not all palm oil producers comply with sustainable palm oil principles and practices, so their impacts on the environment and health are not achieving sustainable and sustainable actions.
15. Indonesia's food system, which includes sovereignty, independence, resilience, security, benefits, equity, sustainability, and justice, please address what was found in these variables.
16. Policy interventions that are considered crucial to improve the state of food security in a country or region include political stability, economic openness, democratization, reductions in food tariffs, the quality of rural roads, the level of and the quality of agricultural research, targeted food aid, household interventions and access to drinking water.
17. It is known that if it develops small-scale palm oil cultivation is biodiversity friendly due to its multi-crop production approach, which also contributes to environmental conservation and poverty alleviation, could you mention in this regard?
18. On the other hand, palm oil cultivation, particularly large ones, has been criticized for exacerbating food insecurity among indigenous and local communities living in areas designated for palm oil expansion by national and state governments. This has led to conflicts between local communities, palm oil companies and local/state governments.
19. On page 7, the steps that will be followed are described, but a research methodology is inherent that requires these steps, so this paragraph is recommended to be omitted:

*Taking this into consideration, the research will focus on the following entry point: the rapid expansion of palm oil cultivation has given rise to various issues. The remaining sections of this paper will be structured as follows: Section two will present the research methodology, followed by the presentation of results and discussion in section three. The final section will conclude the article.*

1. Likewise, the method used is recommended to be included in the summary.
2. The research methodology section is not clear; it seems like another extension of the introduction section. It is

recommended to give a structure.

3. Regarding the objectives and hypotheses to be answered with this research, describe the sources of information and data analysis, the main measurement variables and how they were defined and evaluated. Detail in an organized way the statistical management used and the objectives that it sought to answer.
4. It is suggested to make a diagram or algorithm of the steps that were followed could organize, clarify, and simplify the scope and procedures in the investigation. The selection criteria for secondary sources must be mentioned clearly.
5. The authors address the interest of analyzing according to the food safety indicators, so it is recommended to define the variables, selection, and analysis of the information according to the food safety indicators.
6. It is not clear the sample size and for which variables this sample size is.
7. In the results section, it is recommended to describe the results based on the proposed objectives, since Table 1 is presented with the logistic regression, but previously describe what objective this responds to and the justification for how the model was ordered.
8. For example, mobile phones are addressed, but were not previously mentioned.
9. As part of the results, it is mentioned that the probabilities of a province with food security growing oil palm are 18.8 times greater than the probabilities of a province without food security. It could be explained in the provinces that have maintained this high production of palm oil what has been the impact on food security (environment and population health), it is recommended to put a historical analysis.
10. From these analyses, what are the biases that could have been present or identified, for example with the purchase of food, type of food purchased, geographic location, number of populations by province, use or abuse of agrochemicals, impact on the water footprint.
11. A discussion of the results is needed and in the last paragraph prior to the conclusion, the authors mention the following: *This research aims to establish a link between food security, connectivity, and the political economy of plantation industries,*