Review of: "MCDA - Groundwater prediction analysis for Sustainable Development using GIS Supported AHP in Okeigbo, Southwestern Nigeria"

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Potential competing interests: No potential competing interests to declare.

The article provides a comprehensive overview of the importance of groundwater resource assessment and exploration. It highlights the significance of understanding groundwater availability and quality for effective planning and management. The inclusion of references to previous studies adds credibility to the information presented. The article also emphasizes the need for regular updates in assessment methods to keep pace with technological advancements and changing data access.

1. The study provides a detailed description of the study area, including its geographical location and boundaries, climate, and geological features. This information is essential for understanding the context of the study.
2. The inclusion of figures and maps enhances the clarity and visual representation of the study area, such as Figure 1 showing the location and Figure 6 illustrating the data acquisition map.
3. The study considers various factors that influence hydrogeological exploration, including lithology, aquifer permeability, and prevailing geological and hydrological conditions. This comprehensive approach improves the understanding of groundwater occurrence and movement in the area.
4. The use of different methods, such as direct measurements from boreholes and pumping tests, as well as indirect geoelectric sounding using VES, allows for a more robust analysis of hydrogeological parameters and aquifer potentiality.
5. The study examines not only the geological aspects but also considers other factors like climate, vegetation, drainage, and soil material, which are important in understanding the overall hydrogeological setting.

While the article touches upon the challenges associated with groundwater assessment, such as data availability and consistency, it lacks specific examples or case studies to illustrate these challenges. Providing concrete examples could enhance the article's practicality and make it more relatable to readers. Additionally, it would be beneficial to include some potential solutions or strategies for overcoming these challenges in groundwater resource planning.

1. The language used in the study is technical and might be difficult for non-experts to understand. Simplifying the terminology and providing explanations for key concepts would make the study more accessible to a wider audience.
2. While the study provides a comprehensive description of the study area, it lacks a clear research objective or research question. Clearly stating the purpose of the study would help guide the readers and provide a better understanding of the significance of the findings.

3. The study could benefit from including more quantitative data and analysis. While some numerical values are mentioned, providing more specific results and statistical analysis would strengthen the study's findings and conclusions.
4. The study could have included a discussion of potential limitations or challenges encountered during data collection or analysis. Addressing these limitations would provide a more balanced view and help readers understand the reliability and applicability of the study's findings.
5. The study does not provide any information on the implications or practical applications of the findings. Discussing the potential impact of the study's results on water resource management or suggesting future research directions would enhance the study's relevance and significance.