

The Journey to Clean Water: Kenya’s and Ghana’s Lack of Water and Sanitation Service

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Abstract

This article addresses the lack of water and sanitation practices in both Kenya and Ghana. These countries are both found in Africa however, Kenya is found in East Africa while Ghana is found in the west. Ghana has a tropical climate while Kenya's climate has more variations depending on location. Although there has been great improvement in both countries when it comes to people having access to basic drinking water services, they are still not at the level of other developing countries. This is a concern, especially in the rural areas of these countries. Sanitation-wise, less than half of each country's population has access to handwashing facilities. This article dives into the various solutions each government has implemented to improve sanitation and access to clean drinking water.

I. Introduction

Water and sanitation are crucial for the well-being of all individuals in all communities. As of 2021, over 2 billion people live in water-stressed countries and as of 2022, 1.7 billion people use drinking water sources that are contaminated with feces.¹ Some 2.2 billion people lack access to safe water, including 703 million without access to basic water services.² Inadequate infrastructure, water pollution, degraded water-related ecosystems, and cooperation over transboundary water basins are some of the contributing barriers to the lack of adequate water and sanitation services.³ There is also often an unequal distribution of water and sanitation services between rural and urban areas. Developing countries face the brunt of these devastating effects.

This article focuses on examining the water and sanitation sector in Ghana and Kenya. Ghana has an abundance of water available but struggles when it comes to infrastructure, uneven distribution (such as in rural and urban areas), and water pollution. Kenya struggles with the same issues as Ghana but with the addition of also facing frequent droughts. Both countries have been harmed by the lack of water and sanitation services but have reacted in different ways. This article explores the improvements and devastations in each country.

¹ World Health Organization (WHO) (2023).

² United Nations, Department of Economic and Social Affairs (DESA), Statistics Division. (2023).

³ United Nations, Department of Economic and Social Affairs (DESA), Statistics Division. (2023).

This article is divided into six sections. Following this introduction, Section II provides a brief literature review. Section III covers some socioeconomic background for the two countries, followed by an analytical section that analyzes the key facts regarding water and sanitation services in Ghana and Kenya. The fifth section discusses the ethical considerations around water-related problems and explores the various programs and policies that have been implemented to address these problems, before the last section provides some conclusions.

II. Brief Literature Review

There are many publications examining the lack of water and sanitation in Ghana and Kenya and the negative side effects that come with a lack of clean water and sanitation. There are by now also several articles discussing the various programs and regulations put in place to improve both access to water and sanitation services in Ghana and Kenya, some of which will be referred to in the ethical analysis below. The following summaries are examples of the many aspects covered in the literature covering water and sanitation issues in Ghana and Kenya by a variety of different authors, including academics, international organizations and non-governmental organizations.

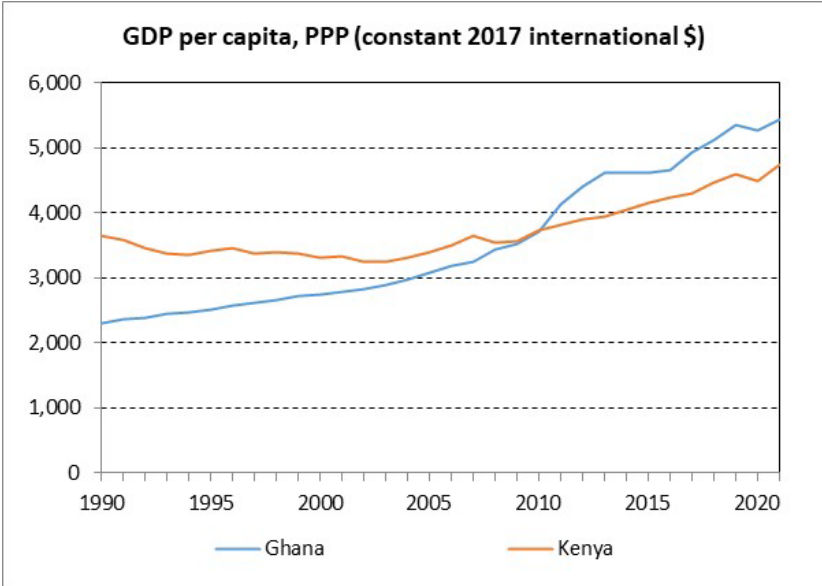
- Adams and Vasquez (2019) examine the question of whether the urban poor want to have access to water via household taps. They implemented a choice experiment in Nima, an urban settlement in Accra, Ghana, to investigate community preferences and willingness to pay for household taps. Their results show that residents are sensitive to the time of service delivery, the quality of water, connection fees, and monthly water bills. Their experiment also showed that households preferred the Accra Metropolitan Assembly (AMA) to the Ghana Water Company Limited (GWCL) as the service provider and were willing to pay more for a system managed by the Accra Metropolitan Assembly. Their findings provide valuable information that policymakers and water utilities can use to assess the feasibility and cost effectiveness of extending household taps to poor urban settlements.
- Mensah (1998) compares the traditional regime for water and the Community Water and Sanitation Program (CWSP) in Ghana. The traditional regime includes traveling to a public water source and taking water. This was seen to be inadequate in terms of the amount of water taken and the cleanliness of the water itself. There are also religious factors that limit the use of public water sources. The CWSP introduced boreholes which allow access to clean water year-round. The program trains a committee to properly use handpumps. They also teach health, sanitation, and hygiene education to communities to maximize health benefits. The CWSP still struggles with sanitation in communities they have helped and with the speed of setting up the program. However, diseases have been reduced in areas that pay for the CWSP to come to their village.
- An advocacy brief of the United Nations Children's Fund (UNICEF) (2022) goes into detail about the effect of climate change on water services in Kenya. The horn of Africa is not only experiencing decreased rainfall, but temperatures are rising as well. Increased temperatures can increase the risk of water borne pathogens. This advocacy brief then discusses the detrimental effects that a lack of clean water has on children. It also stresses that water insecurity leads to food insecurity because water is not available to grow crops. This in turn causes malnutrition in children as well. Education and safety in general are also negatively impacted by a lack of water.

