

Review Form 3

Journal Name:	Asian Journal of Research in Agriculture and Forestry
Manuscript Number:	Ms_AJRAF_126428
Title of the Manuscript:	Non-Linear Models for Tree Aboveground Biomass and Volume Estimation in Agoi-Ibami Forest Reserve, Cross River State, Nigeria
Type of the Article	Research Paper

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:

<https://r1.reviewerhub.org/general-editorial-policy/>

Important Policies Regarding Peer Review

Peer review Comments Approval Policy: <https://r1.reviewerhub.org/peer-review-comments-approval-policy/>

Benefits for Reviewers: <https://r1.reviewerhub.org/benefits-for-reviewers>

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>
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.	This manuscript is vital for the scientific community because it contributes valuable methodologies for non-destructive biomass and volume estimation, important for sustainable forest management and carbon sequestration assessments. By developing and validating non-linear models specifically for the Agoi-Ibami Forest Reserve, the study addresses a regional knowledge gap, which is essential for adapting global carbon estimation practices to local contexts. The use of empirical data from field measurements adds to its credibility and provides a model framework that could be applied to similar forest ecosystems in tropical regions.	
Is the title of the article suitable? (If not please suggest an alternative title)	Title is suitable but could read: Non-Linear Models for Estimating Aboveground Biomass and Volume in Agoi-Ibami Forest Reserve, Nigeria	
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 of the article is largely comprehensive, covering essential elements such as the objective, methodology, data collection process, key findings, and conclusions, but it can be improved thus; <ul style="list-style-type: none"> 1. The author could state the objective of the study more explicitly at the beginning to provide a clear purpose. 2. While the author mentioned variables used for modelling, stating why these variables were chosen could enhance understanding for scientific reasoning. 3. It is also important to include a sentence on practical implications of the findings, especially for forest management and carbon offset strategies. This underscores the relevance of the research. 	
Are subsections and structure of the manuscript appropriate?	Yes	
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.	This manuscript appears scientifically robust and technically sound because it employed rigorous methodology, including systematic sampling and precise data collection techniques, which enhance the reliability of the biomass and volume estimates. The use of validated non-linear models, supported by statistically rigorous selection criteria (e.g., AIC and SEE), adds credibility to the findings and ensures the models' applicability for accurate biomass and volume estimation. Also, the manuscript's choice of locally developed allometric models takes into account site-specific ecological variables, which is essential for minimizing errors often found in generalized equations. The model validation process, including the use of residual plots, further demonstrates scientific rigor by confirming the models' predictive reliability and fitness, making the study's conclusions well-supported and valuable for practical forest management and carbon	

Review Form 3

	assessment	
<p>Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.</p> <p>:</p>	<p>The references are generally sufficient and include a mix of foundational and recent studies relevant to biomass estimation, non-linear modeling, and carbon stock assessment. The references span key studies from 1973 (Akaike's foundational work on model selection) to more recent works up to 2022, which ensures both historical and contemporary perspectives in the field.</p> <p>However, there are a few areas where the manuscript could benefit from additional references and include these suggestions;</p> <ol style="list-style-type: none"> 1. Include recent articles on advancements in allometric modeling techniques, especially those that utilize machine learning or hybrid statistical approaches to improve biomass estimation accuracy. 2. Include recent studies focused on tropical forest ecosystems, especially in West Africa, would strengthen the geographic relevance of the manuscript's findings. 3. Include references linking biomass modeling to global carbon management and climate change impacts, to emphasize the broader significance of accurate biomass models. <p>Above all else, ensure to maintain the same referencing style.</p>	
<p><u>Minor</u> REVISION comments</p> <p>Is the language/English quality of the article suitable for scholarly communications?</p>	Yes	
<u>Optional/General</u> comments	<p>There are no ethical issues. However, adding a statement on permission to collect data in the forest reserve may enhance manuscripts ethical soundness.</p> <p>The manuscript does not appear to have competing interest issues based on the information provided.</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?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

Reviewer Details:

Name:	Valentine Chukwu
Department, University & Country	Nigeria