TECHNOSCIENCE REVIEW
(An international science, engineering, technology & development academic research journal)
Volume 14, Numbers 1&2, November 2023 ISSN: 2250-9046

ECONOMIC PUBLIC HEALTH BURDEN AND POPULATION: WASH SOCIAL SUSTAINABILITY, ROLE OF MASS MEDIA AND IMPACTS LOSS EFFECTS IN NIGERIA

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Abstract

Water, Sanitation and Hygiene (WASH) Programme of the United Nations impinges on the lives of all in the society. It requires a serious implementation in Nigeria, which has one-fifth of the population of Africa. But, its execution is mostly insincere. Similarly, many development projects and programmes share the same fate of poor implementation or abandonment. There are socio-institutional barriers to the advancement of overall public health and WASH. There are also the population growth, climate change, increased water scarcity, lack of political will, unequal distribution of resources, insufficient funding, COVID-19, policy inadequacy, policy inconsistency, policy poor implementation, and policy summersault. The study recommends services that recognize the existence of WASH, institutional science technology and innovation in the ministries, departments and agencies (MDAs) to ensure the sad underdevelopment trajectory and a failing natural and human resource-rich Nigerian state bound to significantly disrupt sustainability going-forward is significantly identified and utilised.

Keywords: WASH sustainability in Nigeria; Economic burden: Public health

Introduction

The world's population is rapidly increasing; cities in developing countries are most at risk from the growing trend of the population increase. Presently, more than 76% of people live in developing countries, and the tendency of a continued trend in developing countries is expected to increase in more than 83% of developing countries. In difference, crudely just 16% of people will live in developed areas by 2050 (United Nations, 2019). The United Nations (2018) report further noted that rapid urbanisation is more likely to occur in developing countries than in developed countries, but the situation was in reverse in 1950. In 1950, developed countries accounted for 60% of the total global population, while developing countries accounted for 40%, increasing to 50% in 1970.

Whether urbanization, large-scale rural-urban migration, rapid economic growth, vast industrialization, rural expansion, rapid urbanisation and urban growth; all is falling sharply in developed countries while rising dramatically in developing countries (Marvuglia et al., 2020). These enormous extreme population expansion especially in developing countries affects sustainable development, the populace and consequently, productivity via burden on health (Marvuglia et al., 2020; World Bank, 2021).

Consequently, sustainable population growth, expansion, large-scale rural-urban migration, vast rapid urbanization, and rapid economic growth, urban growth and development needs to receive the utmost attention to ensure a health-socially sustainable WASH status worldwide especially in developing countries. In 2018, Nigeria's Water, Sanitation and Hygiene (WASH) sector was declared to be in a state of emergency and approximately 60 million Nigerians were living without access to basic drinking water (UNICEF, 2023).

Women and girls suffer disproportionately from the lack of adequate WASH services. They bear the burden of water fetching and collection over long distances, which has been associated with negative effects on school attendance, well-being, and a higher risk of gender-based violence. Despite government and policy program interventions of developing countries especially Nigeria which has developed several initiatives to improve access to water and sanitation, including the construction of over 2,300 additional water points, and 6,546 sanitation cubicles and compartments and hygiene facilities across the country, WASH status is relatively low (World Bank, 2021).

In 2019, a combination of poor investment, inadequate infrastructure, a lack of required human capital, and a deficient enabling regulatory environment – amongst other challenges – meant that approximately 60 million Nigerians were living without access to basic drinking water. Further, 80 million people had no access to improved sanitation facilities, while 167 million could not access basic hand washing facilities. More despicable was rural areas where, 39% of households in rural areas lack access to at least basic water supply, while only half (50%) of households in rural areas have access to improved sanitation and almost a third (29%) practice open defecation – a fraction that has marginally changed since 1990. Access to WASH can impact years of formal schooling by freeing up time that children spend collecting water to attend school, reducing the spread and prevalence of disease that can keep them out of school, and contributing to a safe, sustainable and healthy learning environment while at school (World Bank, 2021).