- Snyder (2023), who is a guest writer for the non-governmental organization “The Water Project”, provides an overview of the key sources for the water crisis in Kenya. Snyder refers to Kenya’s predominantly arid climate that implies that only a small percentage of the country’s land is optimal for agriculture. Furthermore, Snyder points out that Kenya’s natural water resources do not provide an equitable delivery of water to the various regions of the country, which leaves most of the population without any fresh water. Snyder also states that Kenya’s water politics have been unique, as there has been a divide between areas that have been privatized and sectors where investors have been discouraged from developing.

III. Socioeconomic Background

Figure 1 shows GDP per capita, adjusted for purchasing power parity (PPP) in constant international dollars. As seen in the graph, both countries showed an overall increase in GDP per capita, though Ghana had a much bigger increase than Kenya. Ghana’s GDP per capita more than doubled from \$2,300 in 1990 to \$5,435 in 2021, while Kenya’s GDP per capita increased by less than one third from \$3,655 in 1990 to \$4,743 in 2021. In 1990, Ghana’s GDP per capita was \$1,356 below that of Kenya; some three decades later (in 2021), Ghana’s GDP per capita was \$692 higher than that of Kenya. This huge divergence is mostly due to Kenya’s overall stagnating GDP per capita from 1990 to 2009, that is, some twenty years without progress in terms of GDP per capita.

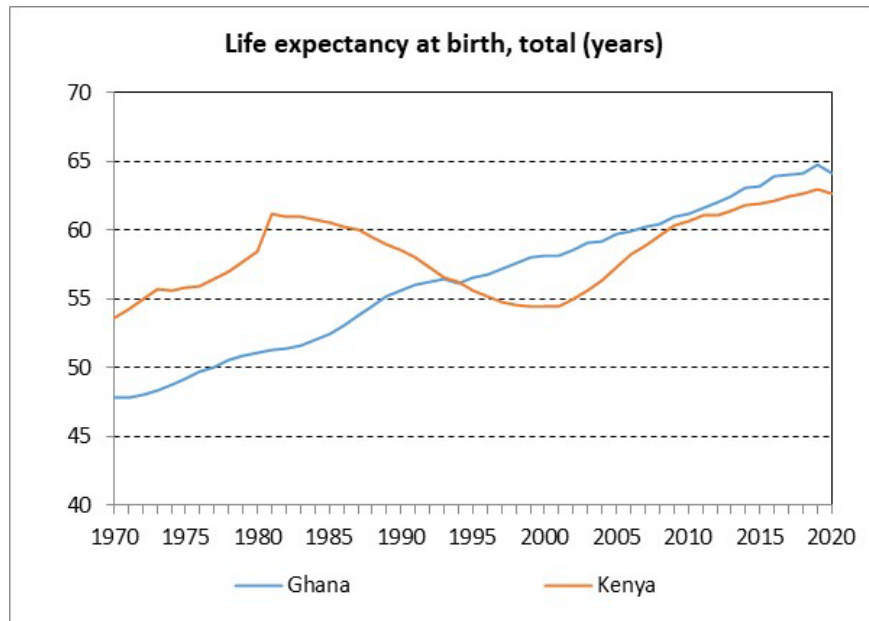
Figure 1: PPP-Adjusted GDP per capita, 1990–2021



Source: Created by author based on World Bank (2023).

