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REVIEWER'S REPORT

Manuscript No.: IJAR-57785

Title: DES CUVETTES PRODUCTIVES AUX CUVETTES INONDEES : CONSEQUENCES SOCIOECONOMIQUES DES INONDATIONS DANS LES CUVETTES OASIENNES DE KOJEMERI AU NIGER,

Recommendation:

Accept after minor revision

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

Reviewer Name: Abdul Haseeb Mir

Detailed Reviewer's Report

The manuscript titled "**Des cuvettes productives aux cuvettes inondées: Conséquences socioéconomiques des inondations dans les cuvettes oasiennes de Kojemeri au Niger**" investigates a highly relevant ecological and socio-economic crisis within the Central Sahel. The study focuses on the Kojemeri oasis basins located in the Goudoumaria department, Diffa region of Niger. These landscape features are historically vital micro-environments that serve as critical hubs for regional agricultural productivity, livestock watering, and household economic resilience in an otherwise hyper-arid zone.

The scope of the paper is well-defined, addressing a significant paradigm shift occurring since the 2010s: the paradox of persistent, multi-year flooding in a desert fringe environment. By analyzing how rising local water tables and extreme rainfall anomalies transform these "productive basins" into permanently flooded zones, the research provides a crucial, localized evaluation of climate change adaptation challenges in sub-Saharan Africa.

Methodological Framework and Key Findings

The authors employ a balanced mixed-methods research design that successfully combines qualitative socio-economic field surveys with comparative quantitative farm financial accounting. Field data collection targeted 92 farmers operating across two primary basin sectors. The financial analysis is structured around a comparative tracking framework that compares agricultural production costs, input outlays, and crop revenues from the pre-flooding era against the current flooded reality.

The key empirical findings document severe, cascading disruptions across the local agrarian economy:

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- **Agrarian Compression:** Perpetual flooding has drastically reduced available arable land, shortened the viable agricultural calendar, and forced a near-total collapse of traditional market gardening (*cultures maraîchères*).
- **Extractive Sector Collapse:** The accumulation of excess water has completely submerged localized salt flats, leading to a near-total cessation of traditional natron (*natron*) extraction, which previously served as a major secondary source of dry-season income.
- **Severe Financial Quantifications:** The comparative accounting models reveal a massive drop in net agricultural revenue. Annual economic losses across the two studied basins are estimated at nearly 14 million CFA francs (FCFA), severely damaging household purchasing power.
- **Erosion of Social Resilience:** Beyond direct financial losses, the hydrological shift has severely strained informal community solidarity mechanisms (such as mutual aid networks), disrupted trade routes, and increased overall household vulnerability, accelerating outward seasonal migration.

Analytical Depth and Contributions to the Field

The manuscript demonstrates excellent analytical depth by looking past generic climate narratives to explore the exact socio-economic realities of rural communities. The author avoids the common pitfall of treating all water accumulation in the Sahel as a positive resource; instead, the paper illustrates how unmanaged excess water can be just as economically destructive as drought when it destabilizes specialized micro-oasis ecosystems.

The primary contribution of this work lies in providing precise financial valuations of climate-induced losses in a highly marginalized border region (the Diffa/Lake Chad basin area). It bridges the gap between physical hydrology and rural sociology, offering solid baseline data that can help non-governmental organizations and national planning agencies design targeted water management, drainage, and multi-activity resilience strategies.

Suggestions for Improvement

- **Provide an Explicit Demographic Breakdown Table:** While the study mentions surveying 92 farmers, the text needs a structured baseline table breaking down respondents by age cohorts, gender, household size, primary land tenure status (e.g., landowners vs. tenant farmers), and the exact size of holdings pre- and post-flooding.
- **Integrate a Geographic and Hydrographic Map:** Introduce a high-quality multi-scale figure containing a map of Niger highlighting the Diffa region/Goudoumaria department alongside a localized spatial layout of the Kojemeri oasis basins. This layout should visually show the expansion of the permanent water bodies over the past decade.

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- **Incorporate a Complete Financial Accounting Matrix:** Expand the narrative on economic losses by presenting a comprehensive data table detailing the specific financial metrics before and during the flooding. This matrix should itemize average expenditures on seeds, fertilizers, and manual labor alongside gross and net revenues per hectare for principal crops like peppers, onions, and dates.
- **Elaborate on the Physical Drivers of the Rising Water Table:** While the paper mentions increased rainfall extreme events, it should expand the environmental context section to briefly explain the broader hydrogeological mechanisms. Discuss whether this flooding is driven by regional water table recharges, changes in localized surface runoff patterns due to soil crusted layers (*médardisation*), or structural siltation of regional drainage channels.
- **Detail the Traditional Natron Extraction Framework:** Expand the discussion on the economic collapse of natron extraction. Provide more context regarding the scale of this activity prior to the 2010s, including how many households relied on it, how it was traded across regional borders (e.g., export lines to Nigeria), and the exact financial loss caused specifically by this extraction shutdown.
- **Clarify the Survey Sampling Selection Criteria:** In the methodology section, explicitly clarify how the 92 farmers were selected. Specify whether the authors utilized random sampling, stratified sampling based on basin location, or purposive sampling, and discuss how this selection limits or supports the generalizability of the socio-economic findings.
- **Deepen the Discussion on Non-Farm Adaptation Strategies:** Expand the text to evaluate how households are actively shifting their livelihoods in response to the permanent water presence. Discuss whether any spontaneous adaptation transitions are occurring, such as a shift toward small-scale aquaculture/fishing or modified livestock watering patterns.
- **Formulate an Explicit Study Limitations Section:** Add a dedicated subsection acknowledging the limitations of the research, such as the reliance on memory-based historical accounting declarations from farmers regarding pre-flooded yields, the focus on two specific basins, and the lack of real-time hydrographic monitoring instruments.
- **Refine Typographical and Formatting Layout Slips:** Conduct a thorough proofreading pass to resolve minor formatting and spacing errors. For instance, fix the duplicate word error in the abstract phrase "**rural ural households**" and verify that all localized bioclimatic terms are consistently presented.
- **Standardize and Verify Bibliographic References:** Ensure the entire reference list is formatted uniformly under a single recognized academic manual (such as APA 7th edition or Vancouver).

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Check that all in-text citations (e.g., Mamadou et al., 2020; Ozer et al., 2017) correspond perfectly to the bibliography, and include missing publication metadata such as volume numbers, page ranges, and active DOIs.

Recommendation for Publication

I recommend this manuscript for **publication with minor revision**. The article addresses a highly compelling, atypical climate adaptation challenge in the Sahelian zone using a solid combination of household surveys and farm financial metrics. The focus on oasis basins fills a clear gap in geographic and rural development literature. Once the authors introduce structured demographic tables, include a spatial geographic reference map, and provide a clear financial comparison matrix for the agricultural accounts, this paper will be an excellent, high-impact addition to journals specializing in arid lands research, rural sociology, agricultural economics, or African environmental development.