With the support of the stakeholders in the WASH sector including World Bank and other development partners, the Federal Government of Nigeria has developed initiatives designed to fill identified gaps which have limited citizens' ability to have access to safe and portable water. One of these gains and initiatives was the National Urban Water Sector Reform Program (NUWSRP). The NUWSRP outlined several objectives and aims including sector reform, water utility sustainability and commercial viability, infrastructure improvement, service reliability and performance enhancement, and increased access to quality piped water networks in urban areas nationwide. Achievements recorded through the NUWSRP include the construction of over 2,300 additional water collection points, and 6,546 sanitation cubicles/compartments and hygiene facilities across the country; the creation of 12,435 direct and 24,870 indirect jobs since 2015; and the certification of a total of 33 Local Government Areas within nine states as Open Defecation Free (ODF) (UNICEF, 2023).

In recent years also, the Government of Nigeria has strengthened its commitment towards improving access to WASH services, with former president of Nigeria, Muhammadu Buhari declaring a State of Emergency in 2018 and launching the National Action Plan (NAP), a 13-year strategy for the Revitalization of Nigeria's Water Supply, Sanitation, and Hygiene (WASH) sector aimed and marked at ensuring universal access to sustainable and

safely managed WASH services by 2030, commensurate with the Sustainable Development Goals (SDGs). However, due to inconsistent/infrequent water provided by the Water Board, out-of-pocket expenses rise disproportionately (approximately 4 dollars) on quality water directly from basically hygienic source. Thus, the populace of vast developing countries including Nigeria resort to buying a lot of packaged/sachet water, which is meant to be safer, cleaner for, bathing, cooking, and drinking (World Bank, 2021).

Over the past 35 years, sustainable development has gathered and garnered considerable interest in the global political arena. Sustainable development vis-à-vis population and WASH development stems from the idea that sustainable development depends on three major dimensions, namely environment, economics, and social amongst others (United Nations, 1987). This, has also drawn much interest from stakeholders, academics, intellectuals, urban planners, and policymakers globally in recent years (Wang et al., 2019; Larimian et al., 2020). According to the United Nations report of the world commission on environment and development: Our common future (United Nations, 1987), these three major dimensions of sustainable development are equally vital for sustainable population and WASH development (Rafieian & Technology, 2014; Baffoe & Mutisya, 2015).

Even though all three dimensions of the sustainability agenda are critical, population and social sustainability continues to be neglected in the scholarly literature (Hajirasouli & Kumarasuriyar, 2016; Akan & Selam, 2018; Kumar & Anbanandam, 2019). Whereas population WASH social sustainability is crucial in environmental (urban and rural) health/planning, policy, and practice in developed and developing nations, not much seems to be done (Rogge et al., 2018; Ali et al., 2019). The concept of population WASH social sustainability is now commonly linked to discussions of sustainable urban development (Ali et al., 2019) with a more considerable emphasis on social issues (Cho et al., 2015; Shirazi & Keivani, 2019; Ring et al., 2021; Wrangsten et al., 2022). Consequently, this idea is receiving more and more attention. However, implementing population WASH social sustainability by governments, government agencies, politicians, and non-governmental organizations (NGOs) seems difficult and burdening because of the rising tendency of population expansion, rapid urbanisation, particularly in developing countries (Zhang, 2016; Ghalib et al., 2017).

Just like every other sustainable development issue, population WASH social sustainability contends significantly with achieving sustainable development goals by 2030 (Wirth, 1938). To build population WASH social sustainability, it is essential to measure the current status of population WASH social sustainability in developing countries particularly Nigeria. To fill the gap in the existing literature, this study attempts to measure the current status of population WASH social sustainability for sustainable development in Nigeria and assess its effects on productivity.

This study is based on empirical evidence and adds new knowledge to the existing body of literature. As the first attempt of its kind, this study uses population WASH social sustainability themes to measure the current status of population WASH social sustainability. This is, to the best of the author's knowledge non-existent in previous studies. Therefore, this study adds to the body of knowledge by assisting government, policymakers, environment and demographic (urban and rural) planners, municipality and implementing agencies in developing effective plans, formulating policies, and putting those plans into practice for a population WASH social sustainability.

