

## REVIEWER'S REPORT

Manuscript No.: IJAR-55058

Title: Towards smart agriculture in the Thiès region

### Recommendation:

Accept as it is .....

Accept after minor revision.....

Accept after major revision .....

Do not accept (*Reasons below*) .....

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

Reviewer Name: Dr. Hari Prashad Joshi

### Detailed Reviewer's Report

Recommendation: Major Revision

This manuscript presents an ambitious and well-conceptualized framework for implementing a smart agriculture system at an academic hub in Senegal, integrating IoT, LoRaWAN, and AI technologies across multiple agricultural value chains. The strength of the work lies in its holistic, modular approach and the thorough laboratory validation of the core data acquisition and transmission architecture using RS485, Modbus, and MQTT protocols. The proposed scalable design, consideration of a private LoRa network, and roadmap for integrating drones and edge-AI (Kendryte K210) are particularly compelling and address a significant gap in unified architectures for diverse agro-ecosystems.

However, acceptance is recommended only after major revisions. The primary concern is the positioning of the manuscript; it reads more as a detailed project proposal or system design document than a research paper presenting concluded findings. The "Results" section primarily validates technical feasibility in a lab setting, while the extensive "Design" and "Prospects" sections detail future work. To meet publication standards, the authors must reframe the study to clearly present a completed phase of research. This requires consolidating the current laboratory results as a proof-of-concept pilot, significantly expanding the "Results" section with quantitative performance data from field tests (even if preliminary), and moving the extensive future deployment plans (e.g., 8-channel gateway deployment, multi-gateway network, drone integration) to a distinct "Future Work" section. Additionally, several figures are referenced but not provided in the text (e.g., Figures 10, 13, 19, 20, 23), and the bibliography formatting is inconsistent. Addressing these issues will transform the manuscript from a promising proposal into a substantive contribution documenting a critical first implementation phase.