Review Form 3

Journal Name:	International Journal of Environment and Climate Change
Manuscript Number:	Ms_IJECC_124687
Title of the Manuscript:	**DEFLOURIDATION OF GROUNDWATER USING LOW-COST ADSORBENTS**
Type of the Article	

General guidelines for the Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guidelines for the Peer Review process, reviewers are requested to visit this link:

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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*
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.	By studying cost-effective defluoridation methods utilizing commonly available materials, the study gives vital insights to the scientific community on sustainable water treatment alternatives. The comprehensive assessment of different adsorbents and operating factors enriches our understanding of improving fluoride removal, making it noteworthy research. I like this paper for its practical approach and focus on employing low-cost materials, which might benefit rural places with limited access to clean water.	
Is the title of the article suitable? (If not please suggest an alternative title)	The title "DEFLOURIDATION OF GROUNDWATER USING LOW-COST ADSORBENTS" is concise and directly aligns with the study's main objective. However, there is a minor spelling error, which affects the clarity of the title. Recommendation: Correct the spelling to enhance clarity. The revised title would be suitable for publication as: "DEFLUORIDATION OF GROUNDWATER USING LOW-COST ADSORBENTS."	
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.	The abstract is useful and covers the key significant points, although it may benefit from some modifications in terms of clarity and structure. Here are some suggestions: 1. While the abstract provides detailed information, the flow could be improved. 2. Adsorbents that effectively remove fluoride may contribute unwanted components such as color or turbidity, making them unsuitable for real-world applications. So, including some additional steps in the abstract and discussion to address color and turbidity will provide readers with a clearer picture of not only the effectiveness of the adsorbents but also the practical challenges that may arise during implementation and potential solutions. 3. Provide precise information on how the optimal operational conditions were determined, including any experimental methods used. 4. Use "This study" or "This research" instead of "This report". 5. The list of removal efficiencies is informative but may be difficult to comprehend. Please consider summarizing this section. For example, "Vetiver demonstrated the highest removal efficiency (78%), followed by limestone (77%), sawdust (72%) and so on.	
Are subsections and structure of the manuscript appropriate?	The manuscript's structure appears well-organized and logical, with clear subsections that facilitate understanding. However, some recommendations are: Introduction: 1. Consider removing duplication to make the introduction brief. For example, the statement that fluoride is detrimental over 1.5 mg/L is repeated several times. A single, straightforward statement is sufficient. 2. Concluding the introduction with clear aims and objectives or research questions would create a strong basis for the future portions of the work. Materials and Methodology: Ok Results and discussion: The results and discussion section can benefit from being divided into multiple subsections for clarity and better organization. Here's a suggested structure to enhance readability and comprehension: 4. Results and Discussion 4.1 Characteristics of Groundwater Samples 4.2 Effects of Adsorbents on Water Quality 4.3 Comparative Analysis of Treatment Efficacy 4.4 Fluoride Removal Efficiency Conclusion: The conclusion is poorly written. Please summarize the findings with their significance and implications. Comparisons with other studies should be moved to the "Results and Discussion" section. Alternatively, consider combining the Discussion and Conclusion sections while keeping the Results section separate.	

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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.	The manuscript is scientifically acceptable.	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.	1. Citations needed: • It is estimated that around 260 million people worldwide (in 30 countries) are drinking water with Fluoride content more than 1.0 mg/L. • High fluoride concentrations in drinking water can lead to various health implications, including dental fluorosis, skeletal fluorosis, and non-skeletal fluorosis. Dental fluorosis causes discoloring, mottling, and blackening of teeth, particularly in children below 8 years of age. Skeletal fluorosis is a stage of bone deformities where bones are permanently deformed, leading to pain in muscles and joints. Non-skeletal fluorosis causes gastro problems, neurological disorders, and affects the I.Q. of children. Neurotoxicity is another potential health impact of excessive fluoride exposure, particularly in children. Studies have suggested a link between high fluoride levels in drinking water and reduced cognitive function. Children exposed to high levels of fluoride tend to have lower IQ scores compared to those in areas with lower fluoride levels. Endocrine disruption is another concern, with fluoride potentially interfering with the thyroid gland, which is crucial for regulating metabolism, growth, and development. Reproductive and developmental effects of fluoride exposure include reduced fertility, alterations in sperm morphology, decreased testosterone levels, and potential neurodevelopmental disorders. Long-term exposure to high levels of fluoride may contribute to cardiovascular problems, including hypertension and atherosclerosis. Chronic exposure to high levels of fluoride can lead to nephrotoxicity, potentially exacerbating existing kidney disease and leading to further complications. Monitoring and regulating fluoride levels in drinking water is essential for pregnant women. 2. All references should be rechecked. Use numbered style citations as per the guidelines of this journal.	
Minor REVISION comments **Is the language/English quality of the article suitable for scholarly communications?**	Language editing is required.	
Optional/General comments		

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:

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