Figure 2 shows life expectancy at birth in Ghana and Kenya from 1970 to 2020. While both countries show an overall increase in life expectancy, Ghana had a nearly steady increase, while Kenya exhibits large ups and downs, with the significant decline from 1981 to 2000 having been due to the HIV/AIDS epidemic raging in Kenya. From 1990 to 2020, the evolution of life expectancy is actually very close to the evolution of GDP per capita for both countries.

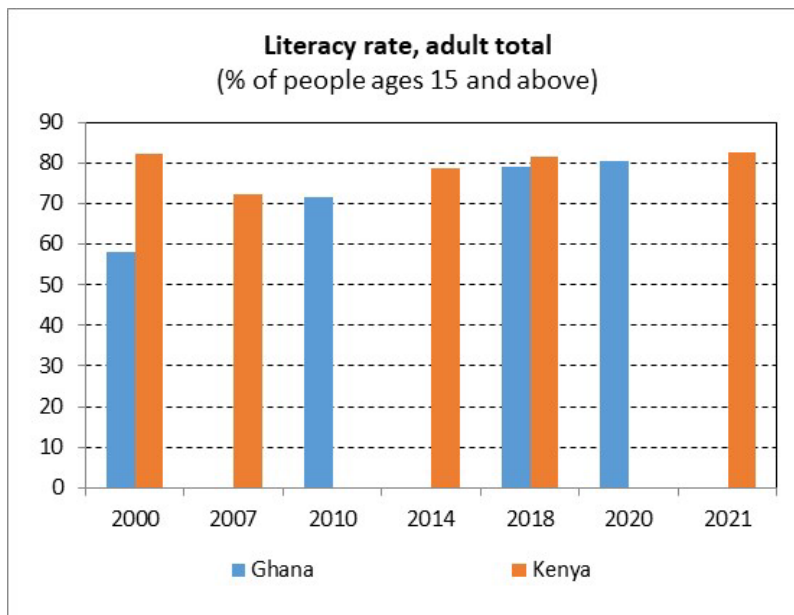
Figure 2: Life Expectancy at Birth, 1970–2020



Source: Created by author based on World Bank (2023).

Figure 3 shows the literacy rate in Ghana and Kenya for all available years. Despite considerable data gaps, it is clear that Ghana has made progress while Kenya has overall stagnated for the about 20 years data is available. Ghana’s literacy rate increased from 57.9 percent in 2000 to 80.4 percent in 2020 (i.e., increased by 22.5 percentage points), while Kenya’s literacy rate increased by only 0.4 percentage points from 82.2 percent in 2000 to 82.6 percent in 2021.

Figure 3: Adult Literacy Rates of Ghana and Kenya, all available years



Source: Created by author based on World Bank (2023).

Based on these three indicators, it is clear that Ghana has been a development success story, while Kenya has been a failure despite some marginal progress in terms of GDP per capita during the last decade and some more substantial gains in life expectancy during the last two decades.

IV. Analysis of Facts

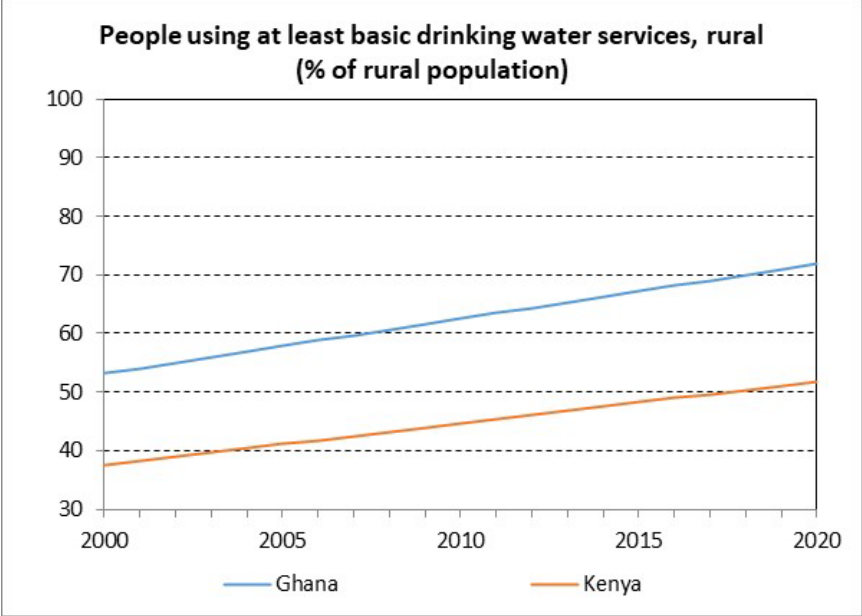
This section is divided into two subsections. The first subsection will inspect Ghana’s and Kenya’s access to basic water and sanitation services in both rural and urban areas. The second subsection will examine mortality rates attributed to unsafe water, unsafe sanitation, and lack of hygiene. Given that children are very susceptible to water-borne illnesses, the second subsection will also show the mortality rate of children under five years old.

