

## ACCESS TO POTABLE WATER IN IKEJI ARAKEJI: ITS IMPACT ON HUMAN HEALTH

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**ABSTRACT:** *The research is aim at the Source of Portable Water in Ikeji, Its Effects on Human Health and Solving Problems related to it.*

*Based on a detailed review a few research questions were raised and answered. The study adopted the description research design and a reasonable number of Ikeji indigenes.*

*The main research instrument was the use of questionnaires for the data collection and simple percentage used in analyzing the data collected. The findings from the research analysis show that the access to portable water for the Ikeji indigenes was rain water, well water, water from the local stream and river and pipe borne water. In spite of some of the problems encountered by the indigenes like impurity of the water, they still use the water. Based on this, it has been recommended that government make available other sources, and here are also suggestions for further studies attached to this study.*

**KEYWORDS:** Portable water, Human Health, Solving problems, Rain water, Well water, Water from local stream, River water, Pipe borne water

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## INTRODUCTION

### Background of the Study

The background of the study is to investigate the sources of portable water for the habitants of Ikeji and to know the access to it its effect in their health situations and recommend possible solutions to such problems if any.

### Definition of Portable Water

**Potable water** is water safe enough to be consumed by humans or used with low risk of immediate or long term harm. In most parts of our country, the water supplied to households, commerce and industry do not really meets drinking water standards, even though only a very large proportion of it is still actually consumed.

Over large parts of the country **including the Ikeji community**, humans have inadequate access to potable water and use sources contaminated with disease vectors, pathogens or unacceptable levels of toxins or suspended solids. Drinking or using such water in food preparation leads to widespread acute and chronic illnesses and is a major cause of death and misery in many parts of the country.

Water has always been an important and life-sustaining drink to humans and is essential to the survival of all known organisms. Excluding fat, water composes approximately 70% of the human body by mass. It is a crucial component of metabolic processes and serves as a

solvent for many bodily solutes. The United States Environmental Protection Agency in risk assessment calculations previously assumed that the average adult ingests 2.0 litres per day.

However inorganic minerals generally enter surface water and ground water via storm water runoff or through the Earth's crust. Treatment processes also lead to the presence of some minerals. Examples include calcium, zinc, manganese, phosphate, fluoride and sodium compounds. Water generated from the biochemical metabolism of nutrients provides a significant proportion of the daily water requirements for some arthropods and desert animals, but provides only a small fraction of a human's necessary intake. There are a variety of trace elements present in virtually all potable water, some of which play a role in metabolism. For example sodium, potassium and chloride are common chemicals found in small quantities in most waters, and these elements play a role in body metabolism. Other elements such as fluoride, while beneficial in low concentrations, can cause dental problems and other issues when present at high levels.

In our research therefore we found that majority of the inhabitants of Ikeji get the water supply from one or more of the following sources. The local stream or river, from wells and a pipe borne source made by the government sometime in year 2000.

In our study found out that their means of accessing this water is actually easy, they still find little problems with these sources it is whether not too clean or pure for human usage. An average of about 50% of our respondents reported this.

### **Statement of the Problem**

From our research it was observed that the following problems were stated by our respondents.

The sources of the water supply are only from the following .

- The local Ipetu Ijesa rivers and streams
- Some water wells dug by individuals
- Natural rain water
- A pipe borne source provided by the government sometime in year 2000
- Some locally produced sachet water sold at the rate of #10 and #60 bottled water.
- Although the water is sometimes easily accessible yet some of the people find difficulty in accessing it.
- The sources of pipe borne water are not enough.
- Although the pipe borne water has seem clean and has no color, taste or odour but the water is not always available.
- The sources of well water get dry during dry season thereby making it unavailable.
- The well water is not always clean as it has one of the following problems:
- It has an unusual colour.
- It has an unusual taste and odour thereby making it unfit for drinking or cooking unless boiled which increases economy for them.
- The well water is not suitable for washing .
- The river water is a clean source of water but sometimes has refuse dumped inside or at the side.
- The river is used for drinking, bathing, washing and many other uses thereby polluting it.