In addition, it helps them determine which population WASH social sustainability sub-issues require immediate attention. Also, this study is essential for developing countries confronting the same population WASH social sustainability problems due to rapid and extreme population expansion. Even also, for several other environments, including Kolkata, Delhi, Shanghai, Beijing, Mumbai (Bombay), Kinki M.M.A. (Osaka), Beijing, Al-Qahirah (Cairo), and others (United Nations, 2014). Ultimately, this study also helps reach the Sustainable development goal (SDG)-11, called "Sustainable cities and communities."

Literature Review

Sustainability, Public health and population WASH social sustainability

The concept of 'sustainable development' and 'sustainability' has gradually come to the fore to create a sustainable future. In 1987, the Sustainable development concept was formally proposed in a report namely, Our common future, submitted to the United Nations' world commission on environment and development (WCED). This report defines sustainable development as an improvement that meets the needs of the present without compromising the ability of future generations to meet their own needs (United Nations, 1987). The concept of sustainable development is addressed by three major dimensions, namely, economic, social, and environmental. While these three areas are primary, there adduce other important areas like health, migration and productivity. Thus, sustainable development is well-known as a theory called sustainable development or sustainability theory besides been an important concept, framework, construct for national growth, advancement and productivity (United Nations, 2001).

Whilst the framework or concept/theory of sustainable development is important, it argues that economic, environmental, health, productivity and social dimensions need to be equally focused to ensure sustainability (Li et al., 2014; Ma et al., 2019; Jia et al., 2022; Yankovskaya et al., 2022b; Zhang et al., 2022; Zhang et al., 2022; Zhang, 2022). However, recent literature has illustrated that public health, social sustainability amidst others is less focused than economic and environmental dimensions. In addition, this scenario is more unbalanced in developing countries. In other words, public health, social sustainability less focused scenario compared to the other dimensions on ensuring sustainable development especially in developing countries creates an imbalance in overall sustainability and sustainable development that hinder productivity, sustainable development (United Nations, 2001).

Therefore, this study focuses on the theory of sustainable development, highlighting all dimensions including health, social sustainability for national development. That is, the sustainable development theory health, and other dimensions when, balanced to, meeting the overall basic needs of all and expanding opportunities to attain the aspirations of overall population for better life without compromising the ability of future generations to meet their own needs fastens the process and reduces the lag in achieving sustainable development by 2030. Until then, the sustainability aims to achieve concise requirements that can meet all the basic needs of people living nationally or globally for society's effective and lasting functioning (Talan et al., 2020) may be fraught. So, measuring the current status of the public health (WASH), productivity and social sustainability of a country or city is essential to ensure sustainable development.

Thus, appraising measurable sustainability indicators that, depends on such reviews per country perspective is enviable to address country-specific conditions and basic societal needs. From this

perspective, country (Nigeria) scenario concentrating on the needs of citizens consequently ensues.

The economic burden of WASH public health upshot

Poor sanitation falls most heavily on the poorest in Nigeria in costs quantified by, open defecation costs more per person than any other type of unimproved sanitation. The additional costs are mainly due to the time taken to find a safe, private location for defecation. This cost associated with shared sanitation have been reported to be likely higher if time access cost estimate of US$243 million lost each year as well as user-fees were added. As it is not possible to estimate WASH burden without considering the health costs across categories (Water and Sanitation Program, 2012). WASH, poor sanitation, unsafe water, poor hygiene threat in Nigeria or lack thereof is a public health issue – that fall short individually, communally as people are affected by their neighbours and communities especially in disturbed sanitation status areas felt, throughout the community.

Considerable WASH economic, social and productivity burden are, loss of dignity and privacy or risk of physical attack and sexual violence that, may not be easily valued in monetary units. For instance, public health chaos of open defecation costs more than fixed-point sanitation since the costs of public health poor sanitation burden are inequitably distributed with the highest economic burden falling disproportionately on the poorest. The average cost associated with poor sanitation public health burden, constitutes a much greater proportion of a poor person's income than that of a wealthier person. Thus, access to sanitation inequities alone demonstrates the; poorest 20% of the population are 10 times more likely to practice open defecation than the wealthiest 20% of the population. For the poorest therefore, poverty is a double-edged sword – not only for the more likely poor sanitation burden chaos but for the proportionately more pay burden for the negative effects of WASH public health burden (Water and Sanitation Program, 2012).

