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REVIEWER'S REPORT

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Title: THE CORRELATION BETWEEN PRODUCTIVITY AND CROPPING SYSTEMS IN WEST AFRICA : THE CASE OF THE PENZA HYDRO-AGRICULTURAL PERIMETER IN BURKINA FASO

Recommendation:

- Accept as it is.....**YES**.....
- Accept after minor revision.....
- Accept after major revision
- Do not accept (*Reasons below*)

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

Reviewer's Name: Tahir Ahmad

Reviewer's Decision about Paper: **Recommended for Publication.**

Comments (*Use additional pages, if required*)

Reviewer's Comment / Report

Title:

The title is clearly formulated and geographically and thematically specific. It identifies the key variables under study—productivity and cropping systems—within a defined case study setting, namely the Pensa hydro-agricultural perimeter in Burkina Faso.

Abstract:

The abstract provides a concise yet informative summary of the study's background, methodology, findings, and key implications. It contextualizes the study historically with reference to the 1970s drought, which led to the proliferation of hydro-agricultural schemes

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across West Africa. The research is grounded in an econometric approach using cross-sectional data and specifically utilizes a logit model for analysis.

Key empirical findings are presented, including the identification of two dominant cropping systems (monoculture and polyculture), average waiting periods for phytosanitary product application, and profitability insights for specific crops under each system. Notably, the abstract highlights that cowpea is more profitable in monoculture while onion performs better in mixed cropping. The reported coefficient of determination (0.8106) suggests a strong statistical relationship between cropping systems and productivity.

Keywords:

The selected keywords—*Correlation, Cropping systems, Econometric method, Pensa, Burkina Faso*—are pertinent and reflect the core concepts of the research. They support thematic clarity and enhance the article's discoverability.

Introduction:

The introduction opens by framing the broader agricultural practices in the Global South, particularly the adaptation of cropping systems to mitigate environmental and productivity challenges. It acknowledges the dual evolution of input-intensive and species-diversified systems aimed at improving yield outcomes.

The historical context is extended through a comparative lens involving European agrarian transitions, which adds a theoretical and evolutionary dimension to the study. This backdrop serves to reinforce the importance of optimizing cropping systems in contemporary settings such as Pensa.

The reference to input optimization, biodiversity planning, and synthetic fertilizers provides an integrated understanding of modern agronomic practices. The transitions in European agriculture—ranging from predation to fallow and ploughing systems—are briefly reviewed, linking them conceptually to current hybrid systems involving crop-livestock associations.

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Overall Assessment:

The abstract and introduction establish a solid contextual and methodological foundation for the study. The framing of the research problem is clear, and the relevance to agricultural development in water-stressed regions of West Africa is evident. Empirical findings and historical reflections are balanced to offer both practical and theoretical insight. The statistical association reported supports the stated objectives and highlights the significance of cropping system choices in influencing farm productivity.