## **Aim and Objective**

The main aim of the research is to investigate the source of portable water to the ikeji indigene. The specific objectives are:

1. To identify the source of water supply of the people
2. To ascertain what the indigene use the water for
3. To explain the purity of the water
4. What effect it has on their health.
5. Identify Government and non governmental action toward the problems.

## **Significance of The Study**

The research will be beneficial to the indigene of all Ikeji communities as it will expose the challenges they get with accessing their sources of water supply, purity, effect on their health, solution to health problem through governmental and non governmental assistance.

The research work will also be of value to the researchers, who may also intend to carry out a similar research topic or study as it will help to build and enhance their literature for such research work.

## **METHODOLOGY**

### **Research Design**

The research design used for this research was the **description design**. The description design was adopted for this research because of the descriptive nature of the design. It was employed because the data gathered with the aid of questionnaire, were described. This implies that the information, provided by the respondents amount to the researcher's findings without his/her own personal interference .

### **Population of the Study**

The population distribution of people used for this research are as shown.

### **Sample and Sampling Techniques.**

From the population a simple size of one was selected at random which represented about 10% of the entire population. This is in line with Hall,etal (2001) which state that 10 - 30% of a population is about 1000 degree adequate

**Sample Technique****TABLE1: AGE DISTRIBUTION OF RESPONDENT**

AGE	POPULATION	SAMPLE SIZE	PERCENTAGE
Adult	9	4.5	45%
Youth	11	5.5	55%
TOTAL	20	10	100%

**TABLE 2**

AGE	FREQUENCY	PERCENTAGE
Adult	16	80%
Youth	4	20%
Total	20	100%

*Source:Field work 2013*

Table 2 shows that age distribution 80% of adult was questioned while 20% were youth.

**TABLE 3: GENDER OF RESPONDENTS.**

GENDER	FREQUENCY	PERCENTAGE
MALE	6	30%
FEMALE	14	70%
TOTAL	20	100%

Table 3 shows the gender of respondent. 30% were male while the 70% (majority) were female.

**TABLE 4: RESPONDENTS USE OF PIPE BORNE WATER**

AGE	FREQUENCY	PERCENTAGE
ADULT	20	100%
YOUTH	0	0%
TOTAL	20	100%

*Source:Field Work 2013*

Table 4 shows that all the respondent use pipe borne water for drinking.

**TABLE 5: DISEASES LEVEL OF RESPONDENT ON USE OF WATER**

AGE	FREQUENCY	PERCENTAGE
ADULT	0	0%
YOUTH	20	20%
TOTAL	20	100%

*Source: Field Work 2013*

Table 5 presents that all disease casualties are majorly from youth.

**TABLE 6: USES OF WATER BASED ON RESPONDENT**

ECOMOMICAL BENEFIT	FREQUENCY	PERCENTAGE
Pipe born water	15	75%
River water	2	10%
Well water	3	15%
Total	20	100%

SOURCE:FIELD WORK 2013

Table 6 presents that 75% of the population use pipe born water, while 10% use river water, 15% use well water. That implies that majority use pipe borne water.

**TABLE 7: MARITAL STATUS OF RESPONDENT**

MARITAL STATUS	FREQUENCY	PERCENTAGE
Single	4	20%
Married	14	70%
Widow	0	0%
Divorce	2	10%
Total	20	100%

*Sources: Field Work 2013*

Table 7 presents the distribution according to their marital status. 70% were married, 20% were single 0% were widow, while 12% were divorced.

**EDUCATIONAL LEVEL OF RESPONDENT.**

EDUCATIONAL LEVEL	FRQUENCY	PERCENTAGE
No formal education	4	20%
Primary	6	30%
Secondary	8	40%
Tertiary	2	10%
Total	20	100%

Source: Field Work 2013

From the questionnaire, we noticed that only two were able to go further than secondary education.

