



EUROPEAN SCIENTIFIC JOURNAL
by European Scientific Institute



Paper: “The Performance of Small-Town Water Systems in the Upper West Region of Ghana”

Submitted: 03 March 2026

Accepted: 13 April 2026

Published: 30 April 2026

Corresponding Author: Patrick Aaniamenga Bowan

Doi: [10.19044/esj.2026.v22n11p20](https://doi.org/10.19044/esj.2026.v22n11p20)

Peer review:

Reviewer 1: Madan Maharjan
University of North Carolina Pembroke, USA

Reviewer 2: Ivan Steenkamp
Unicaf University, Zambia

Reviewer 3: Blinded

Reviewer C:

Recommendation: Resubmit for Review

The TITLE is clear and it is adequate to the content of the article.

It could be better by stating what type of performance was sought.

The ABSTRACT clearly presents objectives, methods, results, and conclusions.

Yes, the abstract contains them.

There are a few grammatical errors and spelling mistakes in this article.

There are a few grammatical errors and spelling mistakes in this article. Please see the attached file for more details.

The study METHODS are explained clearly.

see attached file

The results are clear and do not contain errors.

see attached file

The CONCLUSION or summary is accurate and supported by the content.

see attached file

The list of REFERENCES is comprehensive and appropriate.

Yes, it is appropriate, but the references are not consistent.

Please rate the TITLE of this paper.

[Poor] 1-5 [Excellent]

4

Please rate the ABSTRACT of this paper.

[Poor] 1-5 [Excellent]

4

Please rate the LANGUAGE of this paper.

[Poor] 1-5 [Excellent]

3

Please rate the METHODS of this paper.

[Poor] 1-5 [Excellent]

2

Please rate the RESULTS of this paper.

[Poor] 1-5 [Excellent]

2

Please rate the CONCLUSION of this paper.

[Poor] 1-5 [Excellent]

3

Please rate the REFERENCES of this paper.

[Poor] 1-5 [Excellent]

4

Overall Recommendation!!!

Return for major revision and resubmission

Comments and Suggestions to the Author(s):

Manuscript Title: The Performance of Small-Town Water Systems in the Upper West Region of Ghana

1. Summary of the Manuscript

This manuscript investigates the performance of small-town water supply systems in the Upper West Region of Ghana, focusing on system functionality, management practices, technical challenges, and sustainability. The study employs mixed-methods research design, combining questionnaire surveys with interviews and focus group discussions involving water users, system operators, and stakeholders from the Community Water and Sanitation Agency. The results suggest that while most systems remain operational, they function below optimal performance levels, with major technical challenges including pump failures, pipe leakages, and unreliable electricity supply. Additionally, issues related to limited technical capacity, financial constraints, and centralized management structures were identified as factors affecting system sustainability. The topic is important and relevant to sustainable water management in rural and peri-urban communities, particularly in developing regions. However, several aspects of the study require improvement to strengthen the scientific rigor, clarity of objectives, and robustness of the methodology.

2. Major Comments

2.1 Research Objectives and Research Questions

While the manuscript generally states that the study aims to assess the performance of small-town water systems in the region, the research objectives are not clearly presented in a structured format.

2.2 Conceptual Framework

The literature review provides a useful overview of water system performance indicators such as functionality, service level, water quality, and sustainability. However, the manuscript lacks a clear conceptual or analytical framework linking these indicators to the research methodology.

2.3 Methodology Limitations

The methodology section explains that the study applied an exploratory design using both qualitative and quantitative methods, including surveys and interviews. While this approach is appropriate for assessing governance and user perceptions, the study relies heavily on perception-based data rather than technical system data. The study does not include any technical data such as actual water production data, pumping rates, system downtime statistics, hydraulic system performance, water loss or leakage measurements, etc.

2.4 Sample Size and Sampling Design

The study includes 200 water users and 25 stakeholders. While the stratified sampling approach is mentioned, the manuscript does not sufficiently explain how representative the selected six systems are relative to the total number of systems in the region. In my opinion providing more detail would improve the transparency and reliability of the sampling approach. Another setback for me is that data is kept hidden but only the results are shared.

2.5 Statistical Analysis

The quantitative analysis primarily uses descriptive statistics (percentages and charts). While this provides an overview of responses, the study would benefit from more advanced statistical analysis such as regression analysis to identify factors influencing system performance, factor analysis to group major operational challenges, or just a correlation analysis between satisfaction levels and system reliability. I would recommend the authors to use the SPSS to run these tests. More rigorous analysis would strengthen the scientific contribution of the study.

2.6 Interpretation of Results

The results identify several important challenges, including pump failures, pipe leakages, and unstable electricity supply. However, the interpretation remains largely descriptive. The manuscript reports that water supply coverage across the selected districts is below 3%, which appears unusually low and requires additional explanation regarding how this figure was calculated. Clarifying the methodology used to derive this statistic is necessary.

3. Minor Comments

- Some sections of the literature review are overly descriptive and could be condensed to improve readability.
- Figures should include clearer captions and explanations within the text and maximize the utilization of space.
- The English language is generally understandable but would benefit from minor grammatical editing. Rearrange the order in figure 4.
- The discussion section largely repeats results and literature rather than critically interpreting the findings.

4. Strengths of the Study

The manuscript has several strengths:

- The research topic is highly relevant to sustainable water management.
- The study addresses an important regional research gap.
- The mixed-methods approach captures both user perceptions and institutional perspectives.
- The study highlights key governance and sustainability challenges affecting rural water systems.

These contributions make the study potentially valuable for policymakers and water management practitioners.

Reviewer D:

Recommendation: Accept Submission

The TITLE is clear and it is adequate to the content of the article.

The title is clear, concise, and adequately reflects the content of the article.

The ABSTRACT clearly presents objectives, methods, results, and conclusions.

The abstract clearly presents the objectives, methods, results, and conclusions; however, it could be more concise.

There are a few grammatical errors and spelling mistakes in this article.

Although the manuscript is generally well written, several grammatical issues, inconsistencies (e.g., hyphenation of ‘small-town’), and minor spelling errors (e.g., ‘reservoir’) were identified across the abstract, introduction, and results sections. These should be carefully revised to improve clarity, consistency, and readability.

The study METHODS are explained clearly.

The methodology is clearly described, including the study design, sampling strategy, data collection procedures, and analysis methods.

The results are clear and do not contain errors.

The results are clearly presented and well organised; however, there are minor inconsistencies and typographical errors that should be corrected.

The CONCLUSION or summary is accurate and supported by the content.

The conclusion is well aligned with the study findings and is adequately supported by the results presented.

The list of REFERENCES is comprehensive and appropriate.

The reference list is comprehensive and appropriate, although minor inconsistencies in formatting should be addressed.

Please rate the TITLE of this paper.

[Poor] 1-5 [Excellent]

4

Please rate the ABSTRACT of this paper.

[Poor] 1-5 [Excellent]

4

Please rate the LANGUAGE of this paper.

[Poor] 1-5 [Excellent]

3

Please rate the METHODS of this paper.

[Poor] 1-5 [Excellent]

4

Please rate the RESULTS of this paper.

[Poor] 1-5 [Excellent]

4

Please rate the CONCLUSION of this paper.

[Poor] 1-5 [Excellent]

4

Please rate the REFERENCES of this paper.

[Poor] 1-5 [Excellent]

4

Overall Recommendation!!!

Accepted, minor revision needed

Comments and Suggestions to the Author(s):

This is a well-written and valuable study with practical implications for water system management. Addressing the above minor issues will significantly enhance the clarity, consistency, and overall quality of the manuscript.
