# *Research Report*

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**Forum:** *Environmental Commission*
**Issue:** *Safe Drinking Water in Developing Countries*

**Position:** *Deputy Chair*

## Introduction

"Thousands have lived without love, but no one without water", said W.H.Auden.

On July 28, 2010 with Resolution 64/292 the United Nations General Assembly recognised the right to water and sanitation. Yet many people, especially in the developing world, die every year due to lack of water or water related diseases. Although in developed countries access to safe drinking water is taken for granted, in the developing world the situation is very different, with access to safe water being the major problem that has to be faced. Poor water quality is responsible for the spread of serious and potentially life threatening diseases. The attempts that have been made so far to solve this issue have been effective to a certain degree, but we are still facing a very threating and inhumane situation.

## Definition of Key Terms

Safe drinking water:
According to World Health Organisation (WHO) "Portable water with microbial, chemical and physical characteristics that meet WHO guidelines or national standards on drinking water quality."

Developing countries:
A non-industrialized poor country or with low living standards that is seeking to develop.

Improved sanitation:
An improved sanitation facility is defined as one that hygienically separates human excreta from human contact, not being necessarily identical with sustainable sanitation. Examples of improved sanitation facilities: flush toilet, connection to a piped sewer system, connection to a septic system, flush / pour-flush to a pit latrine, pit latrine with slab, composting toilet etc.

Water-related diseases:
Diseases caused by microorganisms transmitted usually through contaminated water.

## General Overview

Water is everywhere. About 70% of the Earth's surface is covered by water, and all living organisms depend on it. The human body itself is also made up of 70% of water, and our sanitation, health and well-being are directly affected by the availability and quality of water. It is natural that access to safe drinking water is thought to be a fundamental human right. Specifically, in November of 2002, the Committee on Economic, Social and Cultural Rights, in Article 1 of the General Comment No.15, stated that "The human right in water is indispensable for leading a life in human dignity. It is a prerequisite for the realization of human rights".[1] Later, on July 28, 2010, with Resolution 64/292 the UN General Assembly recognized the human right to water and sanitation.[2]

In general, by safe drinking water we mean portable water with microbial, chemical and physical characteristics/attributes that meet WHO instructions or national standards on drinking water quality. Also, it is important that water is close to its place of use, and according to WHO people should have to travel no more than 1km to reach a water source, which should provide sufficient amounts of water for everyone (at least 20 litters per person per day).[3]

Although it is impossible to talk about every human's needs when it comes to water use, according to the UN the average person needs a minimum of 50 litters of clean water per day for meal preparation and personal hygiene[4] and it is strongly suggested by many health authorities that an adult should drink about 8 glasses (240ml each) of water daily.[5]

Yet, 663 million people lack access to clean water.[6] Lack of water is one of the most severe problems the world is facing right now, according to the World Economic Forum.[7] With the lack of water comes diseases and illnesses, poor living quality, and millions of deaths every year. Talking about the short term effects, the most common result of either lack of drinking water or poor water quality are diarrhoeal diseases. Water-related diseases, such as bacterial dysentery, cholera, typhoid and many, many more are spread due to lack of safe water. Additionally, in contaminated water there are viruses, microorganisms, germs, etc. which can be harmful or even deadly for humans.[8] For example, diarrhoeal diseases are the second biggest killer for children under 5 years old and amongst the 10 top causes of death globally. According to the

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[1] http://www.refworld.org/docid/4538838d11.html
[2] http://www.un.org/es/comun/docs/?symbol=A/RES/64/292&lang=E
[3] http://www.who.int/water_sanitation_health/mdg1/en/
[4] http://www.water-for-africa.org/en/water-cosumption.html
[5] https://web.archive.org/web/20070116223719/http://www.clevelandclinic.org/health/health-info/docs/2700/2731.asp?index=7250
[6] http://www.who.int/water_sanitation_health/monitoring/jmp-2015-update/en/
[7] http://reports.weforum.org/global-risks-2015/#frame/20ad6
[8] https://sunnarin.wordpress.com/2010/04/07/how-does-water-quality-affect-human-health/

WHO, diarrhoeal diseases are defined as "the passage of three or more loose or liquid stools per day." Naturally, this leads to dehydration and it leaves the body without the needed salts and fluids. Diarrhoeal diseases can be both treated and prevented with safe drinking water and proper hygiene and sanitation. These types of diseases spread through contaminated water and from person to person if there is poor hygiene[9]. Cholera happens to be one of top killers and it is estimated that it kills 28.000 to 142.000 people annually. In Laos along with many other developing countries, diarrhoeal diseases are the most common cause of death.

