

# Water supply and infrastructure

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## ABSTRACT

The paper is to serve as a source of awareness that access to water is a condition for the enjoyment of the right to an adequate standard of living. Water is important because it is the key to human survival and has numerous functions. Its importance cannot be over emphasized as it helps in regulating temperature and other bodily functions such as breathing, sweating, digestion in the body system.

In daily life, water is used for drinking, washing, cooking, flushing of waste and aids in digestion. The state of the infrastructure in providing good water is also considered while the challenges are deliberated upon.

## INTRODUCTION

There is a slogan that says water is life. It is a free gift of nature. If that is the case, then you expect it should be free and available. However, I don't see how real this slogan is to some extent when in fact, water is not available for free. The write up will enable us appreciate the import of water and the struggle for its availability.

### A. LEGAL FRAMEWORK OF WATER SUPPLY

The Constitution<sup>1</sup> of the Federal Republic of Nigeria under chapter 4 makes provision for various rights, which includes:

- I. Right to life s. 33<sup>2</sup>
- II. Right to dignity of human person s. 34<sup>3</sup>
- III. Right to fair hearing s. 35<sup>4</sup>
- IV. Right to freedom of expression s.37<sup>5</sup>

These rights are referred to as the first generation rights, while in chapter 2 of the constitution under the derivative principles, other rights referred to as the second generation rights which, by way of policy will be implemented. The rights under chapter 2 is not a

\* Chief Magistrate Court 5 Lugard Road Jos.

1 1999 as amended

2 ibid

3 ibid

4 ibid

5 ibid

responsibility like the rights under chapter 4 of the constitution. The constitution of the Federal Republic of Nigeria among other things, places obligation on all organs and levels of government to conform, observe and apply the provisions. Water, therefore happen to be within the ambit of chapter 2 of the Constitution as a social welfare right enshrined in the international documents and supported by the international activity and an obligation for those States including Nigeria who have ratified it.

Nigeria is a member and signatory to United Nations Convention on Water and Sustainable Development to the extent that it observes the Sustainable Development Goals<sup>6</sup> (SDGS) yearly and her budget reflects on the SDGS.

The supply of water has become a thing of concern not only to states at the regional level, but at the international level. To this, the WHO and UNICEF in a monitoring programme for water supply and sanitation reported that 663 million people have no access to improved sources of drinking water which is necessary for human health.<sup>7</sup>The progress report of the WHO and UNICEF on water supply, sanitation and hygiene 2020<sup>8</sup> has it that in 2020, 1 in 4 people lacked safe drinking water in their homes and Covid -19 has highlighted the urgent need to ensure everyone can access good hand hygiene knowing that, 3 out of 10 people worldwide could not wash their hands with soap and water within their homes. Access to water is a major problem for many parts of the world, to the extent that the Zaragoza conference dealt with some of the main implementation challenges experienced in the four main themes as follows;

- I. Water
- II. Sanitation
- III. Hygiene
- IV. Water Resources Management Quality and Risks.

With the target goal to ensure availability and sustainable management of water and sanitation for all, there are regulatory bodies responsible for the supply of water in Nigeria, like the State Water Board which is streamlined from the Federal Ministry of Water Resources through to the Local Governments. The supply of water has been viewed as a necessity for the people in Nigeria hence, it is captured under chapter 2 of the 1999 constitution of the Federal Republic of Nigeria as amended and backed by many regulatory bodies like the National Environmental Standard and Regulations Enforcement Agency<sup>9</sup>(NESREA).

NESREA is saddled with the responsibility for the protection and development of the environment, biodiversity conservation and sustainable development of Nigeria's natural

6 2015 UN-Water Annual International Zaragoza Conference. Water and sustainable Development: from vision to Action. 15-17 January 2015.

7 WHO. Guidelines for drinking water quality, 3<sup>rd</sup> Edition, volume 1: Recommendations, WHO, Geneva ([www.who.int/water sanitation health](http://www.who.int/water_sanitation_health))2004. accessed 27/10/2021.

8 <https://www.unwater.org>> who/unicef joint monitory programme. Accessed 27/10/2021.

