Water Supply and access in Nigeria

Introduction

- Our study focuses on the issue of water supply and access in Nigeria, which is a major concern across the country. As a team, we agreed to work on this topic because it is a pressing issue that affects many communities and deserves more attention.

- To support our research, we designed a questionnaire and shared it with respondents from different parts of Nigeria, covering all six geo-political zones. This helped us gather real insights into how people experience water challenges in their daily lives.

Problem Statement

Access to safe and affordable water in Nigeria remains unequal, with rural areas and certain regions facing greater challenges. Many households still rely on unsafe or distant water sources, spend heavily on water, or do not treat it before consumption—leading to health risks.

This study investigates water accessibility, quality, and treatment across Nigeria's geopolitical zones, highlighting disparities by age, gender, region, and settlement type. The goal is to generate data-driven insights that can guide policies to improve water safety and equity nationwide.

Objectives

- **Analyze the link between water access and health issues** in different zones.
- **Evaluate water accessibility** across regions and between urban and rural areas.
- **Identify common household water treatment methods** and their effectiveness
- **Recommend improvements** for water infrastructure and public health based on findings.

Methodology

Study Population and Location:

The study was conducted in Nigeria, with responses spanning across all six geopolitical zones. Data was collected from both rural and urban areas, providing a comprehensive overview of water access, treatment practices, and related health issues across different regions.

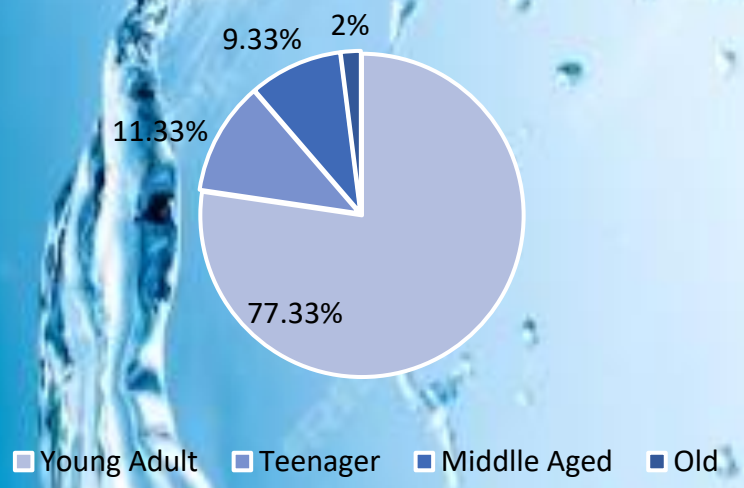
Data Collection & Insights:

Primary data was collected through an online questionnaire distributed across Nigeria's six geopolitical zones. The responses were cleaned and organized using **Microsoft Excel**, and analyzed and visualized using **Power BI** to identify patterns and insights.

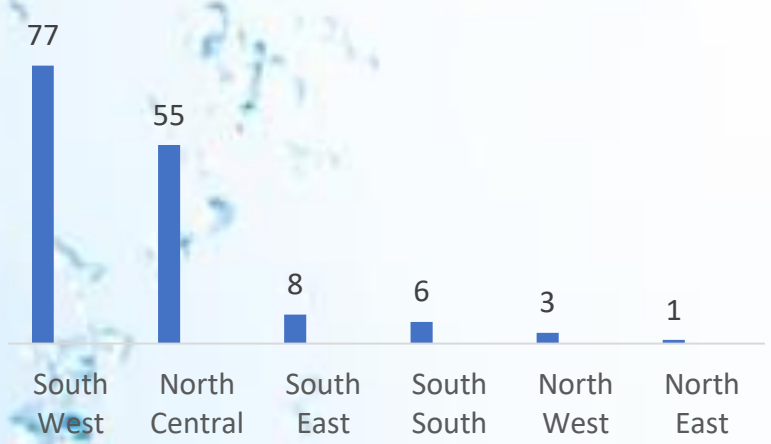
01 Data Collection → 02 Data Analysis → 03 Results