Notwithstanding other costs of pollution and toxicity, poor sanitation costs Nigeria 455 billion Naira each year. This sum at 2012 is the equivalent of US$20 per person in Nigeria per year or 1.3% of the national GDP. Similar, poor and open defecation costs Nigeria US$1 billion per year despite less than 6.5 million built latrines needed to eliminate the economic, environmental, productivity, social burden such practice would require (WHO, 2010). These costs fall disproportionately on women as caregivers who may spend additional time, energy and shared or common wealth attending young children or sick or elderly relatives.

Besides, the cost of US$2.5 billion lost each year due to premature death is undermining productivity. Approximately 121,800 Nigerians, including 87,100 children under 5, die each year from diarrhea – nearly 90% of which is directly attributed to poor water, sanitation and hygiene (WASH). In addition, poor sanitation as a contributing factor – through its impact on malnutrition rates – to other leading causes of child mortality including malaria, acute lower respiratory infection (ALRI) and measles measures US$13 million lost each year in productivity losses whilst sick or accessing healthcare. This may include time absent from work or school due to diarrheal disease, seeking treatment from a health clinic or hospital, and time spent caring for under 5's suffering from diarrhea or other sanitation-attributable diseases (Africa Infrastructure Country Diagnostic, 2011).

Public health WASH and hygiene threats issues mean US$191 million spent each year on health care through diarrheal diseases alone directly, and indirectly via malnutrition (and its consequences for other

diseases such as respiratory infections and malaria) all, leading to morbidity or near morbidity. In some cases costs associated with health seeking behaviour which includes, consultation, medication, transport and in some cases hospitalisation – which place a heavy burden on households and government spending are, incurred (Africa Infrastructure Country Diagnostic, 2011).

There are also other additional costs related to productivity loss, epidemic outbreak costs and premature death, diverting expenditures from other essential items and losses in trade and tourism revenue. For instance, funeral costs calculations for the cost of premature death which are borne directly by households may be significant especially in Africa. This foregoing burden cost is found on the average in, South Africa, to the equivalent of a year's total expenditure on food and groceries' households spending for funerals in cases of premature death alone. In Nigeria, these additional related costs are estimated at US$28.8 million (eThekwini Declaration, 2008).

On the other hand, the adverse impact of unsafe excreta disposal on water resources is not included in the cost estimation that incurs due to water pollution as figures are not available for Africa. Where this affects drinking water supply, water supply and treatment costs for drinking and other domestic uses will add to the costs associated with poor public health and hygiene status. Fecal contamination of the environment too – the root cause of an annual average of 5,400 cases of cholera affecting Nigeria is estimated to be US$3.5 million each year. Despite this, the economic implications of a poor public health and WASH status especially in outbreaks such as cholera outbreak go beyond the immediate health system and may usually require non-bargained necessary costs in, response (eThekwini monitoring, 2011).

Important is the long-term economic losses related to the adverse effects of poor public health and WASH status on cognitive development. Early childhood diarrhea contributes to under nutrition, stunting and wasting which are associated with malnutrition and in turn with reduced long-term cognitive development. Infection with soil-transmitted helminths is also a cause of impairment in intellectual and cognitive development. Other multiple economic factor loses relate to tourism that, contribute to travel and tourism competitiveness a, significant source of income, employment and foreign currency. The World Economic Forum Travel and Tourism Competitiveness report (WEF Travel and Tourism competitiveness, 2011) ranks countries according to 75 indicators, one of which is sanitation status. Based on the current contribution of travel and tourism to GDP addressing poor public health and poor WASH status in Nigeria could lead to an increase in travel and tourism of an estimated US$9.4 million annually. The figure of US$ 3 billion is likely to underestimate the true cost of the current poor WASH and sanitation situation in Nigeria. These costs are likely to be significant, but are more difficult and expensive if economic and national reserves continue to decline. Thus, re-use and recycling of excreta is an option that could bring potential economic benefit as the value of excreta re-use is likely to increase in the future as world phosphate reserves continue to decline (Bethony et al., 2006).