**TABLE 8: GOVERNMENT INTERVENTION ON ANY FORM OF DISEASE.**

GENDER	FREQUENCY	PERCENTAGE
Adult	17	85%
Youth	3	15%
Total	20	100%

Table 8 presents the distribution of government intervention in any form of disease outbreak, 85% of adult said no government has intervene while 15% of youth said no government intervention too.

**RESEARCH INSTRUMENT**

The **questionnaire** is the research instrument for this study. It was design according to Greenhalgh,etal (2001). It enables researchers to collect data on people knowledge, values, preferences, attitudes and beliefs. It also allows people to think about the questions which result to more meaningful answer (*Schrandt, etal 2001*).

The items on the questionnaire was meant to cover all required responses that will provide solutions to the questions raised under the research topic.

However the questionnaire is constructed in as simple language with response requiring a simple ticking of answer provided.

## **METHOD OF DATA ANALYSIS.**

Data collected were subjected to a statistical analysis using simple percentage and frequency count. These responses were tabulated and the number of respondents who agreed were calculated as well as the number that disagreed as the case may be.

Simple percentage was used for the calculations as shown:

$$n = \frac{x}{y} \times 100/1$$

where x and y denotes population and total amount respectively.

## **FINDINGS AND DISCUSSIONS**

From the study so far it was discovered that an average number of the Ikeji indigenes get their water supply from sources like the local streams and rivers, individual dug wells, natural source (rain), and few pipe borne sources.

Water from these sources are usually clean as majority of the sources are clean in exception of sources like wells and rivers whose surrounding are not always clean as dirt are sometimes found around and inside rivers and wells. Sometimes the wells go dry during the dry seasons.

Aside that, indigenes get to sometimes boil, filter and add alum to water to make it fit for use. Nonetheless no water borne disease outbreak have been recorded in a long while, however their few cases of diarrhea and typhoid fever.

On further discussions with indigenes of the communities above mentioned it was discovered that the government has never intervened in any matter related to water supply sources of the people. Also non- governmental bodies have shown little or no interest in such areas.

## **RECOMMENDATION**

### **Safety indicators**

Upon the study, it has been recommended that access to safe drinking water is indicated by proper sanitary sources. These improved drinking water sources include household connection, public standpipe, borehole condition, protected dug well, protected spring, and rain water collection. Sources that don't encourage improved drinking water to the same extent as previously mentioned include: unprotected wells, unprotected springs, rivers or ponds, vender-provided water, bottled water (consequential of limitations in quantity, not quality of water), and tanker truck water. Access to sanitary water comes hand in hand with access to improved sanitation facilities for excreta. These facilities include connection to public sewer, connection to septic system, pour-flush latrine, and ventilated improved pit latrine. Unimproved sanitation facilities are: public or shared latrine, open pit latrine, or bucket latrine and as such government should ensure that the sources of water supply followed laid down standards. Also government should assign health officials/agencies like NAFDAC to carry out routine check on sources of water supply for the community including

water producing industries to ensure safe and sanitized water for indigenes of such communities.

### **Water treatment**

Apart from water sanitation, government and health agencies should encourage water treatment as most sources of water requires some type of treatment before use, even water from deep wells or springs. The extent of treatment depends on the source of the water. Appropriate technology options in water treatment include both community-scale and household-scale point-of-use (POU) designs. In absences of such designs, indigenes of such areas as our case study should be enlightened on the need for boiling water or adding alum or chlorine to it be for use as most of them might overlook such processes.

### **More sources**

Government should also ensure that urban communities get more access to water sources and as such provide more channels for water supply.

### **CONCLUSION**

Summarizing the totality of this study having found that the sources of potable water supply in Ikeji and identified the challenges of the water to their health it is thereby concluded that the government take yield to the above recommendations and develop more for the standardization and sustainability of a good water hydro-environment for the Ikeji community.

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### External links

	Wikibooks has a book on the topic of: <b><u><i>Drinking water</i></u></b>
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	Wikimedia Commons has media related to: <b><u><i>Water as aliment</i></u></b>
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