IV.1. Access to Basic Drinking Water and Sanitation Services

IV.1.a. Access to at Least Basic Drinking Water Services

Figure 4 shows the percentage of people living in rural areas who have access to at least basic drinking services. Both countries have steadily increased this access rate throughout the past 20 years. Ghana had 53.2 percent of its rural population having access to basic drinking services in 2000, which increased to 71.9 percent in 2020. This is an increase of 18.7 percentage points. Kenya started with 37.4 percent of its rural population having access to basic drinking services in 2000, which increased to 51.8 percent in 2020, which implies an increase by 14.4 percentage points.

Figure 4: People Using at Least Basic Drinking Water Services in Rural Areas, 2000–2020

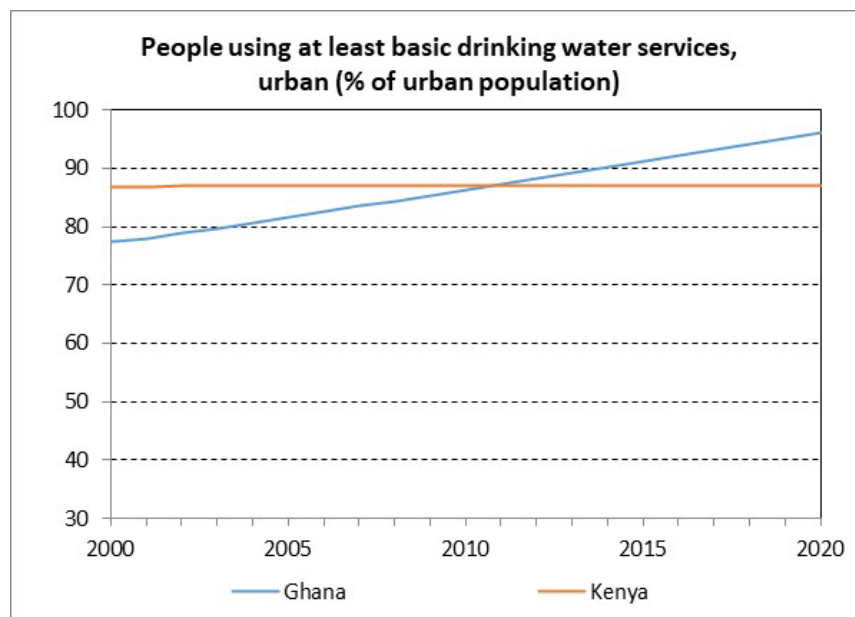


Source: Created by author based on World Bank (2023).

Figure 5 displays the percentage of people living in urban areas who have access to at least basic drinking services. Although Kenya started out having more people who had access to at least basic drinking services in 2000, Ghana surpassed Kenya by 2011. Over 20 years, Kenya’s urban access

to at least basic drinking services increased by only 0.09 percentage points, while Ghana's increased by 18.6 percentage points.

Figure 5: People Using at Least Basic Drinking Water Services in Urban Areas, 2000–2020



Source: Created by author based on World Bank (2023).

Comparing Figures 4 and 5 shows the considerable difference between rural and urban populations when it comes to access to at least basic drinking water services. In 2000, the rural-urban gap was 24.3 percentage points for Ghana and 49.5 percentage points for Kenya. In 2020, the rural-urban gap was 24.2 percentage points for Ghana and 35.2 percentage points for Kenya. Hence, Ghana's rural-urban gap decreased by only 0.1 percentage points, while Kenya's rural-urban gap decreased by 14.3 percentage points. Despite Ghana's failure to reduce the rural-urban gap, Ghana's gap is still significantly smaller in 2020 than Kenya's.

