

# **What is There to Drink? The Lack of Access to Clean Water in Ethiopia and the Democratic Republic of the Congo**

Ally Fox

## ***Abstract***

*This article looks at the drinking water situation in both Ethiopia and the Democratic Republic of the Congo. Both of these countries rank extremely low when it comes to access to clean water and sanitation, despite various domestic and international agencies and programs that have intended to help both countries. This article analyzes why this lack of access to clean water and sanitation exists in these two developing countries and what some ethical implications are. It also examines how the two governments and other organizations attempted to help with the issue.*

## **I. Introduction**

A lack of access to clean water is extremely dangerous to any type of community affected. Many people and global organizations recognize having clean water as a human right. Unfortunately, more than 750 million people around the world did not have access to safe water in 2020, and more than 3 billion people did not have access to proper sanitation in 2020.<sup>1</sup> Poorer communities are more likely to suffer from these conditions. Additionally, there is a large contrast between the situations in rural and urban areas within these countries that already struggle. Due to the detrimental effects that are occurring from these unethical situations, the global community must face this problem head-on.

This article is a case study of the Democratic Republic of the Congo (DRC) and Ethiopia. It explores the ways in which a lack of access to clean water has impacted these two countries through a lack of clean drinking water and sanitation issues that have become so serious that it leads to fatalities, thus affecting mortality rates. This article analyzes water-related data for both countries and discusses the ethical issues and decision makings surrounding the issue.

After this introduction, the article begins with a literature review outlining some of the prior research conducted regarding clean water access in the DRC and Ethiopia. Following the literature

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<sup>1</sup> World Bank (2022).

review, the article provides some socioeconomic background for the two countries. Next, the article provides visuals such as graphs and charts to show the impacts of the water crisis in the DRC and Ethiopia before reviewing the issue under several ethical lenses. Finally, the article offers insights and recommendations for possible solutions and what the next steps are to improve access to clean water.

## II. Literature Review

There is a satisfactory amount of literature on the lack of access to clean water in both Ethiopia and the DRC. For the most part, there has been an increase in publications during the past few years as the issue has continued to worsen during recent crises such as the COVID-19 pandemic, and more international agencies have attempted to help. This has all led to more research on the issue. Jgarkava (2021) and Adane, Swedenborg and Yohannes (2021) discuss the water crisis in Ethiopia, with the former focusing on the issue itself while the latter focuses on suggestions and attempts for improvement. Similarly, Bokor (2020) focuses on the DRC's water crisis as a whole, while Partow (2011) prioritizes suggestions to attempt to fix the problem. For the most part, the authors all discuss the causes and effects of the lack of access to clean water in these two countries.

- Adane, Swedenborg and Yohannes (2021) focus on the strategies to improve the water crisis in Ethiopia, providing background information on the situation before elaborating upon the three main suggestions. The article elaborates upon the benefits of creating a balance between water withdrawals and water supply, building water resilience-based strategies, as well as creating a plan for transformation across sectors. Furthermore, there is an emphasis on the idea of how sustainable socio-economic growth is dependent on quality approaches to fix the water problem.
- Bokor (2020) describes the DRC's water crisis by elaborating upon the impacts of the crisis, lessons learned from the issue, the consequences or challenges that now persist because of it, and recommendations on fixing the issue. The article details how a lot of the issues stem from a lack of infrastructure and sanitary issues, sometimes even resulting from practices of the citizens themselves. Additionally, the challenges are separated via sub-sectors, including urban and rural sectors, thus showing how there are different causes and effects of the issue in each region of the country.
- Jgarkava (2021) reviews Ethiopia's access to clean water, primarily focusing on the water crisis in Ethiopia, the health consequences of the issue, and any progress made. The article details how the issue is primarily a problem in rural parts of the country, and how it leads to many water-borne illnesses such as cholera and diarrhea, as well as issues such as malnutrition, inadequate hygiene, and other sanitation issues. Multiple organizations and charities are attempting to help the situation, as seen by projects such as the "Water and Gasi Spring Project", which have all been funded to serve the people struggling in this situation.
- Partow (2011) discusses the water crisis issue in the DRC while building up to a conclusion of opportunities to fix the ongoing water crisis in this country. Most of these recommendations are infrastructure-based, prioritizing water sector governance reform, technical and institutional capacity building, and the establishment of scientific information about the crisis.