9 National Environmental (sanitation and waste control) Regulations 2009 of Federal Republic of Nigeria official Gazzette, 2009.

resources in general and environmental technology including coordination and liaison with, relevant stakeholders within and outside Nigeria as regards issues of enforcing environmental standards, rules, regulations, guidelines and policies. It also has the responsibility to enforce compliance with provisions of international agreements, protocol, conventions and treaties on the environment to which Nigeria is a signatory. Under the conventions, it is recognised that:

- I. Every human being should have access to sufficient water for personal and domestic uses between 50 and 100 litres of water per person per day Which must be safe, acceptable, affordable and physically accessible.
- II. The water source has to be within 1,000 metres of the home and collection time should not exceed 30 minutes.
- III. Acceptable sources include; household connections, public standpipes, protected dug boreholes, wells, protected springs and rainwater collections

Though viewed as a right, unfortunately, it is not a right *stricto-sensu* because, the Constitution under chapter 2 makes it a non justitiable right. This means that an individual cannot enforce this right before the court of law, an exceptional circumstance must be established in order for an individual to enjoy such provision. Suffice it to state that the right to water supply is linked to all the other human rights particularly, the Economic Social and Cultural Rights (ESCR) which cover everything that contributes to implementation of the right to life.

At the international level, the right to water supply is reflected in the following treaties:

- I. Convention on the Rights of a Child<sup>10</sup>. Article 24(2) CRC provides thus,  
*“ parties shall pursue full implementation of this right and, in particular, shall take appropriate measures to combat disease and malnutrition, including within the framework of primary health care, through, inter alia...the provision of adequate nutritious foods and clean drinking water”.*<sup>11</sup>
- II. Convention on the Elimination of all Forms of Discrimination against Women<sup>12</sup> (CEDAW) where it was stated that;

*“Parties shall take all appropriate measures to eliminate discrimination against women in rural areas to ensure, on a basis of equality with men and women, that they participate in and benefit from rural development and in particular shall ensure to women the right to enjoy adequate living conditions, particularly in relation to housing, sanitation, electricity, water supply, transport and communications”.*

10 Gen Assembly Resolution 44/25 of 20 November (U.N, Treaty Series, vol. 1577, p3 which came into force on 2/9/1990; 193 ratifications (including Nigeria.)

11 <http://www2.ohchr.org/English/law/crc.htm> accessed 27 October 2021.

12 1979.

### III. The 2006 convention on the Rights of Persons with Disabilities

*The resolution passed by the UN General Assembly and the UN Human Rights Council in 2010<sup>13</sup> on Human Right to Water and Sanitation accepted that for the enjoyment in life and all human rights, safe and clean drinking water is acknowledged as a human right<sup>14</sup>*

Water is not new to people and by many perceptions, it is regarded as free, hence, its availability or not rests with individuals. This is one salient fact which people are yet to understand that, it is the responsibility of government<sup>15</sup>; Federal, State and the Local Government to ensure water supply to individual communities though there are terms and conditions like payment, which should not surpass 3.5% of household income as considered by the UN General Resolution of 2010 and the water supply must be clean and portable within the minimum and maximum permissible limits of standard organisation for example NESREA.

It is such a right which most people have not yet come to terms with particularly at the rural level, where the locals are not much concerned with the involvement of government to supply water to them since they always get water from the river, wells, and rains. However, being that water and its supply is usually captured in the budget of Nigeria, and for the purpose of this write up, it is imperative to stress that the government owe its citizenry clean water supply.

Basically, every State in Nigeria is saddled with the responsibility to supply portable water to her community. Hence, the debate on whether or not it is the responsibility of State to provide water to its people is of no moment since Nigeria and many countries are signatories to the many UN Conventions which recognised that water is essential for existence of living things including human beings, and that having access to pure and adequate quantity of water is an inalienable human right. By formally acknowledging the right to water to be part of their treaty obligations under the International Convention on Economic, Social and Cultural Rights (ICESCR), it behoves on Nigeria and states to fulfil its obligation. This has however not been the case in Nigeria because the rights in chapter 2 of the Constitution are mere obligations of the government without specific sanctions on governments that fail to implement them. A major right like, right to life is therefore an illusion if water which the slogan says is life, and a free gift of nature is not within the reach of the people. The Federal Government through its national water agency known as the Federal Ministry of Water Resources is charged with the responsibilities of policy advice and formulation, data collection, monitoring and coordination of water

13 <http://s3.amazonaws.com/berkeley-center/100308UNAR/ES64292>. Accessed 3/9/2021.

