

Review Form 1.7

Journal Name:	Asian Journal of Probability and Statistics
Manuscript Number:	Ms_AJPAS_113996
Title of the Manuscript:	MATHEMATICAL MODELING OF INTRA-COMMUNAL VIOLENCE AND RISK-LEVEL ANALYSIS OF OBIARUKU COMMUNITY IN DELTA STATE, NIGERIA.
Type of the Article	Original Research Article

Review Form 1.7

PART 1: Review Comments

	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)
<p>Compulsory REVISION comments</p> <p>1. Is the manuscript important for scientific community? (Please write few sentences on this manuscript)</p> <p>2. Is the title of the article suitable? (If not please suggest an alternative title)</p> <p>3. Is the abstract of the article comprehensive?</p> <p>4. Are subsections and structure of the manuscript appropriate?</p> <p>5. Do you think the manuscript is scientifically correct?</p> <p>6. Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.</p> <p><u>(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)</u></p>	<p>Yes.</p> <p>Can be improved.</p> <p>Partially.</p> <p>Somewhat.</p> <p>Moderate.</p> <p>Yes.</p>	
<p>Minor REVISION comments</p> <p>1. Is language/English quality of the article suitable for scholarly communications?</p>	<p>Moderate revisions.</p>	
<p>Optional/General comments</p>	<p>1. The manuscript states that when $R_0 < 1$, it minimizes the spread of violence and brings about peace stability. This is a critical insight and is likely the central result of the model. As a reviewer, I would suggest ensuring that the conditions for this result are clearly articulated and any assumptions are justified.</p> <p>2. The recommendations provided give practical steps to reduce violence within the community, which is commendable for its direct application. I would advise further elaboration on how these steps were determined based on the model results. For example, how does minimizing contact with "infectious" individuals relate to the model parameters?</p> <p>3. The risk-level analysis using the questionnaire is a great attempt to quantify risk perception within the community. Nevertheless, it would be useful to see the statistical methodology for analyzing the questionnaire results. For instance, how are the yes/no responses quantified and used to inform the risk level analysis?</p> <p>4. How does the model distinguish between the direct, structural, and cultural violence as defined by Galtung?</p> <p>5. What is the justification for the selection of parameters such as the transfer rates between aggressive and peaceful classes, or the death rates? Are these estimated from data or literature values?</p> <p>6. The questionnaire sections are well categorized and seem comprehensive. It might be beneficial if the authors discuss the process of validation for the questionnaire. Was it pilot tested or reviewed by experts in the field?</p>	

[Review Form 1.7](#)

	<p>7. Provide a clear explanation of the Centre Manifold Theorem and why it is applicable to this situation. Not all readers may be familiar with this theorem or its use in bifurcation analysis.</p> <p>8. Clarify the connection between the questionnaire responses and the model parameters. How does the empirical data inform the model?</p> <p>9. Comment on the risk of response bias in the questionnaire results, especially given the sensitivity of the topic and potential reticence of respondents to disclose true perceptions due to fear of retribution or stigmatization.</p> <p>10. If there are any, describe the controls in place to ensure the questionnaire's validity and reliability.</p> <p>11. It is essential to talk about the psychometric properties of the questionnaire, including how you will address reliability (e.g., test-retest reliability) and validity (e.g., face validity, construct validity).</p> <p>12. Discuss how the sample size was determined and whether it is representative of the entire population. This will help in understanding if the findings can be generalized to the larger population of Obiaruku community.</p> <p>14. It's effective that you've mentioned your analysis methods such as sensitivity analysis and stability analysis. However, consider providing a more explicit connection between these methods and your overall findings.</p> <p>15. It might strengthen the introduction to briefly discuss existing models before stating that mathematical models remain effective. What are the gaps or limitations in current models that your research aims to address?</p> <p>16. Consider expanding on how your model differs from prior models developed in this field.</p> <p>17. It is good to mention the model's compartments, but it would be helpful to have a brief overview of them in the methodology section for clarity.</p> <p>18. When discussing the distribution of the questionnaire, it would be useful to know more about the sampling technique. Was it random, stratified, convenience sampling, etc.?</p> <p>20. How do the identified factors (e.g., quality education, insecurity, bad roads etc.) quantitatively impact the risk of intra-communal violence in your model?</p> <p>21. How does the model account for complex interactions between the various factors influencing violence?</p> <p>22. Is there any part of the community's demographic information, such as age distribution, gender, socioeconomic status, etc., considered in the model?</p> <p>23. How does the forward bifurcation found in the model inform potential intervention strategies?</p> <p>24. Include more information on how the questionnaire was designed. What informed the questions asked and the structure of the questionnaire?</p> <p>25. Consider describing the invariant region in detail: what does it represent in the context of intra-communal violence?</p> <p>26. Discuss the limitations of the model. Are there factors or variables that have not been included which could influence the outcomes?</p> <p>27. Expand on the implications of your findings for local policy and potential violence prevention programs.</p>	
--	---	--

[Review Form 1.7](#)

PART 2:

	Reviewer's comment	Author's comment <i>(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)</i>
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

Reviewer Details:

Name:	Ebrahim E. Elsayed
Department, University & Country	Mansoura University, Egypt