

## Doctoral thesis assessment

**Thesis title:** Sustainability of sanitation change in rural Ethiopia

**Author:** Biruk Getachew Mamo

**Reviewer:** prof. Ing. Jan Banout PhD.

The main goal of the presented doctoral thesis is to investigate the sustainable sanitation changes in rural households in southern Ethiopia using quantitative and qualitative research methods. From this point of view, the selected topic is relevant and of high importance for the countries of the Global South, particularly Ethiopia. The doctoral thesis has been submitted as a collection of published research papers supported by the introduction, six theoretical and methodological chapters and the general conclusion. The published papers consist of a systematic review of primary evidence on household-level sanitation in rural Ethiopia and three articles based on field research that addresses issues of sustainability of sanitation change in southern Ethiopia. All papers have been published in high-quality peer-reviewed scientific journals with IF indexed on WoS. This fact demonstrates a high level of originality of research and selected topic.

The literature review is thorough, covering a wide range of relevant sources. The candidate appropriately identifies gaps in the current literature and the level of knowledge, which serves as a strong foundation for the research. The chosen methods are appropriate and well-justified for each research topic or question posed. The sampling and data analysis is rigorous and demonstrates a deep understanding of analytical techniques used in similar studies. The discussion provides a critical reflection on the findings, with a link to the existing scientific literature. Finally, the conclusion effectively summarizes the research, pointing out the most important findings and offering valuable suggestions for the policy actors in the region.

The general formatting and organization of the dissertation in two parts (First part: introduction, six theoretical and methodological chapters and the general conclusion; Second part: four published papers as a part of the appendices) is something in which I see certain shortcomings. It is likely that the candidate organized the text of the dissertation according to the rules of his department. However, from my point of view, it would be more appropriate to include the published papers in the main text part of the dissertation and not in the appendices. The logical structure and readability of the entire dissertation would be improved. At the same time, there would be no need to recapitulate some chapters in the introduction (First part), such as the methodology chapter. Furthermore, In the introductory part of the dissertation, the author often uses the first person singular, which is not usual in scientific texts. It is more appropriate to use passive voice or first person plural.

### Questions - comments:

On page 28, Table 3. „Summary of drivers and barriers of sanitation change in Ethiopia“. Maybe it is better to distinguish between barriers and drivers (positive) aspects of change. What about the technological design of the latrine itself? Do you think that it may also play an important role in adoption?

Page 33, Please can you explain this statement “Communities living in infrastructure-restricted settings are considered as potentially more beneficial from market-based sanitation intervention as it ensures such communities have easy and convenient access to latrine construction materials and latrine parts“. Usually infrastructure restricted areas are not convenient for technology implementation or constructions in general.

A significant finding in the dissertation is that inappropriate sanitation facilities may be equally or even more hazardous than open defecation in order to dispel the widespread belief that using any latrine is inherently beneficial to human health. In relation to that, do you think that advanced technological solutions such as composting toilets (latrines) may help in WTP?

Do you think, that any form of governmental sanitary restrictions (rules, directives) related to the treatment of organic waste, including human faces, can improve the situation in Ethiopia?

### Conclusion:

In his thesis, the PhD candidate demonstrated a strong understanding of the subject matter and research process. His findings are policy relevant and particularly important for the sustainable sanitary policy not only in Ethiopia but worldwide.

In this context, I can state that the doctoral thesis of **Biruk Getachew Mamo** meets the requirements of a doctoral thesis, and I thoroughly recommend him for the academic degree **Doctor of Philosophy**, abbreviated as **Ph.D.**, in case of a successful thesis defence.

In Prague on 15 September 2024



prof. Ing. Jan Banout, Ph.D.