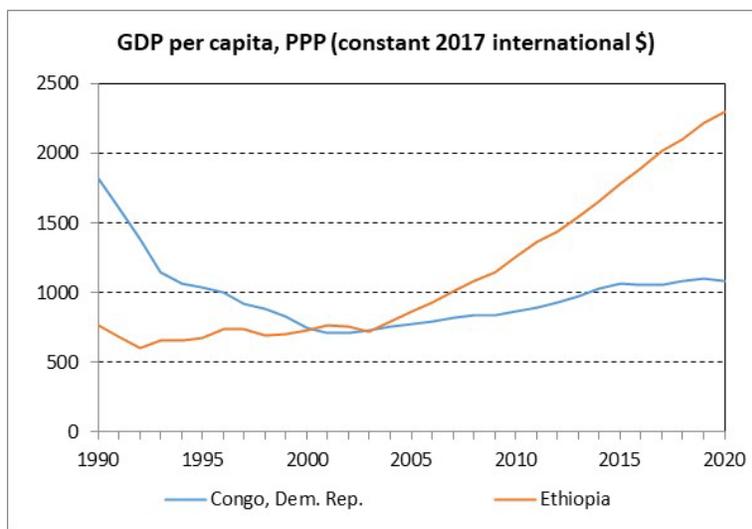
### III. Socioeconomic Background

The DRC is located in Sub-Saharan Africa and had a population of 89.5 million in 2020. It is currently classified as a low-income country, with most of its gross domestic product (GDP) in 2020 originating from the agriculture sector. In 2020, 4.5 percent of the workforce were unemployed. In 2016, 50.7 percent of the population had completed lower secondary education at the age of 25 or older.<sup>2</sup>

Ethiopia is also located in the Sub-Saharan part of Africa, with a population of almost 115 million in 2020. Like the DRC, Ethiopia is also classified as a low-income country and most of Ethiopia's GDP also comes from its agricultural sector. As of 2011, only 12.5 percent of the population had completed lower secondary education at the age of 25 years or older.<sup>3</sup>

As shown in Figure 1, the DRC's purchasing power parity (PPP)-adjusted GDP per capita (in constant 2017 international dollars) saw a drop from 1990 until 2001, reflecting the DRC's unstable political situation during those years. Since then, there has been a nearly steady but only slight increase, reaching \$1,082 in constant 2017 international dollars. Ethiopia has shown a different pattern, with an overall steady GDP per capita from 1990 to 2003, followed by a solid increase, reaching a GDP per capita of \$2,296 in constant 2017 international dollars in 2020.

**Figure 1: GDP per capita, PPP (constant 2017 international \$), 1990-2020**



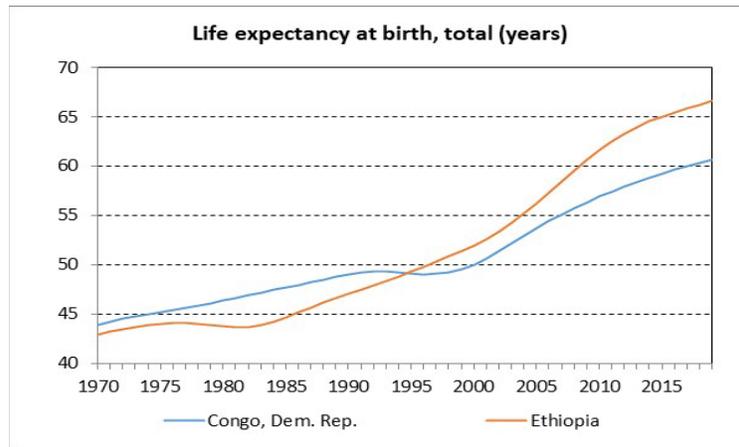
Source: Created by author based on World Bank (2022).

