



**Forum:** Sustainable Development Goals 17

**Issue:** Assessing the Impacts of Water - Borne Diseases

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## Introduction

A total of 3.4 million people, mostly children, die every year due to water-borne diseases. Water borne diseases are diseases caused by a wide range of microorganisms such as bacteria. The World Health Organization estimates that 80% of diseases worldwide are waterborne. The deaths tend to be of infants and young children from dehydration

Each year diarrhea kills around 525,000 children under five. There are nearly 1.7 billion cases of childhood diarrhoeal disease yearly. Diarrhea is a leading cause of malnutrition in children under five years old. Approximately 4.5 billion people worldwide lacked a safely managed sanitation service in 2015, where excreta were safely disposed of in situ or treated off-site. Water Borne diseases are common in the LEDCs as they lack proper sanitation as they have the lowest coverage of only 27% who have basic handwashing facilities in the rural areas and 37% in the urban areas.

The proportion of the global population using at least a basic sanitation service increased from 59% in 2000 to 68% between 2000 and 2015. Implementing methods to ensure clean water and basic sanitation facilities for everyone as it will help in reducing the severity and impact of malnutrition. It will also help in reducing the spread of waterborne diseases such as polio, giardia, typhoid, dysentery, etc; which are neglected diseases that cause suffering for millions. With the provision and implementation of water purifiers, water tanks, and filters, lives of millions can be improved and saved. A study conducted by WHO in 2012 calculated that for every \$ 1 invested in sanitation, there was a return of \$ 5.50 in lower health costs, more productivity, and fewer premature deaths.

## Definition of Key Terms

### Water Borne Diseases

Water-borne diseases are any illness caused by drinking water contaminated by human or animal faeces, which contain pathogenic microorganisms.



## Malnutrition

A term used to refer to any condition in which the body does not receive enough nutrients for proper function. It can be a result of starvation, in which a person has an inadequate intake of calories - undernutrition.

## Typhoid

Typhoid fever occurs due to the consumption of contaminated water and food or by either coming in close contact with someone who's infected.

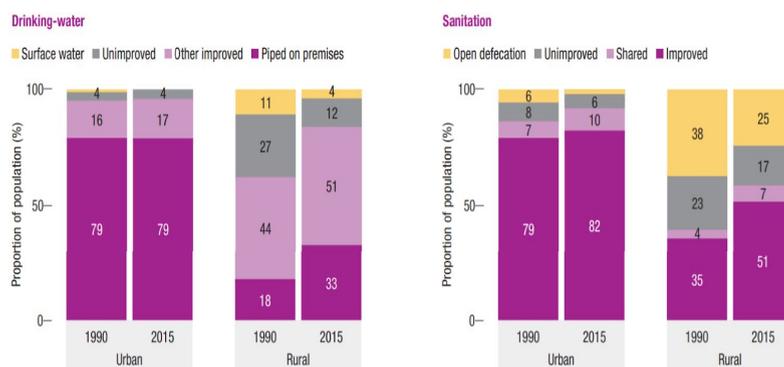
## Defecation

Defecation is a term used to describe the excretion or discharge of waste from the body.

## Background Information

Water borne diseases affect 2.3 billion people who still aren't provided with basic sanitation- from which 70% were mainly in rural areas. However, remarkable progress has been made in regards to improving the provision of safe drinking-water and sanitation in both urban and rural areas. Access to improved drinking water sources has risen from 76% in 1990 to 91% in 2015, an increase of 2.6 billion people. Approximately, 4.3 billion people now enjoy the access to clean water. Defecation in open has also decreased from 24% to 13% between 1990 and 2015, and 2.1 billion people gained access to improved sanitation. Annually 1.3 to 4.0 million cases of cholera, and 21 000 to 143 000 deaths worldwide due to the infection. It can ultimately be eliminated where access to clean water and sanitation facilities, as well as good hygiene practices, are ensured by everyone. In South East Asia, Bangladesh and India, has the largest populations at risk for cholera as it is often affected by flooding, which often contaminates the water sources.