Demographic Findings

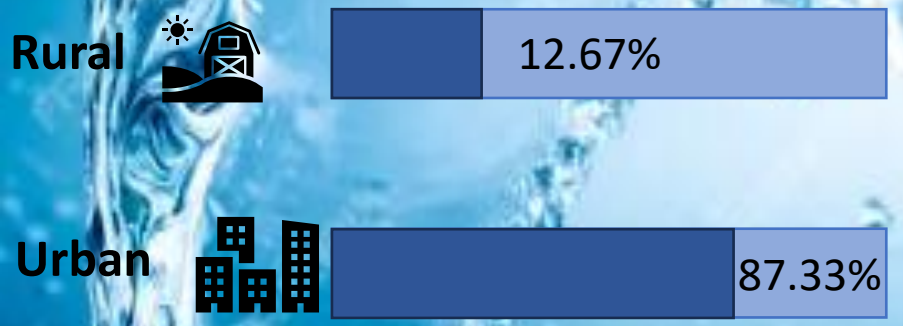
Age bracket of Respondents



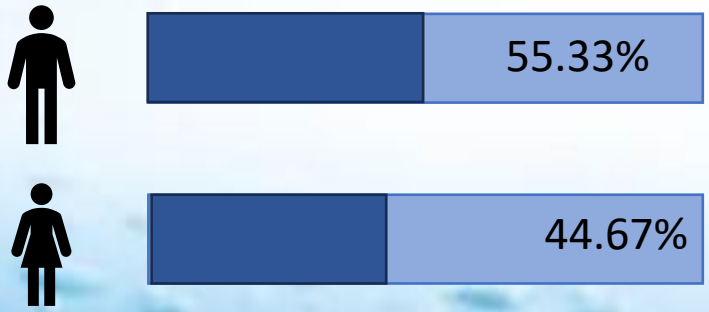
Geopolitical Zones



Region Distribution



Gender Distribution



- Majority of respondents are **young adults (ages 21–30)**.
- **Male respondents** make up the larger proportion of the sample.
- The **South West region** had the highest number of responses, with **77 respondents**.
- Most responses were from individuals living in **urban areas**.

Water Accessibility

24.59% Of Nigerians say that Cost is the major challenge they face in accessing water

#616.67 Is the average amount of money spent on water Weekly.

Other Challenges are;

