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**Research Report**

**Topic 1: Ensuring clean drinking water to all people.**



**Anton Brøndum Reeh**

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# Introduction:

Water scarcity refers to the lack of available water resources needed to supply the demands of a region. Water scarcity has become a global concern and affects billions of people daily.

Clean water and access to sanitation is one of the world's most alarming issues. Today, an estimated 40% of the world's population is affected by water scarcity. A depressing figure that is only going to grow because of climate change and the rise of global temperatures. On the bright side, 2.1 billion people have gained access to improved sanitation since the year 1990. Still, depleting supplies of safe water is effecting every single continent in the world.

By the year 2050, an estimated one in four people will be impacted by water shortages. 663 million people still do not have access to clean water supplies. A further 2.4 billion people do not have access to basic sanitation services such as toilets. Developing nations are especially affected by our world's dwindling water resources. International cooperation is essential if our world is to ensure clean drinking water for all.

# Issues related to ensuring clean water to all:

## Droughts:

Droughts are still an extremely prevalent issue today. The issue with droughts is that, with a lack of access to clean water, one is more likely to drink unsafe, dirty water. Droughts affect millions of people around the world, including MEDC countries. In South America, Chile and Brazil have both suffered from droughts in the modern era. China had a drought in 2010. Australia and the United States have been affected by droughts continuously since the turn of the 20th century and still are today. Most notably the drought in California.

Africa has been impacted by an extraordinary number of droughts. The region of Sahel and the horn of Africa suffer from droughts quite regularly. In the period of July 2011 to August 2012, East Africa was hit by a drought that was described as “the worst in 60 years”. Countries such as Somalia, Djibouti, Ethiopia and Kenya were hit with a devastating affect. Between 60,000 to 250,000 people died as a result. Diseased and famine spread because of dwindling resources and water. Hundreds of humanitarian projects were set up. For the first time in in nearly thirty years the United Nations declared the East African region to be in famine.

## Dehydration:

Dehydration is when one's body is losing more fluids than it is taking in. When dehydrated, your body can’t function normally. If one is dehydrated for too long, it inevitably ends in death. The average person is unable to survive more than seven days without water. An estimated 42,000 people die on a weekly basis because of a low abundance of water and adequate sanitation. Dehydration is a huge issue in drought-stricken areas with water coming in short supply. Many living in third world countries have to travel great distances to get water. With such a lack of access to clean water, many turn to drinking unsafe water to survive. This is likely to result in waterborne disease. 14% of people living in LEDC's drink surface water from lakes, rivers or ponds. In rural areas in LEDC's, 97% of people do not have access to water coming from pipes.

## Spread of diseases:

Lack of sanitation and adequate drinking water is the world's largest cause of illness. Unsafe drinking water has a devastating effect on millions. Specifically, waterborne diseases. Waterborne diseases are caused by inadequate water sanitation and hygiene, it is one of the leading causes of death worldwide. For children under the age of 5, waterborne diseases are the most common form of death. Around 44 million women have sanitation-related hookworms. Waterborne diseases affect mostly people in LEDC's. According to the World Bank, an estimated 88% of waterborne diseases are caused by poor hygiene, inadequate drinking water and unsafe sanitation. Waterborne illnesses are primarily an issue in Africa. East Africa is an example of how diseases can be directly affected from an unsafe source of water.

## Women and children:

Hundreds of millions of women and girls spend their day fetching water from nearby facilities daily. In a lot of rural areas, they spend their whole days collecting water. The daily chore of collecting water prevents girls from getting an education. It is also extremely physically draining work. An adolescent girl is expected to carry 45 pounds of water, the weight of an average kindergartner. Women and girls who do collect water normally travel by themselves on mile long journeys. Without any means of defense, girls are often the victim of attacks from vicious animals, abduction or rape.

Girls who are fortunate enough to attend school in water-stricken areas often must stop because of inefficient resources once they hit puberty. Lack of available water means that many in LEDC's are forced to surround themselves with human waste, normally in areas with water from where they collect it from. This is extremely unsanitary and can lead to further diseases.

# Difficulties related ensuring clean water for all

## Agriculture*:*

Agriculture has responsibility for nearly 70% of water withdrawals in the world and has a massive effect on water pollution. Many methods such as irrigation aim at producing as many crops as possible. The problem being that irrigation does not use water in an efficient manner. The meat industry uses a particularly high amount of water. For every pound of meat, 2,400 gallons of water is used. In comparison, it would take 25 gallons to produce one pound of wheat. Nearly half of the water used in the U.S is used on raising animals for food.

Because of constant misuse of water, water reserves have begun to be spiraled into depletion. For example, the Colorado river is no longer able to reach the sea with exception for days with intense rainfall. In the African Sahel region, as a result of water being diverted because of irrigation uses, the Chad lake has reduced by up to 75% in the last 30 years. Increased global populations and demand for food will increase the amount of water needed to grow crops.

## Industrial use:

The manufacturing business uses water in various ways and is a heavy contributor to water pollution. Many big businesses use a lot of water for their products (fx: fashion industry). This is especially an issue in LEDC's because of the lack of regulations and technology.

On average, 1.83 gallons of water is used for one bottle of water. The bottled water industry is difficult because it offers jobs to many developing nations but also wastes so much water.

## Lack of tools and legislations to distribute clean water

Many countries, mostly LEDC's, struggle with creating any form of water-based policies. Investment in water is very low. Sewage treatments plants and sanitation lead to widespread unsafe water and hazardous environmental effects. With so few policies in place, many resort to drinking unsafe water. Desalinization projects (removing salt from salt water making it freshwater) are available in only wealthy countries and harmful for the environment. Policies and increased legislation are essential if water is to be available for all.

## Population growth

Population growth is a major attributor in water scarcity and the global inability to ensure clean water for all. Population growth means that more and more people need water and demand for it grows. With a growing population comes a growing income. Water reliant products such as meat and fossil fuels are demanded by a growing middle class.

## Water Waste

Despite being a renewable resource, water is often wasted. Irrigation methods and water-intensive cooling at thermal power plants use more water than can be sustained. Humans are also polluting water at an alarming rate with so much of the world’s wastewater being discharged into nature without any form of treatment or reuse. For LEDC’s, it is more convenient to receive clean drinking water than to treat it.

## Poor Infrastructure

So much water is lost daily due to poor infrastructure. Water needs to be transported, treated and discharged. All around the world, water treatments such as pipes and sewer systems are in a state of disrepair. Built infrastructure is difficult to install meaning many nations ignore infrastructure issues until the event of a disaster.

# Possible Solution:

The Sustainable Development Goals states the following as their goals on ensuring clean drinking water to all people.

* + By 2030, achieve universal and equitable access to safe and affordable drinking water for all
	+ By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations
	+ By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally
	+ By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity
	+ By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate
	+ By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes
	+ -By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies
	+ Support and strengthen the participation of local communities in improving water and sanitation management

# Conclusion:

As previously stated, action against the worrying amount of people without access to clean water needs to be addressed. This is a pressing issue, therefore all member states of the United Nations Development Program should cooperate and come forth with a productive resolution.

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