Along with an increase in GDP per capita over time for both countries since 2004 comes an overall steady increase for both countries in life expectancy, as shown in Figure 2. In 1970, the DRC's life expectancy was 43.9 years, and in 2020 it was 60.7 years, thus reflecting an increase of almost 17 years. In Ethiopia, the life expectancy was 42.9 years in 1970, and in 2020 it had reached 66.6 years, thus an increase of 23.7 years in life expectancy.

<sup>2</sup> This paragraph is based on World Bank (2022).

<sup>3</sup> This paragraph is based on World Bank (2022).

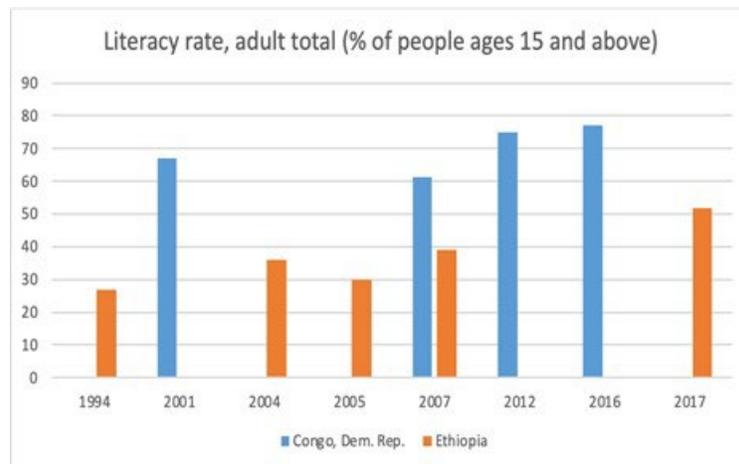
**Figure 2: Life Expectancy at Birth (years), 1970-2019**



Source: Created by author based on World Bank (2022).

Furthermore, even though Ethiopia’s GDP per capita has been higher than in the DRC since 2003, literacy rates (shown in Figure 3) have always been higher in the DRC than in Ethiopia. Both countries have seen some volatility in their literacy rates, with DRC experiencing a decline from 2001 to 2007, while Ethiopia experienced a decline from 2004 to 2005. Both countries saw moderate increases in more recent years, with the DRC reaching a literacy rate of 77 percent in 2016 and Ethiopia reaching a literacy rate of 52 percent in 2017.

**Figure 3: Adult Literacy Rate (percent of people 15 years and above)**



Source: Created by author based on World Bank (2022).

In terms differences across gender, in the DRC, as of 2016, the literacy rate for females 15 years and older was 66.5 percent, but for males 15 years and older the literacy rate was 88.5 percent.<sup>4</sup> In Ethiopia, women 15 years and older had a literacy rate of 44.4 percent in 2017, whereas men 15 years and older had a 59.2 percent literacy rate in the same year.<sup>5</sup> Therefore, Ethiopia experiences

<sup>4</sup> World Bank (2022).

<sup>5</sup> World Bank (2022).

less gender inequality in terms of literacy rates than the DRC. However, there is still a lot of gender inequality in both countries, even if in varying degrees.

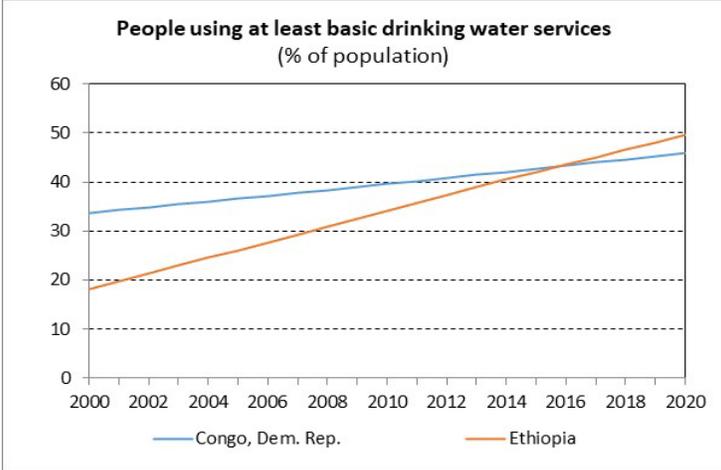
#### IV. Analysis of Facts

This analysis of facts is divided into two subsections. The first subsection examines access to basic water services while the second subsection examines access to sanitation in the DRC and Ethiopia.

