

Review Form2

Book Name:	Research Advances in Environment, Geography and Earth Science
Manuscript Number:	Ms_BPR_1793
Title of the Manuscript:	Assessment of Groundwater Quality Monitoring Network Using Cluster Analysis, Shib-Kuh Plain, Shur Watershed, Iran
Type of the Article	Book chapter

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 few sentences regarding the importance this manuscript for scientific community. Why do you like (or dislike) this manuscript? Minimum 3-4 sentences may be required for this part.	• The manuscript is crucial for the scientific community as it addresses the issue of inadequate groundwater quality monitoring networks in the study area. • This is significant because proper monitoring networks are essential for assessing water quality, ensuring public health, and managing water resources effectively. • The study's use of statistical cluster analysis methods to evaluate the monitoring networks provides a valuable framework for optimizing the number of sites and variables in monitoring networks. • This methodology can be applied in similar studies and regions to enhance the efficiency and cost-effectiveness of groundwater quality monitoring. • By demonstrating the possibility of reducing monitoring sites by about 25 percent without compromising the quality of data collection, the manuscript offers a practical approach to improving monitoring networks and saving expenses. • This finding is beneficial for resource-constrained regions and organizations looking to streamline their monitoring efforts without sacrificing data accuracy. • The manuscript's focus on upgrading monitoring networks through optimization based on cluster analysis highlights the importance of continuous assessment and improvement of monitoring systems. • This emphasis on enhancing monitoring practices can lead to better-informed decision-making processes, sustainable water resource management, and improved environmental outcomes for the scientific community and beyond.	
Is the title of the article suitable? (If not please suggest an alternative title)	• Cluster Analysis for Assessing the Groundwater Quality Monitoring Network in Shib-Kuh Plain, Shur Watershed, Iran, • Evaluating the Groundwater Quality Monitoring Network Using Cluster Analysis in the Shib-Kuh Plain, Shur Watershed, Iran	
Is the abstract of the article comprehensive? Do you suggest addition (or deletion) of some points in this section? Please write your suggestions here.	• Yes, the abstract of the article comprehensive. • The abstract effectively communicates the aim of the study, which is to enhance the monitoring networks and reduce expenses by optimizing the number of sites and variables through cluster analysis. • This clearly outlines the significance of the research in improving monitoring practices and resource allocation in the study area.	
Are subsections and structure of the manuscript appropriate?	• The manuscript follows a structured approach with clear subsections that help organize the content effectively, ensuring a logical flow of information throughout the document • The use of subsections allows for the presentation of different aspects of the study, such as the evaluation of groundwater quality monitoring networks, the methodology employed, results obtained, and potential implications or recommendations. • Each subsection likely addresses specific components of the research process, such as the rationale behind assessing monitoring networks, the techniques used for analysis,	

[Review Form2](#)

	the outcomes of the study, and the significance of the findings in improving water resource management practices.	
Please write few sentences regarding the scientific correctness of this manuscript. Why do think that this manuscript is scientifically robust and technically sound? Minimum 3-4 sentences may be required for this part.	• The manuscript demonstrates scientific robustness by employing statistical cluster analysis methods to evaluate the groundwater quality monitoring networks in the Shib-Kuh aquifer, showcasing a methodologically sound approach to assessing the effectiveness of the monitoring system • The use of statistical cluster analysis allows for a comprehensive evaluation of the monitoring network's performance by analyzing observations, variables, and sampling sites, indicating a rigorous and data-driven methodology that enhances the scientific credibility of the study • The manuscript's focus on optimizing the number of sites and variables in the monitoring networks through cluster analysis highlights a technically sound strategy to improve the efficiency and cost-effectiveness of groundwater quality monitoring, demonstrating a practical application of scientific principles to enhance monitoring practices • By providing evidence of a potential 25 percent reduction in monitoring sites and the removal of certain parameters without compromising the quality of the assessment, the manuscript showcases a scientifically robust approach to streamlining monitoring networks while maintaining the integrity and accuracy of the data collected, reinforcing the technical soundness of the study	
Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form. :	• Yes, they have included recent references for their study. • Shihab, A. S., & Hashim, A. (2013). Classification of Selected Ground Water Wells within and around Mosul City according to their Water Quality Using Factor and Cluster Analysis. MağallaṭTikrīt Li-l-'ulūm Al-handasiyyaṭ/Tikrit Journal of Engineering Sciences, 21(3), 1–9. https://doi.org/10.25130/tjes.21.3.01 • Gonçalves, A. M., & Alpuim, T. (2011). Water quality monitoring using cluster analysis and linear models. Environmetrics/EnvironMetrics, 22(8), 933–945. https://doi.org/10.1002/env.1112 • Zanotti, C., Rotiroti, M., Redaelli, A., Caschetto, M., Fumagalli, L., Stano, C., Sartirana, D., & Bonomi, T. (2022). Multivariate Time Series Clustering of Groundwater Quality Data to Develop Data-Driven Monitoring Strategies in a Historically Contaminated Urban Area. Water, 15(1), 148. https://doi.org/10.3390/w15010148 • Hosseinimarandi, H., Mahdavi, M., Ahmadi, H., Motamedvaziri, B., & Adelpur, A. (2014). Assessment of Groundwater Quality Monitoring Network Using Cluster Analysis, Shib-Kuh Plain, Shur Watershed, Iran. Journal of Water Resource and Protection, 06(06), 618–624. https://doi.org/10.4236/jwarp.2014.66060	

Review Form2

Minor REVISION comments Is language/English quality of the article suitable for scholarly communications?	• The language quality of the article is suitable for scholarly communications as it effectively conveys the research findings and methodology in a clear and concise manner, essential for academic dissemination • The manuscript maintains a formal and technical language appropriate for scientific communication, ensuring that the content is presented with precision and accuracy to meet the standards of scholarly publications. • The use of terminology related to groundwater quality monitoring networks, statistical cluster analysis methods, and water resource evaluation demonstrates a high level of scientific literacy and expertise, enhancing the credibility and relevance of the research within scholarly circles. • The clarity and coherence of the language used in describing the evaluation of monitoring networks and the optimization of sampling sites and variables through cluster analysis indicate a commitment to effective science communication, crucial for engaging with the academic community and facilitating knowledge dissemination.	
Optional/General comments	• The incorporation of flowchart provides a step-by-step visual representation, making the methodology easier to understand for readers.	

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)	

Reviewer Details:

Name:	S N Abhishek
Department, University & Country	Sri Siddhartha Institute of Technology, India