

REVIEWER'S REPORT

Manuscript No.: IJAR-59490

Title: Accessibilité et inégalités spatiales des espaces verts dans une ville sahélienne : le cas de Zinder (Niger).

Recommendation:

Accept as it is

Accept after **minor revision**.....

Accept after major revision

Do not accept (*Reasons below*)

Rating	Excel.	Good	Fair	Poor
Originality		Good		
Techn. Quality		Good		
Clarity		Good		
Significance		Good		

Reviewer's ID: JPR-115 Dr Thirunahari Ugandhar

Detailed Reviewer's Report

Reviewer's Comments on the Manuscript

Title: Accessibilité et inégalités spatiales des espaces verts dans une ville sahélienne : le cas de Zinder (Niger)

The manuscript addresses an important and relevant urban environmental issue by examining the spatial accessibility and unequal distribution of green spaces in Zinder, Niger. The integration of field-based inventory, household surveys, GIS mapping, buffer analysis, and Thiessen polygons provides a useful approach for understanding intra-urban inequalities. However, several aspects require clarification and improvement before the manuscript can be considered for publication.

Major comments

1. Research objectives and novelty: The introduction should clearly state the research objectives, research questions, and scientific novelty. The authors should explain how this study advances existing knowledge on green-space accessibility in Sahelian cities.
2. Sampling methodology: The selection of eight neighbourhoods and the sampling procedures for the 126 households and 153 other respondents require further justification. Since some neighbourhoods were selected based on their proximity to green spaces, the authors should discuss potential sampling bias and its implications for representativeness.

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3. GIS methodology: The use of centroids to represent green spaces may not adequately reflect actual pedestrian accessibility, particularly for large or irregularly shaped sites. The authors should justify this approach and acknowledge its limitations. Where possible, network-based accessibility analysis incorporating roads, pedestrian routes, and physical barriers would strengthen the findings.
4. Interpretation of accessibility: The 900 m buffer analysis identifies areas beyond the theoretical reach of functional green spaces, but straight-line distances do not necessarily represent actual travel distances. The authors should clarify this distinction and avoid interpreting buffer coverage as direct evidence of residents' effective access without supporting travel or usage data.
5. Statistical analysis: The population burden per green space and the median areas of Thiessen polygons are useful indicators, but their interpretation should be strengthened. The authors should explain how the catchment areas were calculated, clarify the basis for comparing the reported ratios, and consider whether population density and the spatial distribution of residents were adequately incorporated.
6. Legal and institutional analysis: The discussion of Niger's 2017 urban planning law is a potentially important contribution. However, claims that green-space loss results from administrative acts rather than informal occupation require robust documentary evidence. The authors should provide verifiable legal references, clarify the evidence supporting the reported absence of declassification decrees, and distinguish documented findings from interpretations.
7. Data consistency: The reported number of initial land reserves varies between 62 and 64, while the number of reserves lost is given as 54 to 56. The authors should explain these ranges, identify the source of uncertainty, and ensure consistency across the text, tables, and figures.
8. Environmental and social implications: The discussion should better connect unequal green-space accessibility with potential consequences for urban heat exposure, recreational opportunities, public health, environmental justice, and climate resilience in a semi-arid urban context. These implications should be supported by relevant literature.

Minor comments

1. The French and English abstracts should be carefully revised for grammatical accuracy, readability, and consistency in terminology.
2. The introduction appears incomplete in the supplied manuscript. The full section should establish the theoretical background, review relevant studies, identify the knowledge gap, and present the objectives.
3. All tables and figures should have clear titles, consistent numbering, complete source information, and legible labels. The maps should include appropriate legends, scale bars, north arrows, and clearly identified administrative boundaries.

International Journal of Advanced Research

Publisher's Name: Jana Publication and Research LLP

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4. The authors should define the categories functional, developed, intact, and lost operationally so that the classification can be reproduced by other researchers.
5. The limitations of the study should be explicitly acknowledged, particularly the exclusion of the fifth arrondissement, the cross-sectional nature of the survey, the reliance on theoretical catchments, and the absence of a network-based assessment of pedestrian access.
6. The references should be checked for completeness, accuracy, and consistency with the in-text citations. Recent international and regional studies on urban green-space accessibility in African and Sahelian cities should be incorporated where relevant.

Recommendation: **Minor Revision**