##### IV.1. Access to Basic Water Services

When comparing access to safe water, it is important to analyze the percentage of people who have access to at least basic drinking water services. As shown in Figure 4, while both countries continue to have access rates below 50 percent, progress made over time has been different for the two countries. In year 2000, Ethiopia had a much lower share (18 percent) of the population using at least basic drinking water services than the DRC (34 percent). However, by 2020, 49 percent of Ethiopia’s population had access to basic drinking water services, while only 45 percent of the DRC’s population had access to basic drinking water services.

**Figure 4: People Using at Least Basic Drinking Water Services (percent of population)**



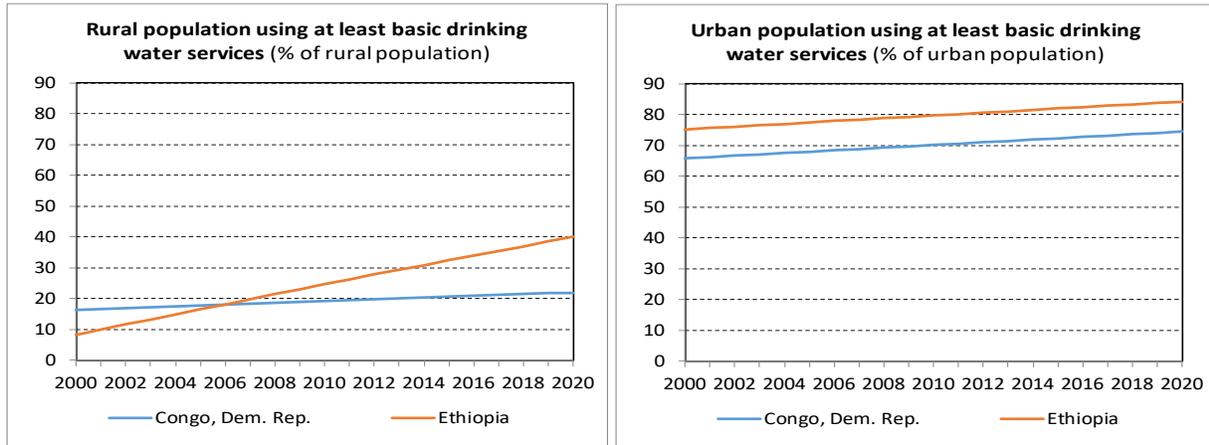
Source: Created by author based on World Bank (2022).

However, it is important to note that these trends vary in both nations depending on if the population is rural or urban. As shown in Figure 5, the DRC’s rural population has made very little progress throughout all the 20 years there is data, with access to at least basic drinking water services increasing from around 16 percent in 2000 to 22 percent in 2020. However, a significant amount of progress was made in Ethiopia’s rural areas, where the percentage of people using at least basic drinking water services has increased from 8 percent in 2000 to 40 percent in 2020. Although there has been a significant amount of progress in Ethiopia, there is still a long way to go for the rural populations in both countries.

Comparing Figure 5 with Figure 6, there is a significantly higher percentage of the urban population than the rural population having basic access to drinking water services in both countries. However, there have been relatively minor increases in both nations over time, increasing by less than 9 percentage points from 2000-2020. Additionally, there are relatively

small differences across the two countries, with Ethiopia having around 84 percent of its urban population having access to drinking water services in 2020, while about 75 percent of the DRC's urban population had access to basic drinking water services in the same year.

