

Review Form 3

Journal Name:	International Journal of Environment and Climate Change
Manuscript Number:	Ms_IJECC_126528
Title of the Manuscript:	Estimation of Carbon Content and Sequestration Mangrove type Rhizopora mucronata in Tongke-Tongke Sinjai Regency, Indonesia
Type of the Article	Original Research 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.	his manuscript is significant for the scientific community as it provides valuable data on the carbon sequestration potential of <i>Rhizophora mucronata</i> in Indonesia, highlighting the critical role of mangrove ecosystems in climate change mitigation. By quantifying carbon content in various components—leaves, roots, and sediments—it enhances our understanding of mangrove ecology and their contribution to blue carbon storage. The findings can inform conservation strategies and carbon trading initiatives, making the research relevant for both environmental scientists and policymakers. Overall, I appreciate the manuscript for its thorough methodology and its implications for sustainable coastal management, although it could benefit from more detailed discussions on the broader ecological impacts of mangrove conservation.	
Is the title of the article suitable? (If not please suggest an alternative title)	<p>The title of the article is suitable as it clearly conveys the focus on carbon content and sequestration in <i>Rhizophora mucronata</i> within a specific location in Indonesia. However, to enhance clarity and engagement, I suggest a slightly revised title:</p> <p>"Carbon Sequestration Potential of <i>Rhizophora mucronata</i> in Tongke-Tongke Mangrove Forest, Sinjai Regency, Indonesia"</p> <p>This alternative maintains the essential elements while emphasizing the study's focus on carbon sequestration potential.</p>	

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<p>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.</p>	<p>The abstract provides a solid overview of the study, highlighting the importance of mangroves in carbon sequestration and the focus on <i>Rhizophora mucronata</i>. However, it could benefit from a few enhancements:</p> <ol style="list-style-type: none">Key Findings: Including specific quantitative results, such as the carbon content ranges and the overall carbon uptake, would give readers a clearer understanding of the study's outcomes.Objectives: Clarifying the primary objectives of the research, such as assessing carbon storage capacity and its implications for climate change mitigation, would strengthen the focus.Broader Implications: Briefly mentioning the potential applications of the findings, such as contributions to conservation strategies or carbon trading, could enhance the relevance of the research. <p>Suggested Revised Abstract</p> <p>Mangroves play a crucial role in coastal ecosystems, offering significant ecological benefits and acting as important carbon sinks. This study focuses on the carbon sequestration potential of <i>Rhizophora mucronata</i> in the Tongke-Tongke mangrove forest, Sinjai Regency, Indonesia. By measuring the carbon content in leaves, roots, and sediments, the study found carbon content ranges from 0.09 to 0.11 tons/ha in leaves and 0.44 to 0.72 tons/ha in roots, with sediment carbon content varying significantly. Results indicate that <i>R. mucronata</i> has a substantial carbon absorption capacity, underscoring the importance of these ecosystems in climate change mitigation. The findings aim to inform conservation strategies and potential carbon trading initiatives, contributing to global climate resilience.</p> <p>These additions would make the abstract more informative and engaging for readers.</p>	
<p>Are subsections and structure of the manuscript appropriate?</p>	<p>The subsections and overall structure of the manuscript are appropriate for conveying the research effectively. The organization follows a logical flow:</p> <ol style="list-style-type: none">Introduction: Clearly establishes the significance of mangroves and the study's focus on carbon sequestration.Materials and Methods: Provides detailed information on the methodology, which is essential for reproducibility.Results and Discussion: Separately presents the findings and contextualizes them, which aids in clarity and comprehension.Conclusion: Summarizes key findings and their implications, reinforcing the importance of the research. <p>However, a few suggestions could enhance clarity:</p> <ul style="list-style-type: none">Results Section: Consider breaking down the results into clearer subsections for leaves, roots, and sediments, making it easier for readers to navigate specific findings.Discussion Section: It may be helpful to add subheadings within the discussion to differentiate between ecological implications, comparison with other studies, and potential applications of the findings. <p>Overall, the structure is sound, but these adjustments could improve readability and organization.</p>	
<p>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.</p>	<p>This manuscript demonstrates scientific robustness through its comprehensive methodology and clear presentation of data. The use of established techniques for measuring carbon content in leaves, roots, and sediments, such as the ashing method and the Walkley and Black method, ensures that the results are reliable and reproducible. Furthermore, the application of allometric equations to estimate biomass adds technical rigor to the carbon stock assessments. The discussion contextualizes the findings within existing literature, supporting the claims made and highlighting the significance of the research in the</p>	

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	broader field of environmental science. Overall, the manuscript presents a solid foundation of scientific inquiry that contributes meaningfully to our understanding of mangrove ecosystems and their role in carbon sequestration.	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.	The references in the manuscript appear to be relevant and provide a solid foundation for the study, highlighting both the ecological significance of mangroves and their role in carbon sequestration.	
Minor REVISION comments Is the language/English quality of the article suitable for scholarly communications?	<p>The language and English quality of the article are generally suitable for scholarly communication. The manuscript effectively conveys complex ideas and scientific concepts clearly, making it accessible to a wide audience within the scientific community. However, there are a few areas where improvements could enhance clarity and readability:</p> <ol style="list-style-type: none">Technical Terminology: While the use of scientific terminology is appropriate, ensuring that all terms are clearly defined can help readers who may not be familiar with specific jargon.Sentence Structure: Some sentences are quite lengthy and could benefit from simplification or division into shorter sentences to improve flow and comprehension.Consistency: Ensuring consistent use of terms and units throughout the manuscript can help avoid confusion. <p>Overall, with minor revisions for clarity and conciseness, the manuscript is well-suited for scholarly communication</p>	
Optional/General comments	<p>Rationale for the Score:</p> <ol style="list-style-type: none">Strengths:<ul style="list-style-type: none">Comprehensive and relevant focus on carbon sequestration in mangrove ecosystems, addressing an important environmental issue.Clear methodology and presentation of results that contribute valuable data to the field.Logical structure and organization that aids in understanding.Areas for Improvement:<ul style="list-style-type: none">The abstract could be enhanced with specific quantitative results and broader implications.Minor language and clarity adjustments would improve readability.Inclusion of more recent references could strengthen the literature review. <p>Overall, the manuscript is well-prepared and contributes meaningfully to scientific knowledge, but addressing the suggested improvements could elevate its impact further</p>	

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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