But lack of safe drinking water doesn't threaten humans only in the short-term. Bathing with contaminated water can be extremely dangerous to human skin. Because of the microorganisms that might be in it, constant use of water which is not safe can cause skin irritation. If left untreated, in the long run it could lead to skin cancer and put one's life in danger. Also, it is very common for people to get eye irritations and damage their ability to see properly. What's more, incurable and deadly diseases such as hepatitis, emeritus, or kidney problems may appear with the continuous use of contaminated, unsafe water.[10]

Although in the developed world access to safe drinking water is mostly taken for granted, things aren't at all like this in developing countries. The undeveloped economy along with many environmental problems results in the lack of access to safe water or, in some cases, to any kind of water. In Africa and Asia, deforestation, soil erosion, desertification and wetland degradation are only a few of the many serious environmental issues that have to be faced. They not only harm the flora and fauna of the areas, but also lead to issues like problems with safe water supply which directly threaten the communities there. The governments of the countries are not able to aid the situation in any way due to lack of financial resources. Thus, every year more and more deaths are marked and we see even more people getting infected by diseases, all due to poor sanitation and hygiene. People in Africa, and in developing countries in general, get a maximum 20 litters of water per day, and taking into consideration that people in European countries use on average 100 litters per day, we can see that the 20 litters are obviously not sufficient for a persons needs.[11] About half of the developing world lack access to a simple "improved" latrine, and in developing countries one-third of healthcare facilities lack a safe water source.[12] As a result, in developing countries water-related diseases kill 1.7 million people annually and malaria kills an estimated 1.2 million people.[13]

What's more, diarrhoeal diseases kill approximately 5000 people daily, 90% of whom are children under 5 years old. It is estimated that in developing countries, children experience about three episodes of diarrhoea each year. Because each diarrhoea episode deprives the child of salts and other nutrients necessary for the child's growth, it is a

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[9] http://www.who.int

[10] https://sunnarin.wordpress.com/2010/04/07/how-does-water-quality-affect-human-health/

[11] http://www.water-for-africa.org/en/water-cosumption.html

[12] http://www.who.int/water_sanitation_health/monitoring/jmp-2015-update/en/

[13] http://www.who.int/heli/risks/ehindevcoun/en/

leading cause of malnutrition.[14] Children who suffer from malnutrition usually suffer from developmental disorders as well, which in turn, lowers their chances of a good education.[15] We therefore see how poor water quality affects nearly all aspects of a person's life and is a major issue.
There is some good news: if nations work together it is very possible to improve the situation. In 2015 nations came together to establish the Sustainable Development Goals and to evaluate what improvements had been made since the Millennium Development Goals came into effect in the year 2000. It was established that in 2015, 68 per cent of the global population was using improved sanitation facilities compared to 59 per cent in 2000. In 2015, 6.6 billion people, or 91 per cent of the global population, used an improved drinking water source, versus 82 per cent in 2000. Despite that improvement, an estimated 663 million people were using unimproved water sources or surface water that year. Moreover, not all improved sources are safe. For instance, in 2012 it was estimated that at least 1.8 billion people were exposed to drinking water sources contaminated with faecal matter.[16]
Access to safe drinking water in the developing world is still a huge problem we have to face. Because of it, human lives are lost, people suffer, many people's rights are violated, and populations live in humiliating conditions. Working towards a better world is our greater goal and, thus, it is our duty to do anything we can towards solving this issue. At the end of the day, let's not forget that every problem that isn't tackled, spreads around the world. Even if it seems unlikely, we never know what tomorrow will bring, and so in the best interests of all nations, and of all people, we should work towards finding a solid solution.

## Major Parties Involved

**UNICEF**
UNICEF's Water, Sanitation and Hygiene (WASH) team works towards a healthier and safer lifestyle for children in the developing world. Through innovative plans they try to ensure that as many children as possible have access to safe water. They also work on providing sanitation facilities such as toilets and ways to ensure human waste can be separated from human contact. Lastly, they focus on establishing healthier habits in developing countries such as the use of soap when people wash their hands. Although these may seem simple and basic aspects of life for us, they are not granted in many countries.