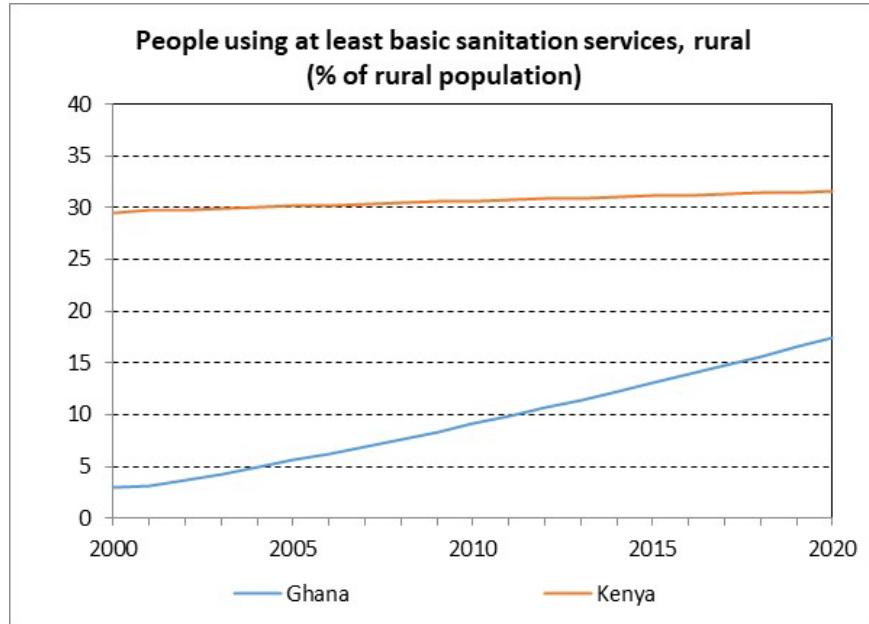
IV.1.b. Access to at Least Basic Sanitation Services

Figure 6 shows the percentage of people living in rural areas who have access to at least basic sanitation services. Like for sanitation, both countries have steadily increased this access rate throughout the past 20 years. Ghana had only 3.0 percent of its rural population having access to basic sanitation services in 2000, which increased to 17.4 percent in 2020. This is an increase of 14.4 percentage points. Kenya started with 29.5 percent of its rural population having access to basic sanitation services in 2000, which increased however only marginally to 31.6 percent in 2020, which implies an increase by only 2.1 percentage points over 20 years.

Figure 7 displays Ghana's and Kenya's access to basic sanitation services in urban areas. Kenya's urban population has more access to basic sanitation services than Ghana's between the years 2000 and 2020. In 2000, 34.9 percent of Kenya's rural population had access to basic sanitation services, which increased to 35.6 percent in 2020. For Ghana, 13.0 percent of Ghana's urban population had access to basic sanitation services, which increased to 28.4 percent in 2020. In other words, Ghana

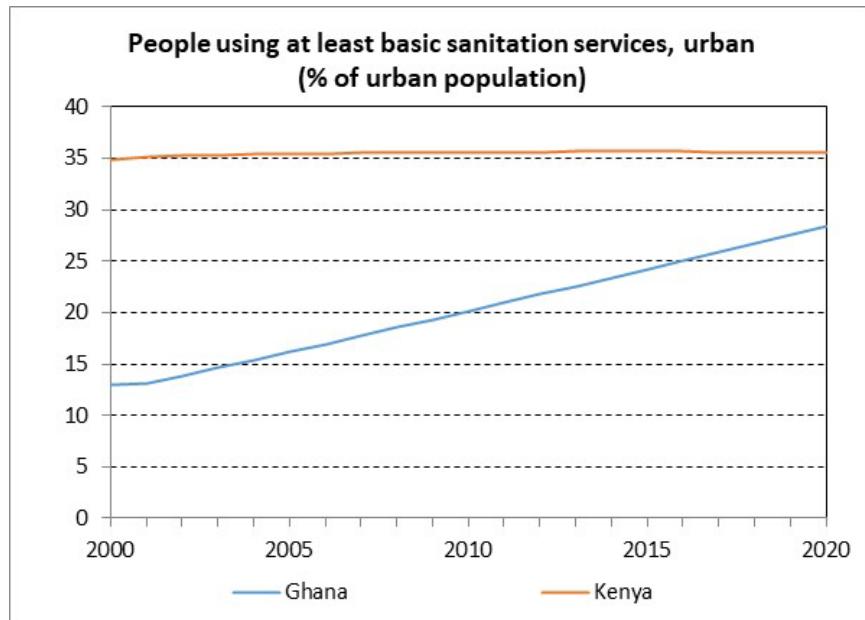
improved its urban access rate by 15.4 percentage points from 2000 to 2020, while Kenya improved it by only 0.7 percentage points over the same period.

