

Nigeria Water Crisis: A Function of Failed Governmental Planning and Policies

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Abstract: *While Nigeria is fortunate to have an abundant supply of ground and surface water, and some coastal cities have access to abundant seawater, most people in the country lack access to safe drinking water. This problem is natural and anthropogenic in origin. The natural causes are mostly linked to climate changes and require global efforts. However, the anthropogenic causes are almost inherent in the lifestyle of the people, such as irresponsible disposal of domestic, municipal, and industrial waste in and around water bodies. This article is based on secondary information that focuses on some causes of water pollution in Nigeria and the health repercussions, and also suggests some possible strategies to combat the problem of poor quality water.*

Authors' Profiles



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Introduction

Nigeria is located in the western part of Africa, surrounded by the Republic of Niger and Chad to the north, the Atlantic Ocean to the south, the Republic of Cameroon to the east, and the Republic of Benin to the west. The population is around 200 million people, making it the most populous nation in Africa and the seventh largest in the world.

Water resources

Water is life and life is water. Water covers more than 70 percent of the earth's surface and modern civilization started from sufficient water supply. In Nigeria, water plays a central part in the economy and development. Many of the states are named after rivers and the water

from these rivers is used for domestic and industrial purposes, farming, and electricity generation. Nigeria has access to surface, underground, and sea water, which are unevenly distributed throughout the country. High precipitation is observed in the southern part of Nigeria, which has almost nine months of rainfall per year, compared to between three and four months of rainfall in the northern part of the country. Seasonal water shortages are always experienced in the northern and the middle belt region of the country during the time of the year when there is less or no rainfall and underground waters dry up. Even in the southern region, where rain falls for three-quarters of the year, there is still a water shortage problem. Cities like Lagos, Ibadan, and Port Harcourt in the south cannot provide high-quality drinking wa-

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ter. Overall, less than one-fifth of Nigeria's population has access to safe drinking water, and an average of two-thirds of the population have access to basic water supply (Organization & UNICEF, 2017). Unfortunately, this problem only affects the masses, as rich Nigerians can afford to supply and treat their own water.

Causes of water shortage

Although the northern area experiences natural causes of water shortage, this is not the main problem because there are enough surface waters that have the capacity to meet the region's need. The cause of lack of access to safe drinking water in Nigeria is man-made; for example, water pollution.

Water pollution in Nigeria occurs in both developed and underdeveloped places. This is as a result of the poor sanitation and hygiene culture perpetrated by the citizens and failure of the authorities to provide even basic facilities. A study conducted in the Lagos metropolis found that potentially toxic concentrations of heavy metals have been found in its water systems (Ehi-Eromosele & Okiei, 2012). Most industrial wastes in the country come from the mining, pharmaceutical, textile, paint, food, and petroleum industries.

Most people in Nigeria are not aware of the danger of collecting water through shallow wells and water downstream of effluent discharge points. Even when they are aware, the cost of digging deep wells below the table water is unaffordable for the general public and collecting downstream water is sometimes the only available option. In most cases, people depend on water sourced from downstream and shallow wells for their household supplies. Only a small number of people, in urban areas, have access to potable water supplied by the government or water treatment systems, leaving the general population at the mercy of the contaminants in surface and underground water. While one might consider that underground water is safer for human use, poor wastewater disposal puts the general public at risk. This is because most homes produce their water from the underground and, at the same time, dispose of their waste into the same ground (septic tank).

Considering increased industrialization in Nigeria, the quantity and the variety of industrial waste making its way to the water bodies have doubled. Likewise, dramatic increases in population and the rate at which houses are built close to each other have not made it possible to create appropriate distances between the wells and the septic tanks. Hence, cross-contamination of the shallow wells is a major challenge faced by those who can afford to produce both their waste and dispose of their waste. Also, improper industrial and municipal waste disposal have an adverse effect on human lives and the environment in urban areas. In rural areas, waste is usually dumped in and around surface water since the people cannot afford to produce their own water and manage their waste; surface water is both where they source their water and dispose of their waste. Surface water pollution has been a major cause of water pollution in Nigeria as a result of population growth and poor waste disposal methods. Waste is usually dumped into and around streams in Nigeria (Nzeadibe, 2009).

Nigeria will not be able to catch up with global sustainable development unless drastic measures are implemented. Despite an annual budget of US\$500 million being spent on water sanitation programs, Nigeria still does not have access to safe drinking water. Nevertheless, the negligence, wrong practices, and a lack of accountability have led Nigeria to this present situation. Funds are disbursed yearly to different states of the country, which have the autonomy to spend and allocate some of these funds to the local government. Unfortunately, there is no clear tracking of the budgeted funds and expenditures. These yearly allocated funds fall in the hands of some selected few, who end up embezzling the funds without anyone holding them accountable (Wade, 2018). Nigeria has no well-developed water or wastewater regulatory agency that can monitor the utilization and optimization of these funds. Other sectors (transport, energy, etc.) also lack functional agencies.