**Figures 5 and 6: Rural and Urban Access to Basic Drinking Water Services (percent of rural or urban population)**

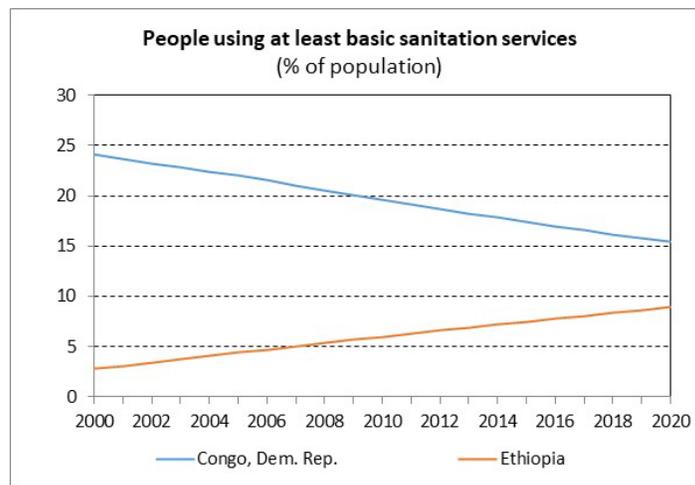


Source: Created by author based on World Bank (2022).

## IV.2. Access to Sanitation

Water and sanitation are very much connected. If clean water is not available, then sanitation will become an issue. As shown in Figure 7, the DRC had a decline in the percentage of the total population who have access to basic sanitation services, decreasing from 24.1 percent in 2000 to 15.4 percent in 2020. Ethiopia had the opposite trend for this indicator, increasing from a very low 2.8 percent in 2000 to 8.9 percent in 2020. Even though Ethiopia's overall access to basic sanitation services still remains below that of the DRC, Ethiopia is at least on the right path, and if these trends continue, Ethiopia could surpass the DRC around 2035.

**Figure 7: Access to Basic Sanitation Services (percent of population)**

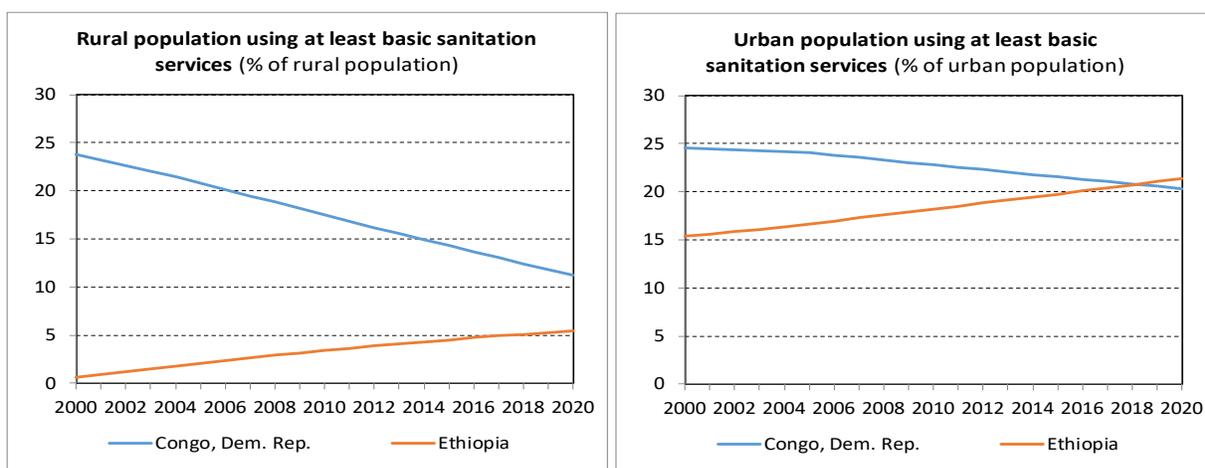


Source: Created by author based on World Bank (2022).

Just like for water access, it is also important to analyze the differences between rural and urban access to basic sanitation services in each country as well as across country. As shown in Figures 8 and 9, there has been a decrease over time in the usage of basic sanitation services for both, the rural and urban population in the DRC, while there has been an increase in Ethiopia.