Figure 6: People Using at Least Basic Sanitation Services in Rural Areas, 2000–2020



Source: Created by author based on World Bank (2023).

Figure 7: People Using at Least Basic Sanitation Services in Urban Areas, 2000–2020



Source: Created by author based on World Bank (2023).

When comparing rural and urban access to at least basic sanitation services (i.e., comparing Figures 6 and 7), the trends in rural-urban gaps are similar as both countries’ gap has changed little between 2000 and 2020. In the case of Kenya, the rural-urban gap for having at least basic sanitation services decreased by a marginal 1.4 percentage points; in the case of Ghana, the rural-urban gap for having at least basic sanitation services increased by marginal 0.9 percentage points.

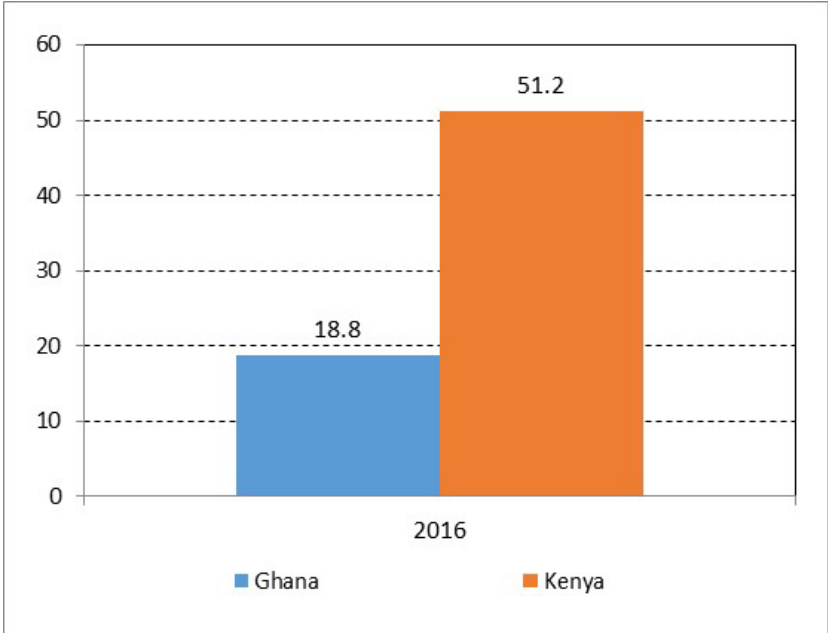
IV.1.c. Comparing Access to at Least Basic Water Services with Sanitation Services

Comparing access to water with access to sanitation, we can see that access to sanitation services is significantly lower than access to water services in both countries. This can be explained by the fact that sanitation services are typically considered a lower priority than water services for a variety of reasons detailed in the Human Development Report 2006.⁴

IV.2. Consequences of Lacking Drinking Water, Hygiene, and Sanitation

Basic water and sanitation services are vital for humans to remain healthy. Figure 8 displays the mortality rate attributed to unsafe water, unsafe sanitation, and lack of hygiene for both Kenya in Ghana in 2016, which unfortunately is the only year such data is available. This was the only year this data was collected. Kenya had 51.2 deaths per 100,000 people, while Ghana had 18.8 deaths per 100,000 people.

Figure 8: Mortality Rate Attributed to Unsafe Water, Unsafe Sanitation, and Lack of Hygiene (per 100,000 population) in 2016



