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Journal Name:	Journal of Geography, Environment and Earth Science International
Manuscript Number:	Ms_JGEESI_120646
Title of the Manuscript:	Contribution of Bamboo in Climate Change Adaptation and Mitigation: A Case of Tanzania
Type of the Article	

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PART 1: Review Comments

Compulsory REVISION comments	Reviewer's comment	Author's Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
<p>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.</p>	<p>This paper is significant to the scientific community as it explores the potential of bamboo in climate change adaptation and mitigation, particularly through a case study in Tanzania. The paper provides a detailed analysis of bamboo biomass and carbon stock and estimates the economic benefits from carbon trading projects. This information is crucial for promoting sustainable development and ecological conservation. I appreciate this paper because it not only provides scientific data support but also offers specific policy recommendations, making it highly practical. However, the discussion on the uncertainties of some data and models is insufficient, which is an area that needs improvement.</p>	
<p>Is the title of the article suitable? (If not please suggest an alternative title)</p>	<p>The current title, "Contribution of Bamboo in Climate Change Adaptation and Mitigation: A Case of Tanzania," is generally suitable as it clearly conveys the main content and focus of the paper. However, to more accurately reflect the specific research content, the title could be slightly modified to make it more attractive and specific. For example:</p> <p>"Bamboo's Role in Climate Change Adaptation and Mitigation: An Analysis of Biomass, Carbon Stock, and Economic Potential in Tanzania"</p> <p>This revised title retains the original focus while highlighting the detailed research content and its economic potential analysis in Tanzania.</p>	
<p>Is the abstract of the article comprehensive? Do you suggest addition (or deletion) of some points in this section? Please write your suggestions here.</p>	<p>Bamboo, a rapidly growing member of the grass family, thrives across diverse climates worldwide and offers vital ecosystem services essential for human well-being and economic development. Notably, bamboo releases 35% more oxygen than other trees and sequesters an average of 12 tons of carbon dioxide per hectare, highlighting its significant ecological benefits. This study analyzes the contribution of bamboo to climate change adaptation and mitigation, focusing on Tanzania. Utilizing adapted allometric models and data from the National Forest Resources Monitoring and Assessment (NAFORMA) of 2015, the study reveals that Tanzania possesses 4.04 billion tons of bamboo biomass and 1.9 billion tons of stored bamboo carbon, translating to an estimated 7.6 billion US dollars in unutilized conservation profit from carbon trading. The findings indicate that 51.4% of the stored bamboo biomass and potential conservation profit are concentrated in the genus <i>Bambusa</i>, with nearly half of these resources located in the southern regions of Lindi and Mtwara. These results underscore the substantial ecological and economic benefits of bamboo ecosystem services, emphasizing the need for stakeholders to formulate strategies for the sustainable production, conservation, and management of bamboo in Tanzania. The study provides a benchmark for developing policies and plans that leverage bamboo's potential in climate change adaptation and mitigation, promoting environmental sustainability and economic growth.</p>	
<p>Are subsections and structure of the manuscript appropriate?</p>	<ol style="list-style-type: none"> 1. Introduction <ul style="list-style-type: none"> ○ Background ○ Objectives 2. Materials and Methods <ul style="list-style-type: none"> ○ Description of the Study Area ○ Bamboo Species Distribution and Coverage in Tanzania ○ Data Sets for the Study ○ Data Analysis 	

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	<ul style="list-style-type: none"> ○ Validation and Quality Control of Data <p>3. Results</p> <ul style="list-style-type: none"> ○ Distribution of Bamboo Biomass and Carbon ○ Regional Distribution ○ Economic Potential from Carbon Trading <p>4. Discussion</p> <ul style="list-style-type: none"> ○ Comparison with Other Studies ○ Implications for Climate Change Mitigation ○ Limitations and Uncertainty Analysis <p>5. Conclusion</p> <ul style="list-style-type: none"> ○ Summary of Findings ○ Limitations and Future Research Directions <p>6. Recommendations</p> <ul style="list-style-type: none"> ○ Policy Development ○ Investment in Bamboo Industries ○ Carbon Market Integration ○ Community Involvement and Education ○ Collaborative Efforts 	
<p>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.</p>	<p>This paper is scientifically robust and technically sound. The study employs validated allometric models and utilizes data from the 2015 National Forest Resources Monitoring and Assessment (NAFORMA) database, ensuring that the data sources are credible and of high quality. Additionally, the paper provides a detailed description of the data extraction, cleaning, and analysis processes, ensuring the scientific rigor and reliability of the data handling and results. The study's findings, supported by various statistical analyses and model validations, further demonstrate the importance of bamboo in carbon stock and economic potential, indicating that the paper is solid in its scientific methodology and technical application.</p>	
<p>Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.</p> <p>=</p>	<p>The number of references is sufficient and covers many key areas, but it can be further enhanced in the following ways:</p> <p>Inclusion of Recent Literature: Although the current references cover many foundational studies, adding some recent research findings can make the paper more cutting-edge. For example, recent studies on bamboo in carbon trading and ecosystem services can be included.</p> <p>Diversification of Sources: The current references are concentrated on a few authors and limited journals. Including research from more diverse authors and journals can increase the diversity and breadth of the references.</p> <p>Specific Field Supplementation: Further references on bamboo's growth characteristics under different climatic conditions, and its ecological interactions with other plants, can enhance the comprehensiveness of the research.</p> <p>Suggested Additional References: https://doi.org/10.1016/j.uclim.2022.101385 https://doi.org/10.1016/j.scs.2024.105572</p>	

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<p>Minor REVISION comments</p> <p>Is language/English quality of the article suitable for scholarly communications?</p>	<p>The language and English quality of the article are generally suitable for scholarly communications but still have room for improvement. Here are some specific suggestions:</p> <p>Conciseness: Some sentences are long and complex. Simplifying sentence structures can make the content easier to understand. For example, breaking compound sentences into multiple simple sentences.</p> <p>Consistency: Ensure that terminology and expressions are consistent throughout the paper. For instance, use the same terms for the same concepts to avoid confusion.</p> <p>Accuracy: Avoid using vague or ambiguous words, and ensure that each argument is clearly expressed.</p> <p>Grammar and Punctuation: Conduct a detailed grammar and punctuation check to ensure there are no grammatical errors or punctuation misuse.</p> <p>Technical Terms: Ensure all technical terms are used correctly and provide clear definitions when they first appear.</p> <p>By implementing these suggestions, the language and expression in the article will be clearer, more precise, and more suitable for academic communication.</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>	

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