Improving the public health and WASH status in Nigeria

Reverse status quo of delivering services, identifying equitable and uptake pathways in both rural and urban sanitation particularly transformation of inputs-finance into services bottlenecks along is sine qua non to WASH and public health service delivery and revolution in Nigeria. Thus, higher investments to WASH and public health

security needs be allocated especially where current WASH and public health sanitation investment in Nigeria is less than 0.1% GDP. This is lower than several estimates for what is required. Increased investments in WASH, public sanitation and hygiene promotion are required not only to realise health and welfare benefits of productivity, sustainable development but also to avert large economic losses (Oxfam, 2011).

Again, Target investments to the poorest sanitation class which is equitable should be approved and prioritized through specific strategies of low cost and effective ways of stopping open defecation. Need to scale up and prioritise elimination of open defecation not only due to its higher costs than any other sanitation practise, is considerable social importance and effect on WASH and public heath safety even to the poorest.

WASH and the mass media function

Mass media and public communication of reaching the large, scattered heterogeneous and anonymous audience at the same time have proved to born to human society. Nothing has influenced the lives of modern men as the media have. As a powerful means, mass media of today do not only influence the world of today but also shape the globe of tomorrow (Tosanswumi, 1994; Montgomory, 1989; Buckner-Brown, & Agho, 2005). That is, mass media perform essential tasks in order to cast its effect to the audience and maintain the society through functions of (Rimal, 2000; Dejong, & Winsten, 1998);

a. Information dissemination: dissemination of information is the major function of mass media. Information is knowledge and knowledge is power. Thus, media after authentic and timely facts and opinions check about various event and situations serve there mass audience via informative items. This informative function of mass media also lets the audience knows about the happenings around them which may be truth or false.

b. Education: Media provide education and information side by side. This education in different subjects to people of all levels educate people, directly or indirectly using different forms of content distance education program and direct approaches. WASH and public health dramas, documentaries, interviews, feature stories and many other programs prepared to educate people are also part of the indirect especially, direct approaches.

c. Entertainment: The other important function of mass media is entertainment. This is also viewed as the most obvious function of media. Entertaining WASH performances that provides pleasure, amusement and reduced tension to a large degree can be created through newspaper and magazines, radio, television and online medium offer stories, films, serials and comics to address the WASH dissuitabilities.

d. Persuasive: Mass media influence audience in varieties of ways using media content opinions and set agenda building in the public mind. It influences change attitudes and moderates behavior and thus a tool for WASH improvement.

e. Surveillance: Surveillance denotes observation. Here observation means to watch the society closely and continuously warn about threatening WASH actions that are likely to hamper future or possible WASH current gains.

f. Linkage: The function of mass media is to join together different elements of society that are not directly connected especially by broadcasting news of those that suffered from WASH related diseases. This can help in providing the needed WASH linkage to the Nigerian populace.

g. Socialization: This is the transmission of societal WASH values cum cultures that reflect positive health outcomes and reduced society WASH and public health burdens.

Thus the mass media has a huge WASH and public health service impact on

society in shaping the public opinion of the masses to ensue, form or modify public ways in the light of WASH and public health improvements.

Conclusion

Traditionally, WASH and public health sanitation has not received the priority it deserves particularly developing countries that includes Nigeria. It has not been widely recognized that good sanitation policies and practices can underpin socio-economic development and environmental protection. This study provides a review and scenario estimation of economic and impacts burden on populations without access to improved WASH and public health status cum sanitation in order to provide information on the losses to society of the current WASH and public health situation. While not all these economic impacts can be immediately recovered from improved WASH and public health sanitation practices, it provides a perspective on the economic gains that are available to countries through a range of policies to mitigate these impacts over the longer term. Underlying data sets to estimate economic impacts are weak thus, the study therefore uses objectively verified data sources and conservative numbers to estimate economic impacts.

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