14 UN (United Nations). 2010. Resolution adopted by the general assembly 64/292. The Human right to water and sanitation. A/RES/64/292. New York: United Nations

15 [https://en.m.wikipedia.org/wiki/water\\_supply\\_and\\_sanitation\\_in\\_Nigeria](https://en.m.wikipedia.org/wiki/water_supply_and_sanitation_in_Nigeria). Accessed 3/9/2021.

resources development. Equally, the various States have their water agencies charged with responsibility of water supply.

Beside state agencies to supply water in Nigeria,

- I. Every owner of premises shall provide portable water supply for the premises to ensure sound environmental sanitation and personal hygiene as prescribed by NESREA.
- II. Water supply without infrastructures is criminal thus; NESREA is permitted to arrest such persons.

## **B. THE UNIVERSAL DECLARATION OF HUMAN RIGHTS.**

This was adopted and proclaimed by the General Assembly of the United Nations on 10<sup>th</sup> December 1948<sup>16</sup>. The declaration consists of a preamble and 30 articles setting forth the Human Rights and fundamental freedoms to which all men and women everywhere in the world are entitled to, however human rights in the widest sense became a definitive factor in international relations with the adoption of the Universal Declaration of Human Rights by the General Assembly of the United Nations<sup>17</sup>. The Constitution of the Federal Republic of Nigeria, 1999 as amended equally ratified the African Charter on Human and People's Rights<sup>18</sup> for the benefit of the people whereby, the State is expected to ensure adequate shelter, suitable and adequate food for all citizens.

If the fundamental objectives and directive principles of state policy have no legal effect per se, what then is the implications for Nigeria's ratification of international instruments of human rights that contain the welfare rights particularly the African Charter on Human and People's Rights when it is virtually impossible under the current Nigeria's stage of development to have access to clean drinking water yet, this is basically a socio-economic right under the charter.

## **C. SOURCES OF WATER SUPPLY**

- I. Atmospheric water (rain water). The rain water has been noted to be the best form of water supply and its mode of collection, known to be the purest water compared to other sources of water provided there is no air pollution when it is harvested and supplied. Rain water is usually harvested in the rainy season and after the rains recourse is had to water from the streams, ponds, lakes. Rain water harvesting is utilised to cut the costs of using other sources. Rain water also has lots of health advantages.<sup>19</sup>

16 Feltham, R.G., *Diplomatic Handbook*, 7<sup>th</sup> Ed. (London: Longman Ltd., 1998)p. 85.

17 1948.

18 See article 15 of the charter

19 <https://www.drinkheartwater.com>. Accessed 2/11/2021.

- II. Ground water (well, bore hole):50% of Nigerians rely on borehole as clean source of water.<sup>20</sup>
- III. Surface water<sup>21</sup> (stream, river lake)Nigeria has abundant surface and ground water, although Surface water could also take the form of ground water; this source of water supply is rarely consumed without prior treatment. It is an important water source for communities which most States use for their consumption. It is usually collected on the ground or in a stream, river or lake and pumped through water treatment plants where it is filtered and purified with chemicals allowing the purified water go through the water pipes across the city for use at home. Surface water is constantly replenished through precipitation, and lost through evaporation and seepage into the ground.<sup>22</sup>
- IV. Ocean, sea water: This type of water is unfit for human consumption but by adequate treatment, it can become fit for human consumption. Through the process of desalination, the sea water is stripped from all the salt and additional minerals and turned into water that people can use at home. It is the most expensive form of water supply because it requires extensive treatment and a lot of electricity to process the water. Usually, countries with limited access to water supply rely on this source.

Due to the difficulties in supplying water to every nook and cranny of the country, Nigeria, had and still has many donors support from organisations such as;

- I. African Development Bank;
- II. WHO;
- III. French Development Bank;
- IV. World Bank;
- V. Unicef; and
- VI. United Nations.

Despite the effort of these donors and the government to ensure access to portable clean water, it was reported<sup>23</sup> that 48% of the population has access to basic drinking water. This is still a negligible percent.

#### **D. WATER POLLUTION**

Water pollution is any contamination of water with chemicals or other hazardous substances that are detrimental to human, animal or plant health.<sup>24</sup> Water pollution could also occur through seepage from waste dump.

Water pollution is prevalent in the river rine States in Nigeria like Lagos, Rivers, Delta. Underground water is polluted through seepage from waste dump sites; surface water is

20 <http://water.epa.gov/drink/into/well/index.cfm>. Accessed 4/11/2021.

21 <https://www.nationalgeographic.org>national geographic>. Accessed 4/11/2021.

