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REVIEWER'S REPORT

Manuscript No.: **IJAR- 53877** **Date**: 16-09-2025

Title: Assessment of hydraulic performance and inequalities in access to the Yopougon-KoweÃƒÂ¯t drinking water supply network (Abidjan, CÃƒÂ´te d'Ivoire)

Recommendation:
Accept as it is .....
Accept after minor revision ...✓.....
Accept after major revision.....
Do not accept (*Reasons below*) .....

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

Reviewer Name: **Sudhanshu Sekhar Tripathy** **Date:** 16-09-2025

Reviewer's Comment for Publication.

(*To be published with the manuscript in the journal*)

The reviewer is requested to provide a brief comment (3-4 lines) highlighting the significance, strengths, or key insights of the manuscript. This comment will be Displayed in the journal publication alongside with the reviewer's name.

Reviewer's Comment for Publication

This paper evaluates the **hydraulic performance and inequalities in water access** in the Yopougon-Koweït neighborhood of Abidjan. Using production, consumption, and billing data from **2010, 2015, and 2022**, combined with field measurements of pressure and flow, the study provides a detailed technical and socio-economic analysis of water distribution. The topic is **timely, relevant, and aligned with SDG 6 (Clean Water and Sanitation)**. However, the paper requires **minor revisions** to strengthen methodological clarity, presentation, and reference formatting.

Detailed Reviewer's Report

1. Scope & Relevance:

- Strong relevance to **urban water management, hydraulic engineering, and sustainable development**.

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- Provides insights into both **technical efficiency** and **social inequalities in water access**.

2. Structure & Technical Presentation:

- Well-structured: Abstract, Introduction, Methods, Results, Discussion, Conclusion.
- Tables and figures (maps, pressure profiles, density evolution) support the analysis.
- Recommend adding a **conceptual/flowchart diagram** summarizing performance indicators (access rate, efficiency, water loss, pressure profile).

3. Experimental / Methodological Details:

- Data from **SODECI (2010, 2015, 2022)** is appropriate.
- Indicators (efficiency, linear loss index, access rate, cancellation rate, service hours, pressure variability) are well-explained.
- Improvements needed:
  - Clarify reliability/accuracy of field pressure and flow measurements.
  - Provide rationale for selecting the three study years (2010, 2015, 2022).
  - Explicitly state limitations (e.g., reliance on administrative data, no household survey validation).

4. References & Citations:

- Good mix of local and international sources.
- Formatting inconsistencies (italics, capitalization, missing DOIs).
- Some older references could be complemented with **recent works (2021–2025)** on **urban hydraulics, water equity, and African water governance**.

5. Language & Style:

- Language is clear and academic, though some sentences are overly long.
- Minor typographical and spacing errors should be corrected.
- Ensure consistency in terms (e.g., "water losses" vs. "linear loss index").

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6. Key Strengths:

- Comprehensive technical and social analysis of water supply.
- Empirical evidence across multiple years, highlighting improvements and challenges.
- Integrates **hydraulic performance measures** with **equity/access concerns**.

7. Areas for Improvement:

- Add a **flowchart/framework** of key performance indicators.
- Provide more details on **field measurement reliability**.
- Discuss explicitly the **health risks of negative pressure values** (noted at -1.25 mCE).
- Update and standardize references.
- Shorten overly long sentences for readability.

Final Feedback to Author

This paper is a valuable contribution to research on **urban water distribution, hydraulic performance, and access inequalities**. With **minor revisions** — specifically framework inclusion, methodological clarification, updated references, and improved readability — the paper will be ready for publication.