



REVIEWER'S REPORT

Manuscript No.: IJAR-55079

Title: Unlocking Time, Unlocking Potential: How JJM Enhances 1 Women's Participation in SHGs in Dima Hasao, Assam

Recommendation:

Accept after minor revision.....

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

Reviewer Name: Dr. Medilyn M. Ines

Detailed Reviewer's Report

DETAILEDREVIEW REPORT

1. TitleEvaluation

Strengths:

- The title is clear, compelling, and highlights both the central intervention (JJM) and its impact on women’s participation in SHGs within a specific geographic context.

Suggestions:

- Consider refining the title by specifying the full meaning of “JJM” or clarifying the nature of the enhancement to make the research scope more immediately understandable to readers.
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2. AbstractReview

Strengths:

- The abstract clearly presents the study’s purpose, context, methodology, and key indicators, offering a coherent overview of how JJM may influence women’s empowerment through SHG participation.

Weaknesses:

- The abstract does not explicitly state the main research gap or highlight expected findings, making it slightly less informative for readers seeking clear conclusions..

Recommendation:

- Clarify the specific research gap and briefly indicate the anticipated contribution or implication of the study to strengthen the abstract’s standalone value.
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3. Introduction

Strengths:

- The introduction provides a comprehensive, well-supported background that clearly establishes the global, national, and gender-related significance of water access and situates JJM within this broader context.

Weaknesses:

- The introduction is overly lengthy and dense, which may overwhelm readers and obscure the central argument or research focus.

Recommendations:

- Streamline the introduction by removing repetitive details, organizing ideas more concisely, and linking the discussion more directly to the study's specific research problem and objectives.
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4. ProblemStatement

Strengths:

- The study addresses a critical gap by linking rural water access with women's empowerment, time use, and participation in SHGs in a remote tribal context.

Weaknesses:

- The focus on only two high-performing villages may limit the generalizability of findings to other regions with lower JJM coverage.

Recommendations:

- Future research should expand to diverse villages to assess the broader impact of water infrastructure on women's socio-economic empowerment across different contexts.

5. Literature Review

Recommendations:

- Provide a detailed literature review for this article by examining, analyzing, and synthesizing previous studies, theories, and findings relevant to the topic, highlighting gaps, trends, and contributions to contextualize the research..

6. Methodology & System Architecture

Strengths:

- The methodology effectively combines quantitative and qualitative approaches, allowing for a comprehensive analysis of JJM's impact on women's empowerment and time use.

Weaknesses:

- The purposive selection of only two high-performing villages may introduce selection bias and limit the generalizability of the findings.

Recommendations:

- Future studies should include a more diverse sample of villages with varying levels of JJM implementation to provide a broader and more representative assessment.

7. Digital Twin Development

Strengths:

- Good explanation of real-time integration between edge inference and cloud visualization.
- Covers MQTT protocol, Unity modeling, and data synchronization.

Weaknesses:

- Needs more clarity on actual 3D modeling workflow.
- No algorithmic description (e.g., pseudocode) for integration steps.

8. Results&Analysis

Strengths:

- The results clearly demonstrate statistically and qualitatively significant improvements in women's time use, SHG participation, and empowerment, providing strong evidence of JJM's positive impact.

Weaknesses:

- The study focuses only on high-performing villages, which may not capture the experiences of women in areas with lower or partial JJM implementation.

Recommendations:

- Subsequent studies should examine villages with different levels of FHTC coverage to evaluate the generalizability and potential scalability of these empowerment effects.

9. Discussion

Strengths:

- The discussion effectively highlights how JJM's provision of household tap connections has tangibly enhanced women's socio-economic participation and empowerment in tribal regions.

Weaknesses:

- The discussion primarily focuses on high-performing villages, limiting insights into how JJM impacts women in areas with lower or inconsistent water access.

Recommendations:

- Future rural infrastructure programs should integrate gender-sensitive strategies to maximize women's empowerment and ensure equitable outcomes.
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10. Conclusion

Strengths:

- The conclusion effectively synthesizes quantitative and qualitative findings to demonstrate how JJM-enabled water access empowers women and promotes socio-economic participation.

Weaknesses:

- The conclusion may overgeneralize the impact of JJM without addressing variations in outcomes across different regions or levels of implementation.

Recommendations:

- Future development initiatives should adopt integrated models that combine basic infrastructure with economic and social programs to maximize community transformation.
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11. References

Weaknesses:

- Some references are slightly dated, which may limit the reflection of the most current developments and recent data in the field.

Recommendations:

- Future research should incorporate more recent studies and regional reports to ensure the literature reflects up-to-date trends, policies, and programmatic outcomes.
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Overall Comments

- Provides a comprehensive examination of the Jal Jeevan Mission's impact on women's empowerment.
 - Effectively integrates both quantitative and qualitative data for robust analysis.
 - Demonstrates significant time savings, increased SHG participation, and enhanced socio-economic engagement of women.
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OverallMark:

7 / 10

Decision: *Minor Revision*