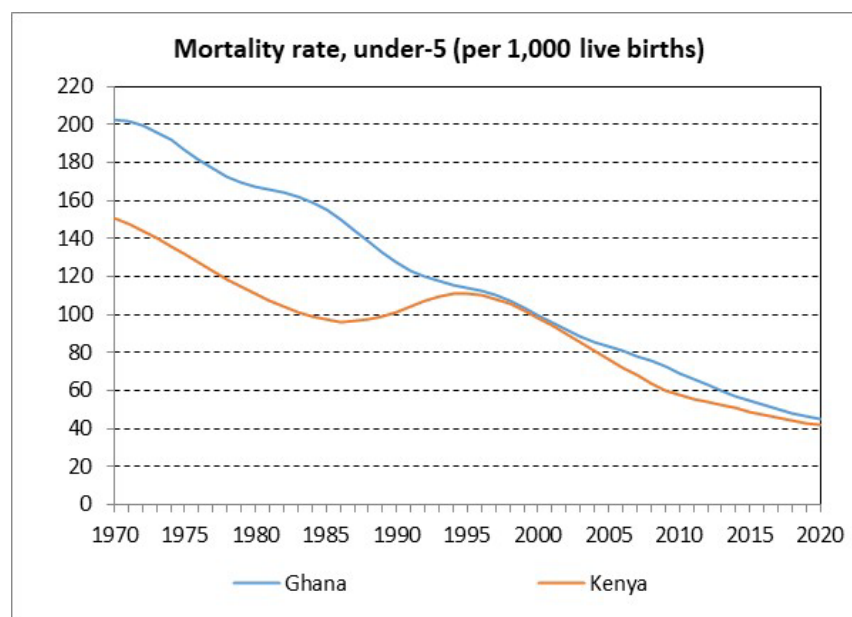
Source: Created by author based on World Bank (2023).

Given that children are extremely susceptible to water-borne illnesses, Figure 9 displays the mortality rate of children under five years old. As seen in Figure 9, Ghana had a far higher mortality

⁴ United Nations Development Program (2006).

rate for children under five years old than Kenya in 1970 (202.5 deaths in Ghana versus 150.9 deaths in Kenya). Though the evolution of this indicator is different across the two countries, the values are nearly the same for the two countries in 2000, with Ghana having an under-five mortality rate of 99.7 while Kenya's was 98.5. While the gap between the two countries increases slightly over the next decade, with Kenya making a bit more progress than Ghana, Ghana improves more than Kenya in the last ten years. In 2020, Ghana's under-five mortality rate stood at 44.7 deaths per 1,000 live births while Kenya's reached 42.0 deaths per 1,000 live births. In any case, both countries made significant improvements in reducing their under-five mortality rate.

Figure 9: Under-5 Mortality Rate (per 1,000 live births), 1970–2020



Source: Created by author based on World Bank (2023).

V. Ethical Analysis

This section is split into two subsections. The first subsection reviews some key ethical concepts related to water and sanitation building on Risse (2014) and Jennings, Heltne and Kintzele (2009). The second subsection summarizes how some of these ethical concepts have been implemented in Ghana and Kenya via various water and sanitation programs.

V.1. Ethical Concepts Related to Water and Sanitation

In 2010, the United Nations Assembly recognized that water and sanitation are human rights. The philosophical reasons for water being a human right have been explained by Risse (2014). According to Risse, there are two main points when it comes to water being a social justice issue: first, it is life-giving and non-substitutable, and second, water is a part of nature which means its existence is not owed to human accomplishments. Risse (2014) states that the human right to water is split into two forms: a right to safe drinking water and a right to sanitation. He argues that the human rights framework is the leading proposal for a globally acceptable normative approach to regulating human affairs related to water and sanitation.

Risse (2014) argues that humanity collectively owns the earth, and hence, refers to egalitarian ownership as the most plausible conception for water. The main idea of this ownership is that all co-owners ought to have an equal opportunity to satisfy basic needs (water included) without excluding other co-owners from also satisfying them. When divvying up the world resources, the global order must apply the idea of common ownership. According to Risse (2014), there are two fundamental guarantees when looking at this application: first states and other powerful organizations must make sure their power does not render individuals incapable of meeting their basic needs and second, they must provide opportunities for individuals to lead a life at least at subsistence level.

Risse (2014) considers access to safe drinking water and basic sanitation a global responsibility and therefore calls for a global compact on water which includes a monitoring body. This monitoring body will take inventories of global water resources and identify which countries should be allocating their water resources.

Jennings, Heltne and Kintzele (2009) introduce multiple principles of water management ethics. First, they mention the principle of equal respect for human dignity, which calls for the meeting of basic needs and the promotion of human health and well-being. They explain that this principle incorporates the framework of universal human rights, which includes water for ethical reasons according to Risse. In short, this principle means that we must regard human beings as intrinsically worthwhile. Jennings, Heltne and Kintzele (2009) also refer to the principle of equity and opportunity as well. This principle means that the least well-off should be considered a priority and given resources first. Lastly, Jennings, Heltne and Kintzele (2009) introduce the principle of inclusive and deliberative participation. This principle emphasizes the importance of including groups that are not as powerful or well-represented in decision-making. This principle is extremely important when referring to developing countries and the global order.