Figure 5.23  
Trends in proportion of the global population with access to improved drinking-water source and improved sanitation, urban and rural, 1990 and 2015<sup>22</sup>

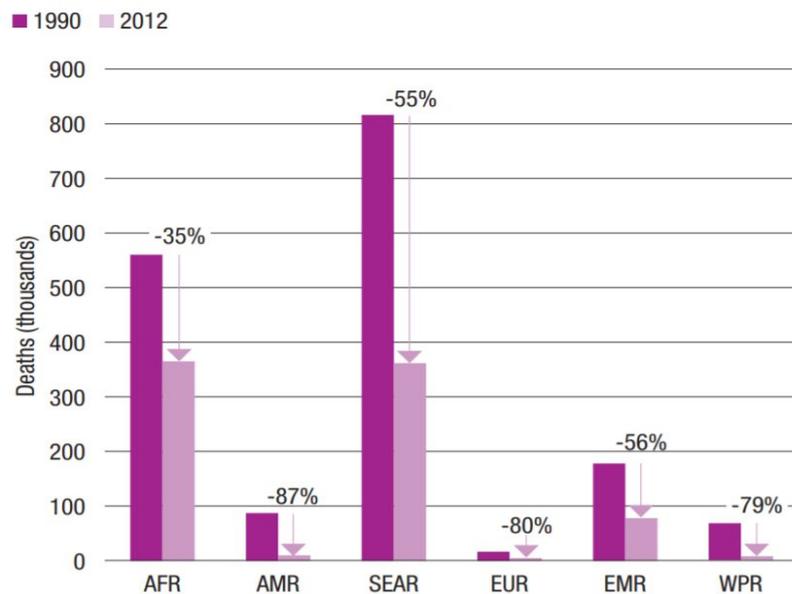




*Trends of the Population with access to improved drinking water.*

With the provision of clean water, and proper sanitation facilities, the rates in deaths via water borne diseases and diarrhea has decreased drastically as people were provided with clean and safe water which is purified and treated, suitable places for defecation and disposal - mainly in LIC's and some rural areas of HIC's.

**Figure 5.22**  
**Decline in diarrhoea deaths attributable to inadequate water and sanitation in low- and middle-income countries, by WHO region, 1990 and 2012<sup>13</sup>**



*Decline in diarrhoea deaths*

### Polio Outbreak in the Philippines

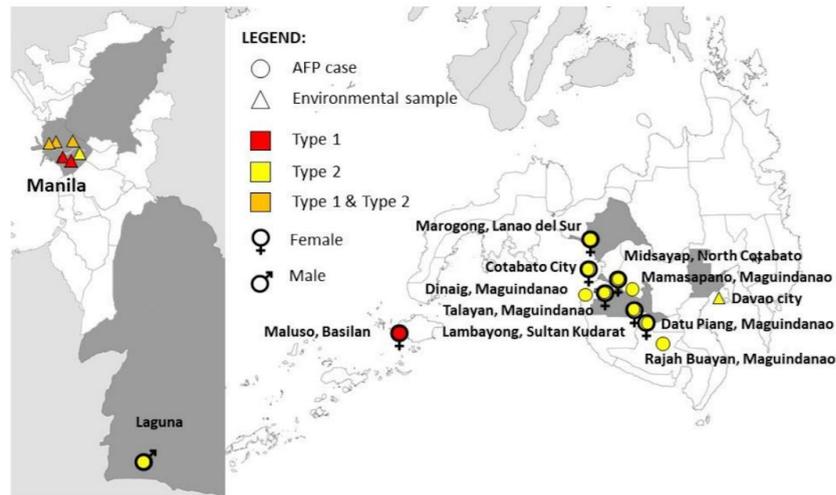
In 2019, an outbreak of polio was declared in the Philippines. Children in the Philippines are at risk of lifelong paralysis because of this outbreak. The Global Polio Eradication Initiative (GPEI) is supported the Philippine Government's response to this outbreak along its five partners ; the World Health Organization (WHO), Rotary International, the US Centers for Disease Control and Prevention (CDC), the United Nations Children's Fund (UNICEF), and the Bill & Melinda Gates Foundation. The main aim of these organizations is to eradicate polio worldwide.