Taking a closer look at the rural population shown in Figure 8, access to basic sanitation services decreases greatly over time in the DRC, dropping from 23.8 percent in 2000 to only 11.2 percent in 2020. This decrease of 12.6 percentage points is driving the overall decline in the access to basic sanitation services in the DRC shown in Figure 7 above. On the other hand, in Ethiopia's rural areas, access to basic sanitation services increased from 0.6 percent in 2000 to 5.5 percent in 2020.

**Figures 8 and 9: Rural and Urban Access to Basic Sanitation Services (percent of population)**

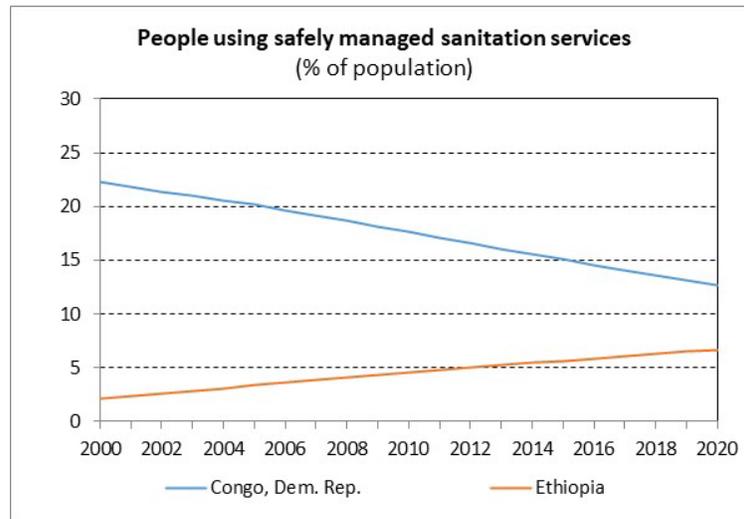


Source: Created by author based on World Bank (2022).

Taking a closer look at the urban population shown in Figure 9, access to basic sanitation services also decreased in the DRC for the urban population, dropping from 24.6 percent in 2000 to 20.4 percent in 2020, while it increased in Ethiopia from 15.4 percent in 2000 to 21.4 percent in 2020. Comparing Figure 8 with Figure 9, we can see that the urban populations of both countries are doing better than the rural populations.

Finally, when analyzing sanitation, even if there may be basic access, it does not mean it is necessarily safe. Figure 10 shows the percentage of people using safely managed sanitation services. Comparing Figure 10 below with Figure 7 above, we can see that the percentage of people using safely managed sanitation services has always been below the percentage of people using at least basic sanitation services in both countries, though the differences within each country are relatively small and the trends within each country are the same. In 2000, the difference between having access to at least basic sanitation services and using safely managed sanitation services amounted to 1.8 percentage points in the DRC and to 0.6 percentage points in Ethiopia. Twenty years later, the difference between having access to at least basic sanitation services and using safely managed sanitation services amounted to 2.7 percentage points in the DRC and 2.2 percentage points in Ethiopia. In other words, the difference between having access to at least basic sanitation services and using safely managed sanitation services has increased over time in both countries.

**Figure 10: People Using Safely Managed Sanitation Services (percent of population)**

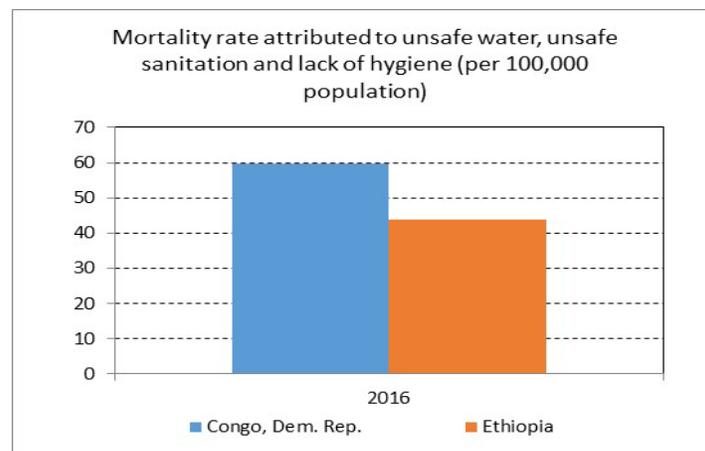


Source: Created by author based on World Bank (2022).

