

Review of: "Assessment of Quality of drinking waterbased on the water quality index method in Hawassa Zuria Woreda, Sidama Regional State, Ethiopia"

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Potential competing interests: No potential competing interests to declare.

Title

Assessment of Quality of Drinking Water Based on the Water Quality Index Method in Hawassa Zuria Woreda, Sidama Regional State, Ethiopia

Abstract

The abstract provides a brief overview of the research paper. It highlights the water-related challenges faced by Ethiopia, particularly in delivering safe drinking water to its population. The study aimed to assess the quality of drinking water in Hawassa Zuria Woreda using the Water Quality Index (WQI) method. Various physicochemical parameters and heavy metal concentrations were analyzed in the water samples collected from different sources.

Evaluation

Relevance and Significance

The research paper addresses an important issue, which is the quality of drinking water in a specific region of Ethiopia. Access to safe drinking water is crucial for public health and overall well-being. The study's focus on assessing water quality using the WQI method and analyzing heavy metal concentrations adds value to the existing knowledge in this field. The findings can potentially inform policymakers and relevant authorities to improve water management and ensure safe drinking water for the population.

Methodology

The study employed a suitable methodology by collecting representative water samples from various sources and analyzing them for different parameters. The use of statistical tests such as one-way ANOVA and correlation analysis to assess significant differences and associations between variables is appropriate. The comparison of heavy metal levels with international guidelines adds credibility to the research.

Results and Discussion

The results provide comprehensive information about the water quality in Hawassa Zuria Woreda. The authors discuss the findings in relation to the WHO's safe drinking water guidelines and Ethiopia's drinking water standards. They identify specific physicochemical parameters and heavy metals that exceeded the safe limits in certain sampling sites. The Water Quality Index (WQI) values indicate that a significant percentage of the analyzed samples were excellent or good. The discussion also highlights the distribution of heavy metal concentrations and their potential health impacts.

Conclusion

The conclusion drawn from the research is clear and emphasizes the need to address heavy metal contamination in drinking water. The authors suggest prohibiting drinking water from heavy metal-contaminated sites and focusing on the removal of lead and nickel. This conclusion is supported by the research findings and aligns with the objective of ensuring safe drinking water for the population.

Limitations and Future Research

The research paper does not explicitly mention the limitations of the study. It would be beneficial to acknowledge any potential limitations, such as sample size, representativeness, or geographical coverage. Additionally, suggestions for future research directions or areas that require further investigation would enhance the paper's contribution to the scientific community.

Overall, the research paper effectively assesses the quality of drinking water in a specific region of Ethiopia using appropriate methods and analyses. The findings and conclusion have practical implications for improving water management and ensuring safe drinking water. However, addressing the limitations and providing insights for future research would strengthen the paper further.