**Table 1: Age and Gender per Type and Location of Polio Cases\***

Type	Age	Gender	Region
cVDPV2	3	F	BARMM
iVDPV2	5	M	IV-A
cVDPV2	4	F	BARMM
cVDPV2	3	F	XII
cVDPV2	2	F	BARMM
cVDPV2	4	F	XII
cVDPV2	2	F	BARMM
VDPV1	9	F	BARMM

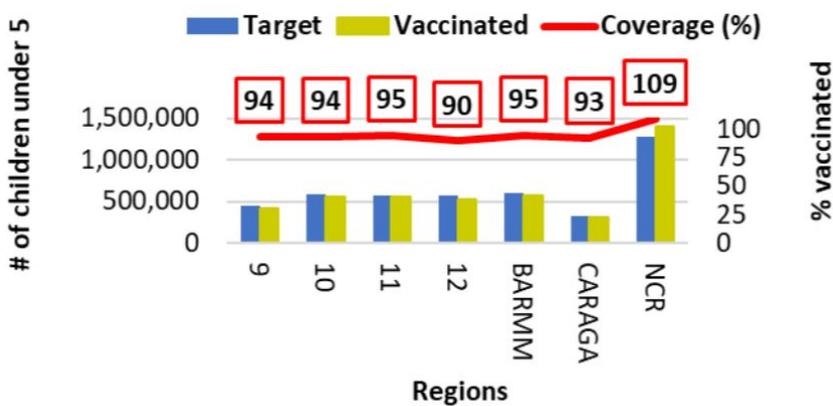
\* Age and gender of latest cases as yet unknown

**Figure 1: VDPV Locations in the Philippines as of 10 December 2019**



The different types of polio cases and the locations they're found in the Philippines.

**Figure 5: Coverage of polio vaccination campaign 25 November-10 December 2019**



Coverage of polio vaccine in 2019.

## Challenges Faced to Provide Clean Water

### Poor Maintenance

Water can still be contaminated if not looked after, such as stagnant water can be contaminated with mosquito eggs and can cause malaria; another water borne disease. This can be mitigated by placing oil in stagnant water, to avoid the breeding of mosquitoes, proper filtration nets can also be installed.



### ***Lack of Funds***

Due to financial issues within the government, there can be issues with funding and installation of the required equipment to ensure the provision of safe and clean water for the population situated. Schemes to subsidize water supply to the poorest are only operational in a small number of countries.

### ***Poor Hygiene Techniques***

Approximately, only 19% of the world's population wash hands with soap after coming in contact with excretion. An estimate of 159 million people still rely on untreated surface water, of which 93% live in remote rural areas. Around 2.4 billion people do not have access to improved sanitation facilities with open defecation.

## **Major Countries and Organizations Involved**

### **The United Nations (UN-Water)**

UN-Water works with over 30 UN organizations to carry out water and sanitation programmes. The main role of UN-Water is to provide reliable data and information on key water trends and management issues.

### **The World Bank**

The World Bank is working with organizations to achieve “A Water - Secure World for All” by investing in water solutions that enable universal access, promote water security in societies. The World Bank is currently focusing on 170 projects worth US\$26.7 billion, the Bank's total water-related investments are \$37 billion.

### **Africa**

Northern Africa has improved its water source from 52% to 100% in Egypt, Mauritius and Niger. African countries reported working with WASH, increasing funding, and coordination among implementing clean water sources and sanitation facilities. Africa also adopted the right to water in their laws and policies. However their sanitation rate is still low with just 40% in 2010. UNDP is helping vulnerable communities in Northern Ghana help manage their water resources and sanitation facilities.

### **India**

India has focused on improving Clean water and sanitation for all, since the launch of the governmental scheme called “Swachh Bharat Abhiyan” which means ‘Clean India Mission.’ More



than 12 million toilets have been constructed in the rural areas of India to avoid open disposal of body waste.. This has led to the doubling of India's life expectancy from the 1940's to 2010's (33 to 68). The government of India has also initiated a program, ' Mission Indradhanush' which means ' Mission Rainbow - to immunize the children under the age of 5 by providing them free vaccines for diseases such as polio.

## Timeline of Events

Date	Description of Event
1817	The first cholera pandemic emerged out of the Ganges, India. The disease quickly spread throughout most of India and modern-day Sri Lanka by traveling along trade routes followed by the British.
March 1955	Polio Outbreak in the United States Of America. Polio was once one of the most dangerous diseases present in the U.S. In the 1950s, before vaccines were present, polio outbreaks led to more than 15,000 cases of paralysis that year.
August 2010	Infected individuals were between the ages 4 to 31 years . 67% of cases are female and 100% report hispanic ethnicity. No deaths attributed to this infection have been reported.
2018	228 million cases of malaria worldwide, children under the age of 5 years are the most prone to get affected by malaria. They accounted for 67% of the total deaths worldwide.

