Review Form 3

Journal Name:	**International Journal of Environment and Climate Change**
Manuscript Number:	**Ms_IJECC_122350**
Title of the Manuscript:	**Study of groundwater and its quality parameters on soil nutrient dynamics in Northern parts of Ranebennur taluk, Haveri district, Karnataka, India**
Type of the Article	

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PART 1: Review Comments

Compulsory REVISION comments	**Reviewer's comment**	**Author's Feedback** *(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.		
Is the title of the article suitable? (If not please suggest an alternative title)		
Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.		
Are subsections and structure of the manuscript appropriate?		
Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.		
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.		

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Minor REVISION comments **Is the language/English quality of the article suitable for scholarly communications?**		
Optional/General comments	1. The introduction could be strengthened by providing more context on the specific challenges faced by the region due to groundwater quality issues and their impact on agriculture Please refer to the following articles to improve the text of the article: Eftekhari, M., Khozeymehnezhad, H., & Elyasi, A. H. (2024). Prediction and Assessment of Groundwater Quality in a Geographic Information System Environment Using Machine Learning Methods (Semi-Arid Regions). Journal of Chinese Soil and Water Conservation, 55(2), 84-93. Eftekhari, M., Eslaminezhad, S. A., Akbari, M., DadrasAjirlou, Y., & Elyasi, A. H. (2021). Assessment of the potential of groundwater quality indicators by geostatistical methods in semi-arid regions. Journal of Chinese Soil and Water Conservation, 52(3), 158-167. 2. The methodology section lacks details on the specific analytical methods used for determining the various parameters in groundwater and soil samples. Including this information would enhance the reproducibility of the study 3. The results section could be improved by presenting the data in a more organized manner, such as using tables or figures to clearly show the relationships between groundwater quality and soil properties 4. The discussion section could be expanded to include a more comprehensive comparison of the findings with previous studies conducted in similar regions or under comparable conditions 5. The conclusion should summarize the key findings and their implications for sustainable groundwater management and agricultural practices in the region Methodological Concerns Sampling Bias: The selection of only 50 villages may not adequately represent the diverse agricultural practices and soil types across the entire Northern Ranebennur region. A more extensive sampling strategy could yield more generalized insights. Lack of Control Variables: The study does not account for other influencing factors such as climatic conditions, crop types, and farming practices that might affect soil nutrient dynamics. Including these variables in the analysis could provide a more comprehensive understanding of the results. Analytical Techniques: While the manuscript mentions the use of SPSS for correlation analysis, it lacks details on the specific statistical tests applied. It would be beneficial to clarify whether any multivariate analyses were performed to account for potential confounding factors. Data Presentation Inadequate Visualization: The results section could benefit from more effective visual aids. Graphs or charts illustrating the relationships between groundwater quality parameters and soil nutrients would enhance clarity and engagement for readers. Statistical Significance: The manuscript mentions correlations but does not provide p-values or confidence intervals for these correlations. This omission makes it difficult to assess the reliability of the findings. Discussion Limitations Overgeneralization of Findings: The discussion tends to generalize the implications of the findings	

	without adequately addressing the specific local context. It should delve deeper into how these results compare with existing literature and local agricultural practices. Neglect of Negative Impacts: The potential negative impacts of poor groundwater quality on soil health and crop yield are mentioned but not thoroughly explored. A more balanced discussion that addresses both positive and negative implications would strengthen the manuscript. Conclusion Weaknesses Lack of Actionable Recommendations: While the conclusion summarizes the findings, it falls short of providing actionable recommendations for farmers or policymakers. Suggestions for sustainable groundwater management practices based on the study's findings would be valuable. Future Research Directions: The conclusion does not adequately address the need for future research. Identifying gaps in the current study and suggesting areas for further investigation would enhance the manuscript's contribution to the field.	

PART 2:

	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)*
Are there ethical issues in this manuscript?	*(If yes, Kindly please write down the ethical issues here in details)*	

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