

HEALTH IMPLICATIONS OF WATER SCARCITY IN NIGERIA

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Abstract

Nigeria is blessed with abundant water resources but largely untapped. In spite of the abundant water resources, government at all levels (federal, state and local) have not been able to successfully harness these resources to ensure a sustainable and equitable access to safe, adequate, improved and affordable water supply and sanitation to its population. Water and sanitation remain the major primary drivers of public health. Therefore, improving water supply infrastructure will help improve the social well – being of the population directly and better access to portable water can relieve burden of disease as well as the improvements in public health care.

Keywords: Sanitation, pollution, ecosystems, maternal mortality, infant mortality, morbidity

Introduction

Water is an essential resource for life and good health. Lack of water to meet daily needs is a reality today for one in three people around the world. Globally, the problem is getting worse as cities and populations grow, and the needs for water increase in agriculture, industry and households (WHO,2009).

Water and sanitation remain the major primary drivers of public health. Access to potable water supply and sanitation remain basic human needs that should be satisfied in adequate quantities that meet at least minimum healthstandards. Agriculture and food security are also critically dependent on water availability as the planting timeand cropyield are both determined the onset, duration and the amount of rain that is recorded in a rainy season. Modern environmental sanitation requires large quantity of water particularly for sewage as well as industrial waste. Water supply and sanitation lead to welfare improvement because it is not only an important sector in its own rights, it is also cross cutting affecting infant

mortality, maternal mortality, nutritional values, environmental hygiene, etc. Therefore, the type of access and quantum of water supply as well as the quality of sanitation facilities available to a household or community determines the quality of life of the people and the potential for poverty alleviation (NigeriaVision 20:2020).

Water scarcity affects all social and economic sectors and threatens the sustainability of the natural resources base. Addressing water scarcity requires an intersectoral and multidisciplinary approach to managing water resources in order to maximize economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems. Integration across sectors is needed. This integration needs to take into account development, supply, use and demand, and to place the emphasis on people, their livelihood and the ecosystems that sustain them. On demand side, enhancing water productivity (the volume of production per unit of water) in all sectors is paramount to successful programmes of water scarcity alleviation (FAO, 2007). Furthermore, protecting and restoring the ecosystems that naturally capture, filter, store and release water, such as rivers, wetlands, forests and soils, is crucial to increasing the availability of water of good quality.

Water is essential for all socio-economic development and for maintaining healthy ecosystems. As population increases and development calls for increased allocations of ground water and surface water for domestic, agriculture and industrial sectors, the pressure on water resources intensifies, leading to tensions, conflicts among users, and excessive pressure on the environment. The increasing stress on freshwater resources brought about by ever – rising demand and profligate use, as well as by growing pollution worldwide, is of serious concern. Despite considerable humanitarian endeavour over the last three decades, almost 900 million people continue to lack access to safe water (One World, 2012).

Water scarcity is defined as the point at which the aggregate impact of all users impinges on the supply or quality of water under prevailing institutional arrangements to the extent that the demand by all sectors, including the environment, cannot be satisfied fully. Water scarcity is a relative concept and can occur at any level of supply or demand. Scarcity may be a social construct (a product of affluence, expectations and customary behaviour) or the consequence of altered supply patterns – stemming from climate change for example (UN, 2011).

Symptoms of water scarcity include severe environmental degradation (including river desiccation and pollution, declining ground water levels, and increasing problems of water allocation where some groups win at the expense of others).

Factors Associated with Water Scarcity

Nigeria is blessed with abundant water resources but largely untapped. In spite of the abundant water resources, government at all levels (federal, state and local) have not been able to successfully harness these resources to ensure a sustainable and equitable access to safe, adequate, improved and affordable water supply and sanitation to its population.

Nigeria, the eight most populous countries in the world, has begun grappling with issues of water scarcity across a number of its states – forcing infrastructure and long – term sustainability questions. The water scarcity issue is considerably daunting, given the fact that Nigeria represents the eight most populous nations in the world – with a total population of over 152 million people. Among the 152 million who reside in Nigeria, less than 30 percent have access to adequate drinking water (Krebs, 2010).