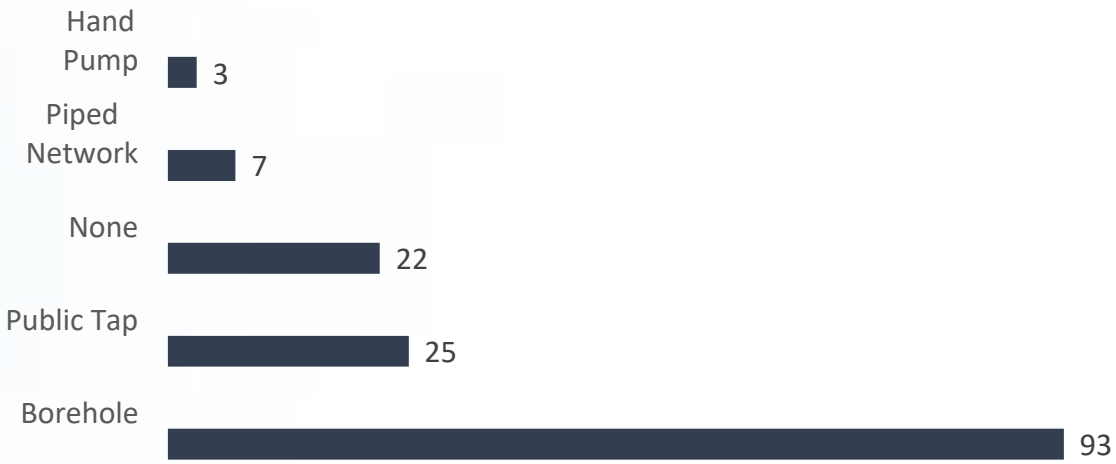
24.04% Quality

12.57% Distance

17.49% Infrastructure Failure

21.31% Others

Water Supply Infrastructure



Primary Sources of Water in Nigerian Households

54.67% Borehole

20.67% Well

12.67% Packaged Water

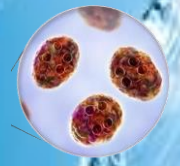
10% Pipe borne Water

0.67% Stream/River

0.67% Tank Water

0.67% None

Water Quality and Treatment

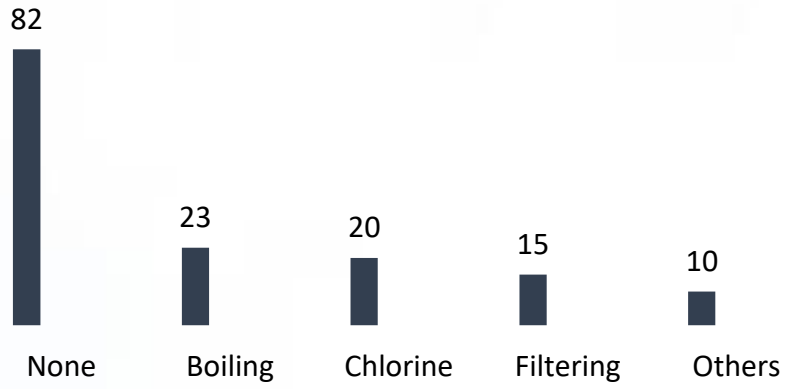


34.67%

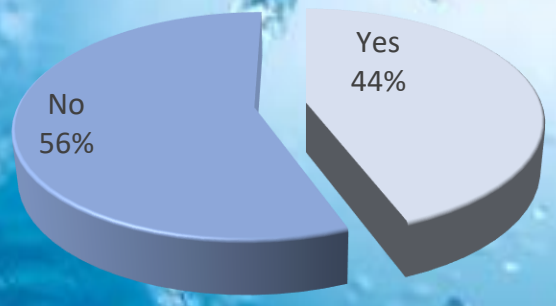
Of Nigerians have Water-Related Illnesses.

Not all the respondents have access to safe sources of water. Treatment practices such as boiling, filtration and chlorine are common but many still do not treat their water

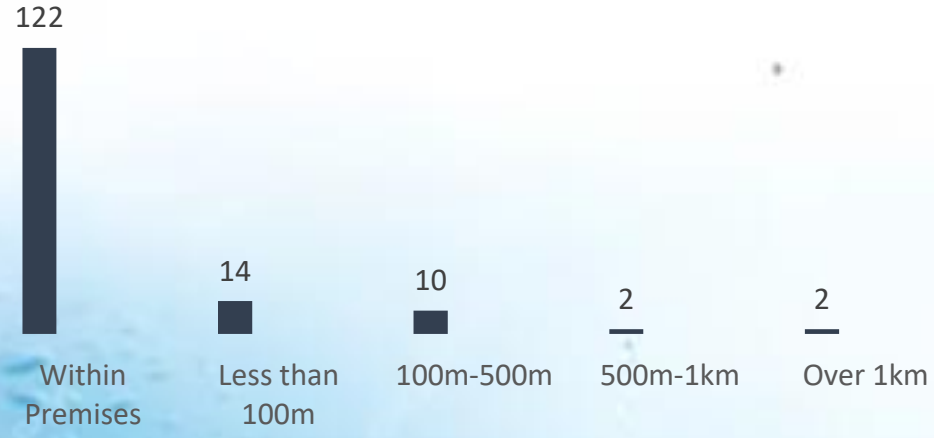
How People Treat their water



How Many People Treat Their Water?

