

Review Form 3

Journal Name:	Asian Journal of Environment & Ecology
Manuscript Number:	Ms_AJEE_128187
Title of the Manuscript:	Bayesian Factor Analysis of a Unidimensional Urban Sprawl Index in Ibadan, Nigeria.
Type of the Article	Research article

PART 1: 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. A minimum of 3-4 sentences may be required for this part.	This manuscript is of significant importance to the scientific community as it introduces a rigorous methodological framework for analyzing urban sprawl using advanced statistical techniques, such as Bayesian Factor Analysis, in conjunction with PCA and ICA. By focusing on Ibadan, Nigeria, a rapidly urbanizing region, it provides a case study with global relevance, offering insights that can be adapted to other developing cities facing similar challenges. The study contributes to the growing body of literature on sustainable urban development by identifying key variables like built-up density and openness, which can guide urban planners and policymakers. Furthermore, the innovative application of Bayesian methods enhances the precision and interpretability of sprawl indices, fostering advancements in urban studies and spatial analysis.	
Is the title of the article suitable? (If not please suggest an alternative title)	The title, " Bayesian Factor Analysis of a Unidimensional Urban Sprawl Index in Ibadan, Nigeria, " is generally clear and accurately reflects the study's content, methodology, and geographical focus.	
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 provides a general overview of the study's purpose, methodology, and key findings	
Is the manuscript scientifically, correct? Please write here.	The manuscript appears to be scientifically sound and methodologically robust in its approach to analyzing urban sprawl using Bayesian Factor Analysis (BFA), Independent Component Analysis (ICA), and Principal Component Analysis (PCA). The statistical methods are appropriately chosen for dimensionality reduction and identifying underlying factors affecting urban sprawl. Additionally, the use of spatial data derived from Landsat imagery enhances the validity and relevance of the findings.	
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 cover a mix of foundational and recent works, particularly those relevant to Bayesian analysis, urban sprawl, and spatial metrics. However, there are areas where the references could be updated or expanded to enhance the manuscript's relevance and scientific depth.	

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<p>Is the language/English quality of the article suitable for scholarly communications?</p>	<p>The language and English quality of the article are generally understandable but require improvements to meet the standards of scholarly communication.</p>	
<p>Optional/General comments</p>	<p>Broader Context: The manuscript presents a valuable case study on urban sprawl in Ibadan, but its impact could be enhanced by connecting the findings to broader regional or global trends in urbanization. This would demonstrate the study's relevance beyond the local context.</p> <p>Policy Implications: While the conclusions identify key drivers of sprawl, the manuscript would benefit from a dedicated section discussing practical recommendations for urban planners or policymakers. Suggestions for mitigating sprawl and promoting sustainable urban development could add practical value.</p> <p>Visualization Improvements: Figures and tables are informative but could be enhanced for readability. For instance, ensure all figures have clear labels, legends, and captions. Simplify complex tables by focusing on key results.</p> <p>Comparison of Methods: The manuscript compares ICA, PCA, and BFA results but could delve deeper into why BFA was chosen as the preferred method for deriving the unidimensional index. A brief discussion on the advantages and limitations of each method would add depth.</p> <p>Future Directions: Including a short section on potential future research, such as applying this methodology to other cities or integrating additional spatial variables, would highlight the study's scope for expansion.</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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