Increasing population, rising demands for food and cash crops, increasing urbanization and rising standards of living are the major factors leading to shortage in supply of fresh waters.

Water scarcity is among the main problems to be faced by many societies and the world in the 21st century. Water use has been growing at more than twice the rate of population increase in the last century, and, although there is no global water scarcity as such, an increasing number of regions are chronically short of water (UNDESA,2011).

Water scarcity is both a natural and a human – made phenomenon. There is enough freshwater on the planet for six billion people but it is distributed unevenly and too much of it is wasted, polluted and unsustainably managed. According to Ki – moon (2011) United Nation Secretary General, shortages of water contribute to poverty. They cause social hardship and impede development. They create tensions in conflict – prone regions. Where we need water we find guns. There is enough water for all of us – but only so long as we keep it clean, use it more wisely, and share it fairly.

Rapid population growth has not been accompanied by an increase in the delivery of essential urban services such as water supply, sewage and sanitation, and collection and disposal of solid wastes, it is estimated that currently only about 50% of the urban and 20% of the semi-urban population have access to reliable water supply of acceptable quality (i.e. something better than a traditional source). Overall effective urban water supply coverage may be as low as 30% of the total population due to poor maintenance and unreliability of supplies. Rural coverage is estimated at 35% (FGN,2000). Except for Abuja and limited area of Lagos, no urban community has a sewage system, with the result that sewage and spillage either lie stagnant or are disposed through the storm water drainage system. The proportion

of the population with access to safe facilities for disposal of excreta and waste water is low than for water supply.

Since independent, Nigeria has spent a lot of money on developing water supplies. However, there are still many health problems in rural areas due to polluted drinking water and a shortage of water for daily hygiene. Rural areas face specific problems not encountered in the towns. It is simply too expensive to provide a house - to - house water supply because homes are so widely scattered. Many rural people have low incomes and find it difficult to fund or maintain a water supply. They also lack the skills needed to maintain the water source. Water schemes therefore need to be simple to operate, and cheap to construct and maintain. Villagers need spare parts, tools and materials if these schemes are to be successful in the long run (DFID, 2003).

One of the fundamental problems affecting millions of Nigerians is lack of access to safe sources of water supply and adequate means of disposal of human waste, refuse and drainage facilities. This is compounded by lack of adequate awareness of proper hygiene and sanitary behaviours that result in water and sanitation related diseases (Ochekpe,2011).

The main challenges and constraints to adequate supply of safe drinking water include:

- Lack of appropriate policy, legal, regulatory and institutional framework.
- High population growth which results in an ever increasing demand for water and sanitation services against a diminishing trend in supply thereby creating a large supply gap.
- Low investment level in operation and maintenance which accounts for frequent break down of distribution facilities.
- The failure of water schemes in the past is attributable to the non – involvement of the intended beneficiaries, either at the point of initiation/conception of the schemes or in their funding, execution and monitoring, among others.
- Failure to appreciate that water is a finite resource and an economic and environmental good for which realistic tariff should be charged to recover at least operational and maintenance costs.
- Inadequate public awareness about water conservation and management for effective sanitation and public health hygiene.
- Poor community participation in water supply and sanitation matters, creating the impression that sanitation is government business.
- Ever increasing rate of urbanization resulting in shortages of water supply and sanitation services in urban and semi urban areas (Nigeria, vision 20:2020).

Health Implications of Water Scarcity

Malaria is the predominant disease affecting the population of Nigeria. Many other diseases endemic throughout the country are generally associated with unsatisfactory drinking water supply, poor sanitation conditions and inadequate health education programs. These include diarrhoea, dysentery, gastro – enteritis, infectious hepatitis, hook worm, guinea worm, scabies and other parasitic infections. The prevalence HIV/AIDs is currently about 5% and probably increasing. Health implications of water supply deficiencies in Nigeria are enormous. As the percentage of people with access to safe water in the country is low and the country is relatively densely populated, the direct health repercussion the situation imposes, especially on children, is often underestimated (FGN,2000).

