

## REVIEWER'S REPORT

Manuscript No.: IJAR- 58437

**Title: Accessible Municipal Water Sources in Erelu Waterworks Zone, Oyo State, Nigeria.**

### 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: **ANAPANA GOPAL**

### Reviewer's Comment for Publication.

#### General Comments

The manuscript investigates household water sources, accessibility, reliability, preferences, and usage patterns within the Erelu Waterworks Zone of Oyo State, Nigeria. Using questionnaire data collected from 898 households across four Local Government Areas, the study provides valuable information regarding dependence on hand-dug wells, boreholes, and packaged drinking water in the absence of functional municipal piped water. The topic is highly relevant to public health, urban planning, water resource management, and Sustainable Development Goal (SDG) 6.

The study has practical significance and presents an extensive dataset. However, the manuscript requires **minor revision** due to methodological limitations, inappropriate statistical analysis, repetitive presentation, excessive descriptive narration, language issues, and inadequate interpretation of the findings.

#### Minor Comments

##### 1. Novelty should be better justified

Although the manuscript presents extensive survey data, its scientific novelty is not clearly established.

The authors should explain:

- how this study differs from previous household water accessibility studies in Nigeria,
- the unique contribution of the Erelu Waterworks Zone,
- the implications for urban water governance,
- how the findings advance existing knowledge.

##### 2. Research methodology requires greater detail

The Materials and Methods section should provide additional information regarding:

- questionnaire validation,
- pilot testing,
- reliability statistics (Cronbach's alpha),

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- inclusion and exclusion criteria,
- ethical approval,
- informed consent,
- handling of incomplete questionnaires,
- potential sources of sampling bias.

Although 1,000 questionnaires were distributed and 898 were reportedly retrieved, later analyses use different totals (e.g., 805, 851, 854, 856, and 857 respondents), creating inconsistencies that require clarification.

### **3. Statistical analysis is inappropriate in several sections**

The manuscript relies heavily on descriptive statistics and one-sample t-tests.

However:

- a one-sample t-test may not be the most appropriate statistical approach for comparing categorical household water sources,
- Chi-square tests, logistic regression, or multinomial regression would be more suitable,
- confidence intervals should be reported,
- effect sizes should be presented,
- assumptions for statistical tests should be clearly stated.

The interpretation of the one-sample t-test also requires further justification.

### **4. Results section is excessively descriptive**

The Results section contains lengthy narrative descriptions that simply restate table values.

Instead:

- summarize key findings,
- avoid repeating numerical values already presented in tables,
- emphasize statistically significant findings,
- reduce redundancy.

This would substantially improve readability.

### **5. Figures require considerable improvement**

Many figures retain the default title "**Chart Title**", which is inappropriate for publication.

The authors should:

- replace all default chart titles,
- improve image resolution,
- standardize formatting,
- enlarge axis labels,
- improve figure captions,
- maintain consistent graphical style throughout the manuscript.

### **6. Discussion should be more analytical**

The discussion primarily repeats the results rather than critically interpreting them.

Additional discussion should include:

- groundwater sustainability,
- groundwater contamination risks,
- urbanization impacts,

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- climate variability,
- socioeconomic inequalities,
- public health implications,
- water governance,
- sustainable groundwater management.

### **7. Conclusion should focus on policy implications**

The conclusion should extend beyond summarizing the findings.

Please include:

- recommendations for state water authorities,
- infrastructure rehabilitation,
- groundwater quality monitoring,
- rainwater harvesting strategies,
- investment priorities,
- implications for achieving SDG 6.

### **Minor Comments**

#### **Abstract**

The abstract is informative but should:

- reduce excessive numerical reporting,
- clearly mention the study design,
- include practical recommendations,
- briefly state policy implications.

#### **Keywords**

Consider adding:

- Water accessibility
- Groundwater
- Urban water supply
- Water security
- Household survey
- Sustainable Development Goal 6

#### **Introduction**

The introduction is comprehensive but unnecessarily long.

It should:

- reduce repetition,
- better identify the research gap,
- conclude with clear study objectives and hypotheses.

#### **Materials and Methods**

Additional information should include:

- questionnaire structure,
- variable definitions,
- software used for analysis,
- handling of missing data,
- reliability testing,
- quality assurance procedures.

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### Results

Several tables and figures present similar information.

Consider:

- combining related tables,
- reducing repetitive descriptions,
- presenting summary statistics,
- improving readability.

### Figures

Figures require minor formatting improvements.

Please:

- remove default chart titles,
- improve graphical quality,
- standardize fonts,
- improve legends,
- use consistent formatting throughout the manuscript.

### Tables

Tables contain valuable information but require:

- standardized decimal places,
- improved formatting,
- clearer headings,
- consistent sample sizes,
- explanation of abbreviations.

### Discussion

The discussion should compare findings with more recent national and international studies and critically evaluate why boreholes are preferred despite heavy reliance on hand-dug wells.

### Language

The manuscript requires extensive English language editing.

Common issues include:

- grammatical errors,
- repetitive wording,
- awkward sentence construction,
- inconsistent capitalization,
- punctuation problems,
- spacing inconsistencies.

Several paragraphs are unnecessarily long and should be divided into shorter, clearer sections.

### References

The reference list is extensive and generally relevant.

However, the authors should verify:

- consistency of citation style,
- DOI formatting,

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- journal abbreviations,
- uniform capitalization,
- completeness of publication details.

### Strengths

- Addresses an important public health and water resource management issue.
- Large household survey involving 898 respondents.
- Practical relevance for urban planning and water policy.
- Comprehensive assessment of multiple household water uses.
- Includes water accessibility, reliability, and preference analyses.
- Findings contribute to understanding groundwater dependence in urban Nigeria.

### Weaknesses

- Scientific novelty is insufficiently highlighted.
- Statistical analysis requires improvement.
- Sample size inconsistencies need clarification.
- Results section is overly descriptive and repetitive.
- Figures require substantial formatting improvements.
- Discussion lacks critical interpretation.
- English language requires considerable editing.

### Recommendation

#### Minor Revision