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REVIEWER'S REPORT

Manuscript No.: **IJAR-57785**

Title: Des cuvettes productives aux cuvettes inondées : conséquences socioéconomiques des inondations dans les cuvettes oasiennes de Kojémeri au Niger.

Recommendation:

Accept after minor revision.....

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

Reviewer's Name: FAHEEM ABDUL MUNEEB

Detailed Reviewer's Report

Overall Evaluation

The manuscript titled “*Des cuvettes productives aux cuvettes inondées : conséquences socioéconomiques des inondations dans les cuvettes oasiennes de Kojémeri au Niger*” examines the socioeconomic consequences of recurrent flooding in the oasis basins of Kojémeri, located in the Diffa Region of southeastern Niger. Drawing upon field surveys conducted with 92 agricultural households and an economic comparison of production accounts before and after the onset of recurrent flooding, the study seeks to quantify economic losses and assess the broader social impacts associated with hydrological changes affecting these productive oasis systems.

The topic is highly relevant within the fields of rural development, environmental studies, geography, climate adaptation, and Sahelian livelihood systems. While considerable attention has traditionally been devoted to drought, desertification, and water scarcity in the Sahel, the manuscript addresses a less explored but increasingly important phenomenon: the socioeconomic consequences of excess water,

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groundwater rise, and recurrent flooding in oasis environments. The study therefore contributes to an emerging body of literature examining the changing nature of environmental vulnerability in the region.

One of the manuscript's principal strengths lies in its clear empirical grounding. The analysis is based on extensive field surveys, direct engagement with local producers, and economic assessments of agricultural and natron-production activities. The paper effectively demonstrates how hydrological changes have altered agricultural calendars, reduced cultivable land, affected agroforestry systems, disrupted natron extraction, and weakened rural livelihoods. The findings provide valuable insight into the transformation of productive oasis basins into increasingly flood-affected landscapes.

The manuscript also benefits from a strong local focus. The detailed description of the organization of production systems within the oasis basins, including the central, intermediate, and external zones, helps readers understand how flooding affects different components of the local economy. The figures, photographs, and economic tables enhance the clarity of the presentation and provide useful contextual support for the analysis.

Particularly noteworthy is the attempt to quantify economic losses associated with flooding. The estimation of annual losses approaching 14 million FCFA provides a tangible measure of the economic implications of hydrological change and strengthens the practical significance of the study.

Despite these strengths, the manuscript would benefit from greater methodological precision, deeper analytical engagement, and some structural and editorial refinement. Several economic estimates rely on assumptions that require further justification, and parts of the discussion could engage more critically with broader theoretical debates on vulnerability, resilience, and environmental change.

Overall, the manuscript addresses an important and under-researched issue, presents useful empirical findings, and makes a meaningful contribution to understanding contemporary environmental transformations in the Sahel. Subject to revision, it has clear publication potential.

Strengths of the Paper

A major strength of the manuscript is its focus on a relatively neglected environmental issue. Much of the literature on Sahelian rural livelihoods has traditionally emphasized drought and water scarcity. By

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examining the socioeconomic consequences of excess water and recurrent flooding, the study highlights an emerging challenge that is increasingly affecting oasis systems across the region.

The empirical foundation of the research is another important asset. The use of field surveys involving 92 producers provides a substantial local evidence base and allows the author to capture both economic and social dimensions of environmental change. The integration of household perceptions with production-account analysis strengthens the credibility of the findings.

The manuscript also offers a detailed and informative description of oasis production systems. The discussion of concentric production zones, agricultural practices, date palm cultivation, and natron extraction provides valuable contextual information and demonstrates a strong understanding of local production dynamics.

Another commendable aspect is the effort to quantify economic impacts. The comparison of production costs and revenues before and after flooding allows the study to move beyond purely descriptive observations and provide measurable evidence of economic decline. The estimated losses associated with natron extraction and agroforestry activities significantly strengthen the practical relevance of the research.

The discussion of social consequences also enriches the manuscript. The analysis extends beyond agricultural losses to consider household impoverishment, declining economic opportunities, weakening solidarity mechanisms, and changing patterns of local conflict. This broader perspective highlights the multidimensional nature of environmental vulnerability.

The manuscript further demonstrates familiarity with the regional literature on oasis systems, groundwater dynamics, environmental change, and agricultural production in southeastern Niger. The discussion effectively situates the findings within ongoing transformations occurring across the Manga basin.

Areas for Improvement

While the study presents valuable findings, several methodological aspects require clarification. The economic analysis relies heavily on production accounts from selected representative producers, and the

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manuscript extrapolates these findings to broader populations. Greater explanation is needed regarding how these representative cases were selected and to what extent they accurately reflect the diversity of producers operating within the oasis basins.

Similarly, the estimation of total economic losses would benefit from additional methodological detail. The manuscript presents aggregate loss estimates of nearly 14 million FCFA annually, but the assumptions underlying these calculations are not always fully transparent. Providing a clearer explanation of extrapolation procedures would improve the robustness of the analysis.

The discussion section could also engage more critically with broader theoretical concepts such as resilience, adaptation, vulnerability, and livelihood diversification. Although these themes are implicitly present throughout the manuscript, they are not fully developed analytically. A stronger theoretical discussion would enhance the paper's contribution beyond the local case study.

The treatment of social impacts could likewise be expanded. The paper identifies declining solidarity, reduced participation in social activities, and increasing impoverishment, but these observations remain relatively brief. Additional discussion regarding how these social transformations affect long-term community resilience would strengthen the analysis.

Some findings would also benefit from greater nuance. For example, the manuscript highlights substantial economic losses resulting from flooding but also notes that certain previously uncultivated areas have become productive due to increased moisture availability. A more balanced assessment of both positive and negative consequences would provide a more comprehensive understanding of the ongoing transformations.

The discussion based on the Google Scholar bibliographic review appears somewhat disconnected from the primary empirical analysis. While it provides useful context regarding the increasing scholarly attention devoted to flooding, its analytical contribution to the central argument could be strengthened or integrated more directly into the discussion.

From a presentation perspective, several figures would benefit from improved formatting and resolution. Some graphical elements appear relatively simple and could be presented more professionally to enhance

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readability and visual impact. In addition, figure captions could provide slightly more explanatory detail regarding the interpretation of the data presented.

The manuscript also requires minor editorial revision. A number of typographical inconsistencies, spacing issues, and formatting irregularities appear throughout the text. Careful proofreading would improve overall readability and presentation quality.

Finally, the conclusion effectively summarizes the principal findings but could be strengthened through more explicit policy recommendations. Given the practical importance of the issue, the paper would benefit from discussing specific strategies related to water management, hydrological monitoring, flood mitigation, and adaptation planning for oasis systems in the Nigerien Sahel.

Final Recommendation

Accept with Minor Revisions

This manuscript addresses an important and increasingly relevant issue affecting oasis production systems in the Sahel. The study provides valuable empirical evidence regarding the socioeconomic consequences of recurrent flooding in the oasis basins of Kojémeri and contributes meaningfully to discussions on environmental change, rural livelihoods, and climate-related vulnerability in Niger.

The manuscript is well grounded in field research, presents useful economic estimates, and offers important insights into both the economic and social dimensions of hydrological change. While several aspects of the methodology, analysis, and presentation could be strengthened, these concerns are manageable through revision and do not undermine the overall contribution of the study.

With minor revisions aimed at improving methodological transparency, analytical depth, and editorial presentation, the manuscript would be suitable for publication.