Environmental policies

While numerous policies have been set out in the water sector, they have achieved little or nothing. Examples include the Federal Environmental Protection Agency

(1988), the National Policy on Environment (1989), and the National Environmental Reference Laboratory (1990). Most recently, in 2003, a presidential Water Initiative: Water for people, Water for Life program was launched, with ambitious targets to increase water access (including a 100 percent target in state capitals), 75 percent access in other urban areas, and 66 percent access in rural areas (Idu, 2015). However, nothing was done to implement the goals. In June of 2016 the new government approved a Water Resources Roadmap (2016–2030) with the ambition of providing 100 percent water supply to all the citizens; establishing a policy and regulatory framework; developing and implementing national water supply and sanitation; and identifying alternative sources for funding water supply and sanitation through the collaboration with development partners, states and local government authorities, communities, and the private sector (Umezulike, 2017). Nigerians wait in hope that this Water Resource Roadmap will not go down the drain as the previous ambitious policies have. In the same vein, although Nigeria embraced the millennium development goals (MDG) some years back, it has not shown any significant achievement. Now, the country has joined the bandwagon of sustainable development goals (SDG), but is still far from pursuing the objectives and the goals of the program.

Environmental and health impact of water pollution

A lack of access to quality water for both drinking and household use affects the health of the people and the economy (Adewolu et al., 2009). Water pollution also has a direct impact on the environment and the ecosystem. For example, in the Niger Delta area of Nigeria, pollution as a result of oil spillage is a major threat, which has led to a decline in agricultural activities and loss of biodiversity. When these waters are polluted, some of the pollutants find their way to the food chain from animals that drink from them and to humans through meat and fish consumption.

The disposal of industrial and municipal waste into and around surface water and underground water systems impacts human health and disrupts ecological systems. Over the years, many diseases have been spread through

water pollution. For instance, Nigeria still suffers from epidemics of typhoid, diarrhea, dysentery, and cholera, all of which are microbial in origin. The effect of these microbial infections on Nigeria's economy cannot be overstated. Few Nigerians who are aware of such dangers take it upon themselves to filter and boil their water before consumption. However, these filtration technologies are expensive and are therefore not readily available to the masses. Likewise, the energy cost for filtering and boiling water is high, if available at all.

A way to go

For Nigeria to solve the problem of water pollution and shortage, the management policies to be dealt with. In the same vein, the way water is managed in Nigeria must change; the stakeholders need to be widened to the general public and international organizations with clear roles to ensure better accountability.

Because Nigerians rely on water bodies for daily use, there is an urgent need to protect them. Presently, Nigeria has no reliable system for monitoring water quality. Hence a database for water quality around the country should be created that records physical, chemical, and biological characteristics. Constant monitoring and the maintenance of such records would show the level of pollution and signal the potential risk. This information would help provide solutions before major disease outbreaks. The environmental laws, especially as they relate to water bodies, should be strengthened. Polluters of water bodies should be charged and the standards for industrial and agricultural effluent discharge need to be enforced. All industrial and agricultural waste must be treated before discharged and must comply with regulatory standards.

Water distribution is also a problem in Nigeria. Supplying treated water to the masses at an affordable rate would reduce the pressure on those people to produce their own water in an unhygienic way. Similarly, there is a need for a robust wastewater treatment system in the country as water pollution is linked to unacceptable disposal of domestic, municipal, and industrial waste.

Finally, it is essential that public awareness is raised

regarding the use of water from shallow wells and the irresponsible discharge of waste into and around water bodies. Enlightening the masses would greatly reduce the anthropogenic causes of water pollution. The use of water filters with no or very low energy consumption and boiling if necessary should be encouraged.

Conclusion

This article has briefly discussed the water situation in Nigeria and some of its root causes. The major cause of water pollution and shortage in Nigeria is not natural, but self-imposed by the people as a result of mis-management policies. Nigeria is one of the few countries where the citizens are responsible for their own waste treatment and water supply, which enables people to practice whatever they deem fit. Nigeria needs a complete overhaul in terms of re-planning its cities and putting basic structures in place for newly developing cities. While the federal government cannot do it all, they can play an active role in fragmenting this sector. Each small community could provide its own solid waste management, wastewater treatment, and water supply with strengthening laws, policies, and regulations regarding sanitation. Access to safe drinking water should not be a luxury available only to the rich, but a fundamental right of every citizen.

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