22 <http://en.m.wikipedia.org>wikisurface water>. Accessed 4/11/2021.

23 <http://www.globalwaters.org>africa>. Accessed 12/10/2021.

24 [www.niehs.nih.gov>water-poll](http://www.niehs.nih.gov>water-poll). Accessed 12/10/2021.

also polluted when oil spills. Many of the lakes, rivers and streams receive waste water discharges that not only create environmental but also constitute a major health risk. Clean drinking water from the original source available for supply can become contaminated from the river, well or any source through inadequate water treatment in storage tanks, through the pipes that carry water to homes, schools, businesses and other buildings.

Good a thing, government regulations like NESREA, have helped reduced pollution of the sources of water that supply our drinking water systems. However, having a safe drinking water is still a challenge.

The Environmental Protection Agency (EPA) repealed by NESREA Act 2007 regulates the quality of drinking water in public water system to the extent that every public water system is required to provide its customers with an annual Consumer Confidence Report (CCR). The CCR provides information on quality of local drinking water in addition, CCR's Environmental Public Health Tracking Network has information and data about some of the most common environmental chemicals that maybe found in community water supplies.

Public health can be protected from the spread of water borne diseases in drinking water distribution systems in the following ways:

- I. With support from public health agencies to strengthen drinking water programmes and address problems;
- II. By applying scientific findings to improve water borne disease prevention;
- III. Through outreaches;
- IV. Educational policies and practice.

The infrastructures needed are the basic physical, organisational structures and facilities needed for the operation of an enterprise or society. For instance, buildings, pipelines, equipment, water tanks, ecetra through which water is supplied.

## **E. TYPES OF WATER INFRASTRUCTURE**

- I. Bridges, culvert and underpasses;
- II. Power and water;
- III. Irrigation schemes;
- IV. Constructed wetlands and riparian planting plants often referred to as natural or environmental infrastructure.

## **F. CHALLENGES OF PORTABLE WATER SUPPLY AND INFRASTRUCTURE.**

- I. Inadequate and functional water supply policy. There are policies on ground and on paper concerning the above topic yet the impact is not felt. NEASREA for instance has 33 official gazette regulations of which water is one of them. The need to have more policies regulated by active personnel is a welcome idea;

- II. Lack of autonomy for the various State water agencies. Though captured under the budget, we can have non-governmental organisations to assist;
- III. Corruption in the water sector;
- IV. Poor infrastructure investment and maintenance in form of broken down machines and equipment;
- V. Deficiencies in pipe distribution networks. Not all communities are networked for adequate water supply;
- VI. Inadequate power supply is a deficiency. Supply of power energy is needed to power the infrastructure for water supply;
- VII. Recruitment of professional/technical staff;
- VIII. Obsolete equipment;
- IX. Sewage spillage;
- X. Flooding; and
- XI. Climate change.

## **G. MITIGATION**

Challenges can never be completely eradicated but can be mitigated. In this whilst, the international conventions, regulations and policies already on ground such as NESREA and other state regulatory enforcement agencies can be used as tools to mitigate the challenges and problems to the lowest ebb in order to create an adequate water supply and infrastructure by relying on its provisions.

In a nut shell, NESREA which is saddled with the responsibility of protection and development of the environment amongst other roles, is liken to a watch dog who monitors compliance and enforcement concerning the environment and also enforce compliance with the provision of international conventions, agreement, protocol and treaties which the Federal Republic of Nigeria is a signatory.

## **RECOMMENDATION**

- I. For water supply sustainability and infrastructure to be improved in Nigeria, all stakeholders must work together to prioritize and address the policy constraints in the service delivery simultaneously in not only the States but the country.
- II. Institutional framework should be strengthened.
- III. Service providers should be monitored by the relevant authority so as to enhance their capacity and productivity.
- IV. Corrupt officials to be identified and ousted out of the system.



- V. A major problem affecting the supply of water is the scarcity of water itself especially in the dry season. Therefore it is recommended that a particular source of water supply should be preserved and kept ready for distribution in times of scarcity.
- VI. Private, corporate and individuals can invest in the water supply and infrastructures of some communities.

## **CONCLUSION**

The demand for water supply is on the increase. Invariably, access to safe drinking water is required by all communities regardless of the area, level of education and income. The situation of poor water supply and infrastructures is characterised by a generally dysfunctional of the water sector hence, unreliable access to the supply of safe drinking water remains a growing concern.

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