V.2. Programs and Policies Implemented

Ghana and Kenya have implemented many programs and policies related to water and sanitation. The purpose of this subsection is not to provide a comprehensive list of these programs and policies, but to provide some examples on how the programs and policies adopted reflect the ethical concepts referred to in the previous subsection.

Recognizing that water and sanitation are human rights, the governments of Ghana and Kenya have more recently adopted ambitious policies to guarantee water and sanitation to all of their citizens.

- In 2015, Ghana has put in place the National Drinking Water Quality Framework. The first sentence of the foreword by the Minister for Water Resources, Works and Housing states that “The Government of Ghana recognizes access to safe drinking-water as a basic human right and essential to protect public health.” The purpose of the framework is to ensure that all the people of Ghana have access to clean water. The approach of the framework promotes the understanding of the entire water system, the events that can compromise water quality, and the operational control necessary for optimizing drinking water quality.⁵
- Kenya’s National Water Master Plan 2030 was launched on March 26, 2014. It is a blueprint for dealing with water resourcing and management with the goal of achieving

⁵ This bullet point is based on Government of Ghana, Ministry of Water Resources, Works and Housing (2015).

universal coverage of safe water supply and access to basic sanitation services by 2030. The four specific policy objectives are to: preserve, conserve, and protect all available water resources and allocate them in a sustainable, rational, and economical way; supply water of good quality and in sufficient quantities to meet the various water needs, including poverty alleviation, while ensuring safe disposal of wastewater and environmental protection; establish an efficient and effective institutional framework to achieve systematic development and management of the water sector; and develop a sound and sustainable financing system for effective water resources management, water supply, and sanitation development.⁶

Consistent with Risse's (2014) statement that water is a global responsibility, many industrialized countries have supported water and sanitation programs in developing countries, including in Ghana and Kenya. For example, the United States Agency for International Development (USAID) have put in place various WASH (water access, sanitation, and hygiene) programs by in both countries.

- In Ghana, the WASH project had five key objectives. First, to increase access to improved water and sanitation infrastructure for individual households, communities, schools, and clinics in the target areas. Second, to assist in developing innovative modes of establishing new infrastructure. Third, to improve the capacity of small grant recipients to mobilize community members and local official bodies to actively participate in the improvement and maintenance of water and sanitation infrastructure. Fourth, to support the development of behaviors that result in improved water sanitation and increased adoption of complementary hygiene behaviors that will reduce waterborne diseases. Fifth, to manage existing partnerships and potentially develop new partnerships with private sector and/or voluntary organizations committed to achieving the same results. This was done through the construction and repair of boreholes, hand-dug wells, pipe systems, surface water kiosks, and latrines.⁷
- In Kenya, the Kenya Integrated Water Access Sanitation and Hygiene (KIWASH) program was a five-year program from October 2015 to September 2020, funded by the United States Agency for International Development (USAID). It improved the lives and health of 1 million Kenyan citizens in nine counties through the development and management of sustainable water, sanitation, hygiene, and nutrition services by addressing long-term issues such as the need for greater investment in water storage, better groundwater assessments, and increased water use efficiency to get the most from existing resources. The KIWASH program resulted in improved water access and an increase in soap being used at handwashing stations. Due to this program and other initiatives, Kenya also saw a decrease in open defecation as well. Another implementation of this program was the installation of solar panels to cut down costs of running water pumps.⁸

⁶ This bullet point is based on Government of the Republic of Kenya, Ministry of Environment, Water and Natural Resources, Water Resources Management Authority (2014).

⁷ This bullet point is based on United States Agency for International Development (USAID) (2012).

⁸ This bullet point is based on Development Alternatives Inc. (2021).

VI. Conclusion

Water and sanitation have been considered a human right since the United Nations General Assembly passed such a resolution in 2010. There has been an improvement in access to basic drinking water and sanitation services in Kenya and Ghana due to numerous plans and policies put in place by each country's government. However, the lack of safe drinking water and sanitation services severely affects many people in Ghana and Kenya.

Both Jennings, Heltne and Kintzele (2009) and Risse (2014) propose that the countries in need should be prioritized and helped by countries that are well off. This idea's application can be seen, for example, when looking at the WASH program implemented by the United States Agency for International Development in both countries. The idea of wealthier better-off countries helping developing countries should be applied when creating future programs in not only Kenya and Ghana but any other country struggling with water and sanitation.

Water and sanitation can continue to improve with the help of organized government action, assistance by developed countries, and the implementation of certain practices at an individual level. Teaching sanitation practices to individuals in Kenya and Ghana is extremely important when trying to implement a foundational change.

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