## V. Ethical Analysis

The low levels of people having access to basic water services and sanitation imply that some people die due to not having access to water and sanitation, which is highly unethical. As Figure 11 shows, in 2016 (which is the only year such data is available), the mortality rate attributed to unsafe water, unsafe sanitation, and lack of hygiene was 59.8 per 100,000 people in the DRC and 43.7 per 100,000 people in Ethiopia. This section discusses the ethical aspects of clean water access in the DRC and Ethiopia. The first subsection goes deeper into the ethical issues related to clean water access, in particular the origins of it, by discussing the foundations of the ethics of water and its discourse. The second subsection applies ethical perspectives using the framework for ethical decision-making suggested by the Markkula Center for Applied Ethics (2009).

**Figure 11: 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 (2022).

## **V.1. Ethical Origins for Water**

### *V.1.a. Foundations for the Ethics of Water*

Before evaluating the ethics of the handling of the water crisis in both countries, it is important to review the understanding of why a lack of clean water is an ethical issue, in particular, the foundations for water being a human right. Risse (2014) states that water is a justice issue for two reasons: first, because water is life-giving and non-substitutable, and second, because water is part of nature in the sense that the existence of water is not owed to human accomplishments (even though the access to water is at least sometimes owed to human accomplishments).

Risse (2014) continues to expand on these points by stating that since water is a human right, a global water compact to regulate its distribution should be put into place. Additionally, Risse (2014) discusses how the human rights framework is the leading proposal for a globally acceptable normative approach to regular human affairs, especially in terms of access to water. On a more philosophical level, Risse (2014, p. 181) states how “humanity collectively owns the earth, the resources, and spaces that exist without human accomplishments.” Therefore, this means that all humans own water collectively, and hence, everybody has a right to water.

Risse (2014) also argues that common ownership rights, like to water and other natural resources, are a pre-institutional right. Hence, another argument that Risse makes is related to having a global order based on sovereign nation-states. Risse (2014) argues that a consequence of having a nation-state system implies that nations-states have to preserve each person’s natural right to water. But the fact that so many people do not have access to safe water implies a violation of human rights as well as moral failure.

### *V.2.b. Discourse on the Ethics of Water*

Additionally, besides just looking at the foundations of the ethics for water, it is also important to look at the water ethics discourse that frames the way the issue is discussed and the action that is taken. Schmidt and Peppard (2014) discuss what else needs to be integrated into the discussion of water ethics, such as environmental pragmatists. Additionally, the two authors mention how feminist theorists should be included in this discussion due to gender relations and power issues in sovereign spaces. Schmidt and Peppard (2014) also discuss how instead of just analyzing ethics through academic discourse and policy work, it is also important to frame the ideas around the place-based art (photography, documentary, landscape analysis) to better understand the value of a place and why these values are important. This is so others can cultivate and understand the experience there, thus leading to better water discourses.

## **V.2. Applying Ethics to Problem Solving the Water Crisis in the DRC and Ethiopia**

It is useful at this point to analyze the ethics of access to water and sanitation in reference to a framework for ethical decision making as it is, for example, summarized by the Markkula Center for Applied Ethics (2009). The Markkula Center concludes that making good ethical decisions requires a trained sensitivity to ethical issues, a practiced method for exploring the ethical aspects of a decision, and weighing the considerations that impact our choice of action. The Markkula Center for Applied Ethics also has a framework for ethical decision-making that includes the following: recognizing an ethical issue, getting the facts, evaluating alternative actions, making a decision and testing it, and acting and reflecting on the outcome. As a multitude of actions have been taken to aid both countries in their scenarios, it is important to see if these decisions were

being made based on ethics. Due to the inequities between urban versus rural regions in both the DRC and Ethiopia, it seems as if although the problem is being addressed, it is not being addressed to its fullest. We will now use an ethical reasoning strategy when analyzing reform-based solutions and infrastructure-based solutions.