**World Health Organisation (WHO)**
The World Heath Organisation's work aims towards establishing global health. Big part of their action plan concerns providing safe water to populations of the developing world. The WHO provides guidance on matters critical to health and takes action when needed. It shapes the research agenda and disseminates the information that comes from it. Also, the WHO sets the standards and norms needed for a healthy

[14] http://www.who.int
[15]http://www.bmz.de/en/what_we_do/issues/Education/hintergrund/bildungsituation/
[16] https://sustainabledevelopment.un.org/sdg6

lifestyle and promotes their implementation. Lastly, it provides technical support when needed, and monitors the health situation around the world.

**UN Water**
UN-Water is a UN inter-agency coordination mechanism for all freshwater issues, along with sanitation. The scope of it's work includes freshwater resources, sanitation issues like access and use of sanitation facilities and the prevention of water-related diseases and other emergencies that impact human health. The main goal of UN-Water is to add value to already existing programmes and projects by facilitating synergies and joint efforts so as to maximize the support provided to Member States in their efforts towards achieving goals related to its scope of work.

**The Water Project**
The Water Project works towards solving the water crisis in Sub-Saharan Africa. It provides access to clean, safe water and works closely with the local in-county teams to develop clean water programs.

## Timeline of Events

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| ***March 14-25, 1977*** | United Nations Water Conference |
| ***1981-1990*** | International Drinking Water Supply and Sanitation Decade |
| ***January 31, 1992*** | International Conference on Water and the Environment |
| ***June 3-14, 1992*** | The Earth Summit |
| ***July 28, 2010*** | Resolution 64/292: Recognition of the human right to water and sanitation |
| ***2000*** | Millennium Development Goals |
| ***2003*** | Establishment of UN Water |
| ***2005-2015*** | International Decade of Action "Water for Life" |
| ***2015*** | Sustainable Development Goals |

## Previous Attempts to solve the issue

In the past decades the issue of safe drinking water in the developing world has really

concerned both the UN and many independent organisations. The UN has not only voted on a series of resolutions but has also established a special agency, UN Water, which is in charge of water related issues. There have also been many projects and acts such as building of wells and improving the water supply systems by both the UN and other organisations.

The Millennium Development Goals (2000) did not establish clean drinking water as a main goal but addressed it as part of achieving other goals. In 2015 nations came together to evaluate the progress and to establish the Sustainable Development Goals. This time water was recognised as a goal on its own: goal number 6 is to "

## Possible Solutions

The work within the UN system as described above, including under UN Water and the Sustainable Development Goals, could be enhanced by further actions agreed by the Environment Commission. These could for example be focused on increasing cooperation between nations, further mobilizing finance, and encouraging sharing of technologies. The latter issue is a complicated one internationally, including because of "international property rights" however it might be promising to look into a way of improving the sharing of technologies and technological knowledge, e.g. through a mechanism or committee. Some countries, like Singapore, are trying to recycle water in order to cut water imports and become more self-sufficient. The rich East Asian republic is a leader in developing advanced technology that cleanses wastewater for other uses, including drinking. In the case of developing countries recycling and cleaning wastewater may be an effective solution to the lack of safe water. However, they would need access to these technologies, financial means to implement it, and capacity building activities in order to maintain it. Another possible solution would be water harvesting. Pakistan and India, for instance, are overhauling rainwater harvesting systems, and it is believed that in many parts of the developing world this could possibly be an effective solution.
Obviously these aren't the only solutions that could aid the situation. We are more than interested in hearing new ideas and we strongly suggest our delegates come up with their own solutions.

## Appendix/Appendices

Millennium Development Goals Report, 2012:
http://www.un.org/millenniumgoals/pdf/MDG%20Report%202012.pdf

Sustainable Development Goals – goal 6
https://sustainabledevelopment.un.org/sdg6

Resolution 64/292 (right to water and sanitation):

[17] https://sustainabledevelopment.un.org/sdg6

http://www.un.org/es/comun/docs/?symbol=A/RES/64/292&lang=E

International Decade of Action "Water for Life":
http://www.un.org/waterforlifedecade/

Water and Wastewater Reuse:
http://www.unep.or.jp/Ietc/Publications/Water_Sanitation/wastewater_reuse/index.asp