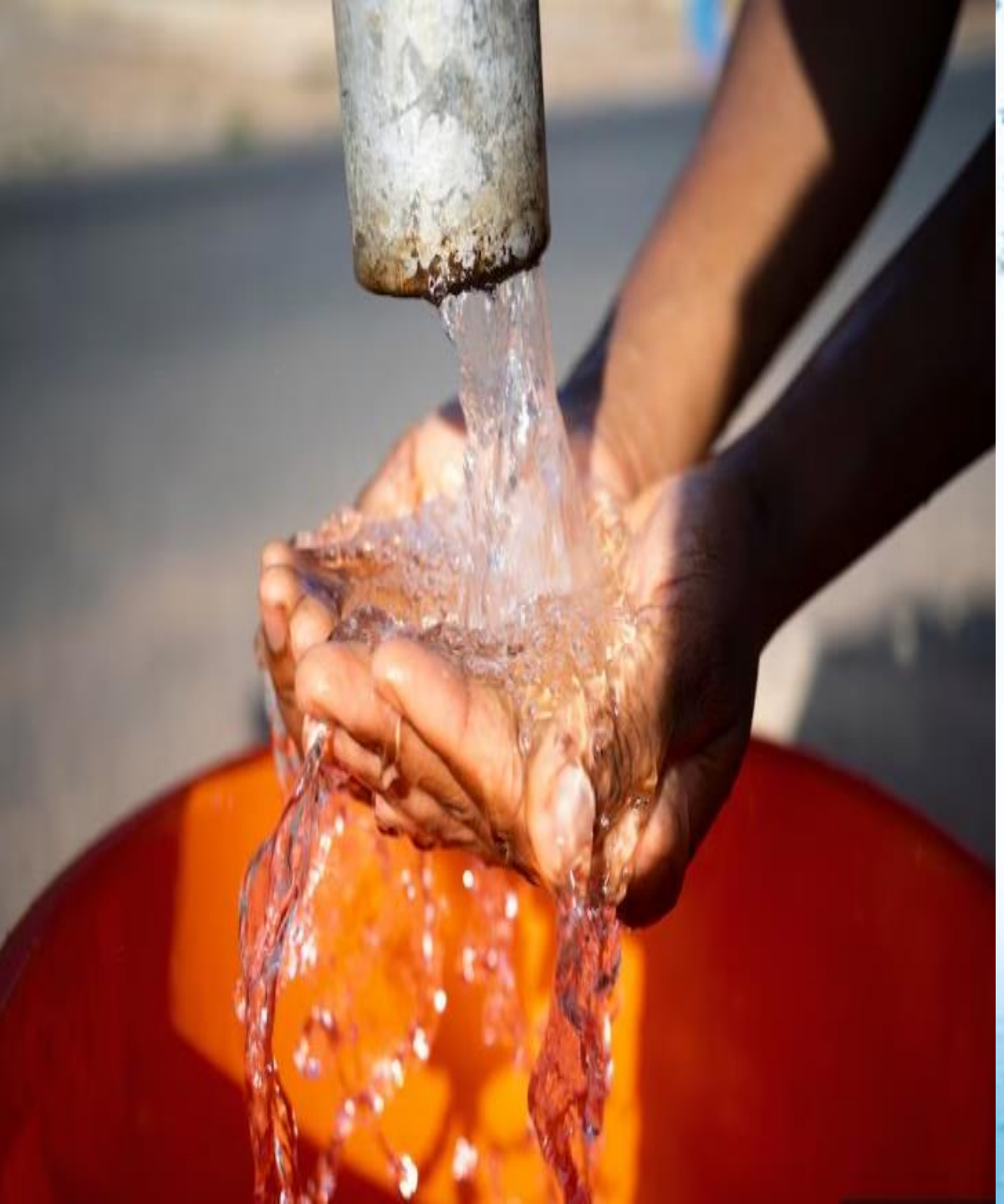


Distance to Water Source



Insights

- **56% of households do not treat their water**, increasing the risk of waterborne diseases.
- **Cost is the major challenge** to accessing clean water, followed by concerns about water quality.
- Many households spend an **average of ₦616.67 weekly**, which may make them choose **cheaper but unsafe water options** to save money.
- **Safe water access is uneven,** with better infrastructure in the **Southwest and North Central** zones.
- **Chlorination is more common** in regions with better access, showing gaps in awareness and availability elsewhere.
- **34.67% of respondents reported water-related illnesses**, highlighting serious **public health risks** linked to poor water quality.