#### *V.2.a. Reform-based Solutions: Policy and Financial*

A United Nations Environment Programme (UNEP) technical report on water issues in the DRC by Partow (2011) discusses a key component of current water sector reforms, the Water Code. This reform plan was designed specifically to help with the problem after the major conflicts the country went through and the problems it caused, including a lack of human resources including water.<sup>6</sup> According to Partow (2011), the code creates institutional architecture based on the devolution and the transfer of water services to administrations while establishing three tiers of water governance. This example of reform does a good job of exemplifying the step from the Markkula Center for Applied Ethics framework for ethical decision-making known as “recognizing an ethical issue”. By recognizing that there are a lot of resource problems, not even just for water, because of the conflict, they were able to better act on the issue. Also, there was a clear focus to address the ethical issue, thus showing it is truly recognized.

Additionally, the report discusses how the DRC focused on mobilizing financial resources post the conflict in the country to help with issues such as water access.<sup>7</sup> It helped with funding for reducing the differences between supplying water and sanitation to rural and urban inhabitants in the country,<sup>8</sup> which had been illustrated above in Figures 5 and 6 for water, and in Figures 8 and 9 for sanitation. Additionally, there was a draft law that removed state monopoly over water supply and allowed for community-level organizations to engage as well as private sector investment. This example of reform does a good job of exemplifying the steps from the Markkula Center for Applied Ethics known as “evaluating the facts”. This is because there was an evaluation of the differences in issues with water access and sanitation in the rural and urban areas, thus allowing the government to decide on how to handle the issue based on these facts.

#### *V.2.b. Infrastructure-based Solutions*

Jgarkava (2021) from the Borgen Project discusses the progress the country has made on clean water and sanitation. The Ethiopian government along with international agencies took action due to the urgency of the crisis. One of the things the government did was develop something called “Pit Latrines” which are toilets built outside a house that keep insects and flies out to reduce the spread of diseases.<sup>9</sup> This example of reform does another good job of exemplifying the step from the Markkula Center for Applied Ethics known as “recognizing an ethical issue” because in this case a problem was noticed, thus leading to this decision to specifically address the ethical issue.

Jgarkava (2021) also discusses a charity called the “Water and Gasi Spring Project” to help with Ethiopia’s access to clean water. One of the projects it implemented was a protection system for the Gasi Spring that locals used to collect water. Since it was created, the spring has created so much water that it became possible to establish a community shower, a washing station for clothes,

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<sup>6</sup> Partow (2011).

<sup>7</sup> Partow (2011).

<sup>8</sup> Partow (2011).

<sup>9</sup> Jgarkava (2021)

and a cattle trough for animals.<sup>10</sup> This example of reform does a good job of exemplifying the steps from the Markkula Center for Applied Ethics known as “making a decision and testing it”. This is because the charity made the decision to implement the protection system, and because of its positive outcome after testing it out, they decided to keep it which allowed for a lot of progress.

## VI. Conclusion

To summarize, both the DRC and Ethiopia have improved overtime when it comes to aspects of socio-economic and human development. However, this development will not be able to be sustained and more progress will not be able to occur if there continues to be a lack of access to clean water. Rates of clean water access, as well as clean sanitation services, even when slowly rising remain overall at low some of the lowest percentages globally.

Furthermore, as discussed in Section V, multiple attempts have been made through both governments and organizations to help parts of both countries to help. However, it appears that it is forgotten that rural and urban areas suffer from the problem differently, thus affecting the policy, infrastructure plans, and projects put in place to help with the issue. Inequalities in aid reveal a lack of ethical application to helping with these water crises, even while there was good intent.

Moving forward, there is a lot that can be done. There needs to be more project work done by organizations that focus on specific issues, instead of trying to problem solve as a whole. The infrastructure solutions seem to be relatively effective. Additionally, there needs to be a more inclusive policy that makes sure to address both rural and urban regions of each country. Additionally, the marginalized, in particular, the lowest-income communities need to have policy focus on them since a lack of clean water causes many health-related issues. Countries should work together at a global level to put more money and effort into this issue as so many people are denied the basic human right to clean water.

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<sup>10</sup> Jgarkava (2021).

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