## Relevant UN Treaties and Events

- Water for Life Decade from **2005 to 2015**
- ILO Convention **No. 161 of 1985** on Occupational Health Services.
- Voluntary Guidelines to support the progressive realization of the right to adequate food in the context of national security.
- Protocol to the African Charter on Human and People's Rights on the Rights of Women in Africa.
- The United Nations Water Conference (**1977**)
- International Conference on Water and the Environment (**1992**)
- Earth Summit (**1992**)
- Water, Sanitation and Hygiene in Healthcare facilities (**2019**) (**WHA72.7**)
- Neglected Tropical Diseases (**WHA66.12**)



## Previous Attempts to Solve the Issue

Previous attempts conducted in order to solve the issue of Clean Water and Sanitation provision were, improved focus on the health facilities by strengthening and promoting good sanitation and hygiene techniques. WHO monitors its key role of capacity-building roles for Water Safety Plans and Sanitation Safety Plans in schools, hospitals and homes. WHO has also provided schools, healthcare establishments and work places with basic sanitation facilities such as soap and clean water in order to improve the hygiene practices.

Members of the United Nations have enhanced the importance of clean water and sanitation, by collaborating with the sector-wide technical consultation on drinking-water, sanitation and hygiene (WASH) and International Decade of Action (IDA) which stated the 2005-2015 as the “Water for Life”. This led to an increase of focus on the issue by the World Health Organization and UNICEF.

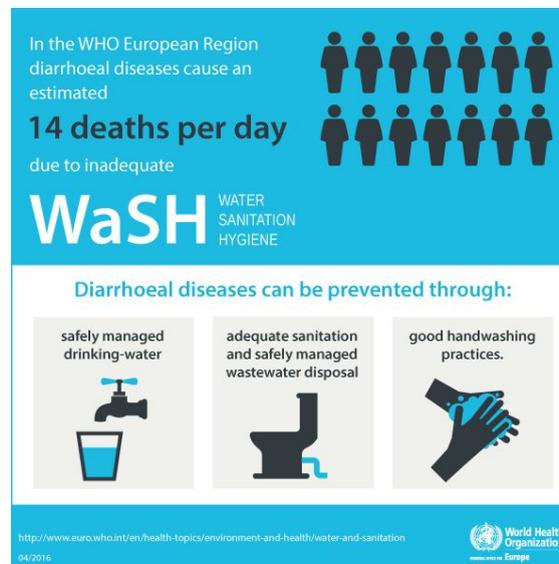
Countries are now pushed to improve their facilities to provide clean water and sanitation facilities. 2/3 of the countries which were surveyed recognized the availability and accessibility of clean water supply as human rights in the national legislation. They've been approved in over 80% of surveyed countries and governments are investing in infrastructure development. There have been investments in water and sanitation which increased by 30% since 2000 to over US\$ 10.9 billion in 2012.

## Possible Solutions

In order to overcome this issue, the United Nations organizations such as the World Health Organization, have been aiming to provide access to clean water and sanitation to all in order to avoid water borne diseases. The WHO and other United Nations organizations work toward investing and promoting in projects which help and support the case of management of diarrhea along with the availability of clean water and basic hygiene facilities. The World Bank wishes upon building infrastructure and capacity to implement preventive infrastructure such as piped water connecting to households directly. Moreover, other developments in health interventions, such as the rotavirus immunization and by training health care staff. The World Health Organization often conducts research to monitor and analyze new diarrhea prevention and control strategies along with provision of the required priming the locals in order encouraging them to practice good sanitation and hygiene techniques.



*The percentage of vulnerable groups left behind in LIC's*



*Estimation of deaths caused by diarrhoeal diseases*

## Guiding Questions

1. How is your delegation affected by this?
2. What has your delegation done in order to mitigate these issues?
3. Methodologies your delegation plans on implementing to improve the situation?
4. How will your resolution benefit your delegate country?
5. What will your delegation require from the UN organizations for this issue?



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## Appendix or Appendices

I. *The Right to Water*

<https://www.ohchr.org/Documents/Publications/FactSheet35en.pdf><https://www.ohchr.org/Documents/Publications/FactSheet35en.pdf>

II. *Water, Sanitation and Hygiene*

<https://www.unwater.org/water-facts/water-sanitation-and-hygiene>

III. *15 Organizations Tackling the Global Water Crisis*

<https://www.hydrofinity.com/blog/organizations-addressing-the-worlds-water-issues#:~:text=The%20Global%20Water%20Challenge%2C%20or.sustainability%20programs%20that%20last%20to>