Water supply is an input in many industries .Studies has proven that the costs of water supply deficiencies in manufacturing in Nigeria are large. As water is usually considered as an infrastructure service which is final consumption product/ service targeted to meet the basic needs of households. The cost of water supply deficiencies in public policy is often overlooked, underestimated, or totally unaccounted for. The heavy incidence of water supply failures among small firms has an implication for the growth of firms, industries, and the generation of employment (FGN,2000).

The health consequences of water scarcity include diarrhoea diseases such as cholera, typhoid fever, salmonellosis, other gastrointestinal viruses, and dysentery. Water scarcity and poor sanitation have remained daunting challenges for concerned citizens and development partners, despite the endowed resources at the disposal of the most populated black nation. The ripples effects of the country’s weak health sanitation also have direct impact on the nation’s workforce as many people in the working class and children lose thousands of man – hours to communicable diseases. Many families have stories to tell about pains suffered from loss of children, especially less than five years (Akintola,2011).

Uwejamomere (2011) acting country representative of Water Aid Nigeria, lamented the scourge among children, He noted that 11 percent of all under five deaths occur in Nigeria, based on UNICEF record.Children continue to suffer disproportionately from diarrhoea diseases ,with more than 2 million children under age 5 dying every year from diarrhoea and pneumonia related illnesses. The simple act of washing hands with soap at critical moments, such as after using toilet and before handling food, remains a key cost – effective and life –saving intervention in preventing these diseases and deaths (Akintola.2011).

Water Scarcity and the Millennium Development Goals (MDGs)

The way water scarcity issues are addressed impacts upon the successful achievement of most of the Millennium Development Goals.

MDG1: Access to water scarcity for domestic and productive uses (agriculture, industry, and other economic activities), has a direct impact on poverty and food security.

MDG2: Incidences of catastrophic such as droughts and interrupted educational attainment.

MDG3: Access to water, in particular in conditions of scarce resources, has important gender related implications, which affects the social and economic, capital of women in terms of leadership, earnings and networking opportunities.

MDGs4 and 5: Equitable, reliable water resources management programmes reduce poor people's vulnerability to shocks, which in turn gives them more secure and fruitful livelihoods to draw upon in caring for their children.

MDG6: Access to water, and improved water and waste water management in human settlements, reduce transmission risks of mosquito – borne illnesses, such as malaria and dengue fever.

MDG7: Adequate treatment of waste water contributes to less pressure on freshwater resources, helping to protect human and environmental health.

MDG8: Water scarcity increasingly calls for strengthened international cooperation in the fields of technologies for enhanced water productivity, financing opportunities, and an improved environment to share the benefits of scarce water management (UNDESA,2011) .

In achieving the Millennium Development Goals (MDGs) on water and sanitation, the United Nations Children Fund (UNICEF) regrettably noted that 'Nigeria is not on track.'

Conclusion and Recommendations

Strong political commitment, policy consistency, adequate and timely release of funds, and deep execution capacity by all stakeholders are key requirements for timely completion of identified projects and successful delivery of quality drinking water to Nigerians by 2013.

- Improving water supply infrastructure will help improve the social well – being of the population directly. It has been shown, for example, that better access to portable water can relieve about the same total of burden of disease (measured in daily adjusted life years) as do improvements in public health care.

- More boreholes must be drilled to provide clean water.

- Low cost technology such as constructed wetlands should be introduced to treat polluted rivers and wastewater in order to reduce the number of waterborne diseases.

- Spring could be used as an additional / low cost water supply.

- Priority should be given to water supply in each State of the federation. This will go a long way to curb prevalence of water borne diseases caused by inaccessibility to clean drinking water.

- On the intervention of the Federal Government, Sarah Ocheke Minister of water resources, explained that the promotion of public awareness including Hand – washing Day were planned to demonstrate the importance of hand washing with soap, to break the chain of oral diseases transmission, thus reducing to the barest minimum the morbidity and mortality among adults and children especially those below age of five.

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