

Review Form 1.7

Journal Name:	Journal of Engineering Research and Reports
Manuscript Number:	Ms_JERR_108553
Title of the Manuscript:	Modelling Groundwater Quality of Aba in Abia State Using Principal Component Analysis and Multiple Linear Regression
Type of the Article	Original Research Article

Review Form 1.7

PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<p>Compulsory REVISION comments</p> <p>1. Is the manuscript important for scientific community? (Yes)</p> <p>2. Is the title of the article suitable? (Yes)</p> <p>3. Is the abstract of the article comprehensive? Yes</p> <p>4. Are subsections and structure of the manuscript appropriate? Yes</p> <p>5. Do you think the manuscript is scientifically correct? Yes</p> <p>6. Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form. Yes</p> <p><u>(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)</u></p>	<p>General Comments:</p> <p>The manuscript titled "Modelling Groundwater Quality of Aba in Abia State Using Principal Component Analysis and Multiple Linear Regression" addresses an important environmental issue regarding groundwater quality in Aba, Abia State. The study involves the analysis of various water quality parameters in both dry and rainy seasons, employing Principal Component Analysis (PCA) and Multiple Linear Regression (MLR) to develop models for predicting the water quality index. Here are some key points and suggestions for improvement:</p> <p>1. Introduction:</p> <ul style="list-style-type: none"> The introduction provides an appropriate background on the importance of groundwater and the challenges related to water quality in the region. However, it lacks a clear statement of the research objectives and the significance of the study. Adding specific research questions or hypotheses could help clarify the research focus. <p>2. Methodology:</p> <ul style="list-style-type: none"> The methodology section is detailed and well-structured. It outlines the study area, sample collection process, analysis methods, and the calculation of the Water Quality Index (WQI). It's a strength of the manuscript. Consider providing more information on the equipment used, including their specifications and sources of data. The inclusion of a map showing the exact locations of the sampled boreholes and the dumpsite would improve the visualization of the study area. <p>3. Results and Discussion:</p> <ul style="list-style-type: none"> The presentation of results is clear and supported by tables and figures. However, it's essential to provide a clear explanation of the key findings. Consider adding a discussion section after presenting the results to interpret the findings, discuss their implications, and relate them to the study objectives. The coefficients and statistics presented in the tables should be interpreted to facilitate a better understanding of their significance. Clarify the practical relevance and environmental implications of the large effect of leachate on groundwater quality mentioned in the ANOVA results. <p>4. Figures and Tables:</p> <ul style="list-style-type: none"> Figures and tables are essential for presenting data. However, ensure that figures are properly labeled, and their captions should provide adequate information. In Figure 2, add labels to the axes. Table 7 shows loadings, but it's not clear what VF1, VF2, and VF3 represent. A brief 	

Review Form 1.7

	<p>explanation in the table caption could help the reader understand these factors.</p> <ul style="list-style-type: none"> • Check for consistency in formatting and labeling across all figures and tables. <p>5. Language and Clarity:</p> <ul style="list-style-type: none"> • The manuscript's language is generally clear and professional. However, there are some minor grammatical and typographical errors throughout the text that need to be corrected. • Ensure consistent use of terminology and abbreviations. Define abbreviations upon first use. • Consider breaking down lengthy sentences and paragraphs for improved readability. <p>6. Conclusion:</p> <p>The manuscript is lacking a clear and concise conclusion section. It should summarize the main findings, their implications, and potential recommendations for future research or practical applications.</p> <p>7. References:</p> <p>The references should follow a consistent citation style (e.g., APA, IEEE, etc.) throughout the manuscript.</p> <p>Overall Assessment: The manuscript provides a valuable contribution to the field of groundwater quality assessment. However, it would benefit from further clarification of the research objectives and findings, a discussion section for interpretation, and careful proofreading for language and formatting issues. Addressing these points will enhance the overall quality and impact of the paper.</p>	
<p>Minor REVISION comments</p> <p>1. Is language/English quality of the article suitable for scholarly communications?</p>		
<p>Optional/General comments</p>		

PART 2:

	<p>Reviewer's comment</p>	<p>Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</p>
<p>Are there ethical issues in this manuscript?</p>	<p><i>(If yes, Kindly please write down the ethical issues here in details)</i></p>	

Reviewer Details:

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