Recommendation

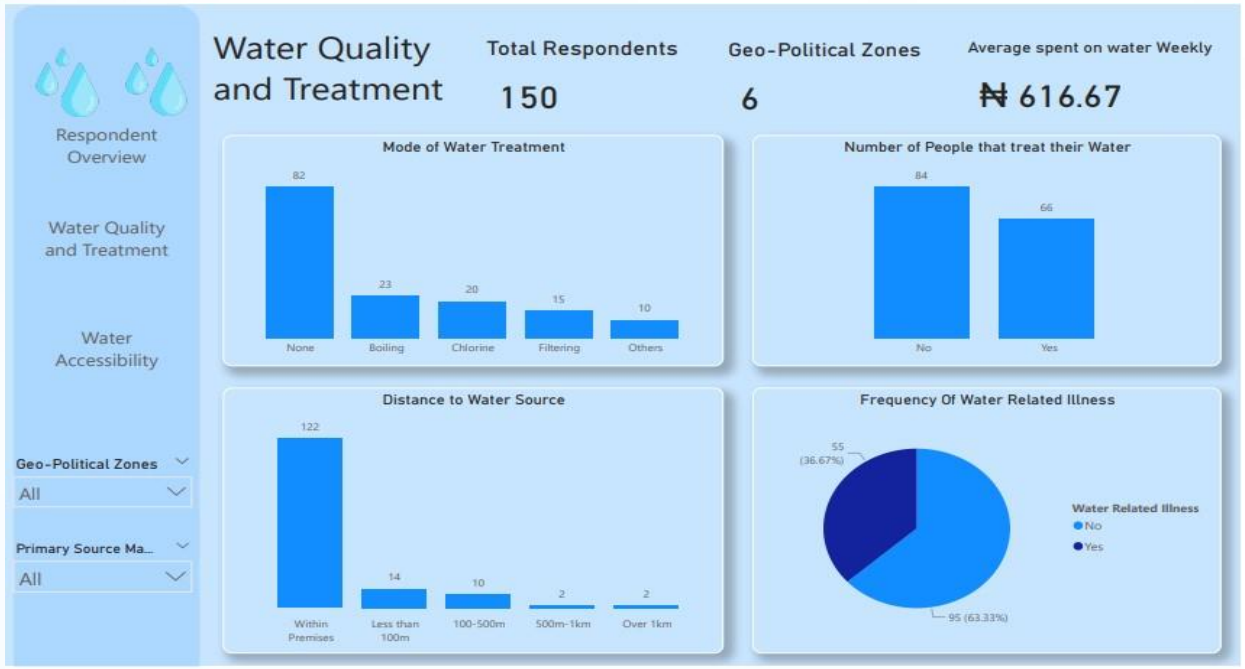
- Invest In safe water infrastructure (especially in the rural areas)
- Promote low-cost water treatment methods.
- Launch community education campaigns on water safety.
- Target zones with high rate of illnesses for intervention.
- Encourage policies supporting piped and borehole access.

Limitation and Challenges

While this study aims to provide insights into water supply and access across Nigeria, the sample size of 150 respondents is not fully representative of the country's population of over 200 million. time constraints also limited the volume collected. therefore, the findings should be interpreted with caution and may not be generalized to the entire Nigerian population.

Dashboard


Water Supply and Access Analysis in Nigeria
Respondent Overview
Total Respondents
150
Geo-Political Zones
6
Average spent on water Weekly
₦ 616.67
Respondent Overview
Water Quality and Treatment
Water Accessibility
Geo-Political Zones
All
Primary Source Ma...
All
Respondents by Age Bracket
116
17
14
3
Young Adult
Teenager
Middle-Aged
Old
Gender Distribution
67 (44.67%)
83 (55.33%)
Gender
Male
Female
Respondents by Geo-Political Zones
77
55
8
6
3
1
South West
North Central
South East
South South
North West
North East
Region Distribution
19 (12.67%)
131 (87.33%)
Region
Urban
Rural


Water Quality and Treatment
Total Respondents
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Average spent on water Weekly
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Respondent Overview
Water Quality and Treatment
Water Accessibility
Geo-Political Zones
All
Primary Source Ma...
All
Mode of Water Treatment
82
23
20
15
10
None
Boiling
Chlorine
Filtering
Others
Number of People that treat their Water
84
66
No
Yes
Distance to Water Source
122
14
10
2
2
Within Premises
Less than 100m
100-500m
500m-1km
Over 1km
Frequency Of Water Related Illness
55 (36.67%)
95 (63.33%)
Water Related Illness
No
Yes


Water Accessibility
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Geo-Political Zones
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Respondent Overview
Water Quality and Treatment
Water Accessibility
Geo-Political Zones
All
Primary Source Ma...
All
Primary Water Source
82
31
19
15
1
1
1
Borehole
Well
Packaged Water
Pipe borne Water
None
River/Stream
Tank water
Challenges faced in Accessing Water
Cost
45
Quality
44
Others
39
Infrastructure Failure
32
Distance
23
Most Common Water Infrastructure
Borehole
93
Public tap
25
None
22
Piped network
7
Average of Water Expenses(Weekly) by Drinking Water Source
₦ 1,105.26
₦ 666.67
₦ 560.98
₦ 500.00
₦ 483.87
₦ 0.00
₦ 0.00