## REVIEWER'S REPORT

Manuscript No.: IJAR-56506

**Title: Smart Pest Management: Empowering Andhra Pradesh's Smallholder Farmers with AI-Driven Crop Health Monitoring.**

**Recommendation:**

Accept as it is …………………………………

Accept after minor revision    yes

Accept after major revision ………………

Do not accept (*Reasons below*)………

| Rating | Excel. | Good | Fair | Poor |
|---|---|---|---|---|
| Originality | | yes | | |
| Techn. Quality | | yes | | |
| Clarity | yes | | | |
| Significance | | yes | | |

Reviewer'sName – Dr. Himanshu Gaur

## *Detailed Reviewer'sReport*

The manuscript titled **"Smart Pest Management: Empowering Andhra Pradesh's Smallholder Farmers with AI-Driven Crop Health Monitoring"** addresses an important and timely issue in modern agriculture by examining the role of artificial intelligence–based pest management solutions in improving crop productivity and sustainability among smallholder farmers. The study is relevant given the growing need for digital agriculture tools that can help farmers reduce pesticide use, improve crop health, and enhance environmental sustainability. The use of a **mixed-method research design**, combining quantitative data from 416 farmers with qualitative insights from farmer and extension agent interactions, strengthens the study by providing both statistical evidence and contextual understanding. The findings indicating a **23% reduction in pesticide use**, **17% increase in crop productivity**, and a **115% return on investment (ROI)** highlight the potential benefits of AI-driven agricultural technologies such as crop health monitoring applications. The statistical analyses using descriptive statistics, regression, t-tests, and ANOVA add analytical depth and support the conclusions regarding the influence of mobile access and digital competence on AI adoption. However, the manuscript would benefit from several improvements. The **abstract contains grammatical inconsistencies, repetition, and formatting issues** that should be carefully revised for clarity and academic tone. The **methodology section should provide clearer explanations of the sampling method, questionnaire design, and variable measurement**, while the **results section could further elaborate on the statistical interpretation and compare findings with existing literature on digital agriculture and precision farming**. Additionally, the **policy recommendations could be more concise and directly linked to the empirical findings**. Overall, the study contributes valuable insights into the role of AI in sustainable pest management and digital agriculture in India, but **minor revisions related to language refinement, methodological clarity, and stronger linkage between results and implications are recommended before publication**.