

<b>Forum:</b>	Environmental Commission
<b>Issue:</b>	Ensuring sanitary water supply in LEDCs
<b>Student Officer:</b>	Stavroula Georgopoulou
<b>Position:</b>	Deputy President

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## PERSONAL INTRODUCTION

Dear delegates,

My name is Stavroula Georgopoulou and I am more than excited to be serving as a Deputy President in the environmental commission (EC) during the 7<sup>th</sup> Platon School Model United Nations Conference. Personally I started participating in conferences about a year ago but I can say that the whole concept of model conferences like this one really appealed to me, so I have so far participated in 7 conferences with this one being my 8<sup>th</sup>.

Even though it is my first time as a deputy president I am confident that the outcome of the debate and lobbying procedure will be more than satisfying. Now, during the session, I will first of all make sure that all the right procedures are being followed and that at no time the debating and lobbying come to a standstill. Secondly, I am willing to answer to any questions you might have upon the matter and help you understand what an important issue it is. Last but not least it is my goal that no one is left out of the debate and lobbying procedures and that all delegates express their opinion upon the matter. As you all know the issue of ensuring water supplies in LEDCs is a really complex issue, as you will be asked to come up with feasible and practical solutions that would be a true asset for these countries. I hope that this Study Guide will be a helpful first introduction to the topic and will be proven helpful for your research but you should definitely not solely rely on it. I wholeheartedly encourage you to do your own research and get as prepared as possible because the gravity of such a problem is huge. Should you need any further assistance please do not hesitate to contact me.

I hope that your experience will be proven to be beneficial and that it might encourage you to participate in more conferences, but also that it ameliorates your character. I hope that during the conference you will express your countries' opinion and you will not be afraid to do so because each and every opinion is unique and might contribute to changing the world. I am looking forward to meeting you all. Best wishes for a fruitful and heated debate.

Kind regards,

Stavroula Georgopoulou

Deputy President of the Environmental Commission

## INTRODUCING THE TOPIC

As you all know it is of vital importance that all people have access to sanitary water supplies, unfortunately, though, what in some countries is considered as guaranteed in others it is not. There, people need to put a lot of effort to obtain water and even if they succeed, it is not always of good quality. Water is one of the basic needs every human has, but even today a solution to the problem of its insurance in the less economic developed countries (LEDCs) hasn't been found. The fact that our planet is 70.9% water creates the question of why this problem still exists.

## DEFINITION OF KEY TERMS

### *Water distribution systems*

There are three water distribution systems. The first one is the gravity supply system the second one is the pumping supply system and the third one is the first and the second combined. In order to ensure **sanitary** water supplies one of these three systems needs to be constructed to every inhabited area. Only in this way all humans will have access to water supplies.

### *Portable water purification*

Portable water purification devices and methods that can proven to be a true asset in case of an emergency .The primary goal of portable water purification is disinfection, as the aesthetic considerations (taste, odor, appearance, and trace chemical contamination) do not affect the short-term safety of drinking water.

### *Technology development*

Even though nowadays the technology has evolved tremendously, in some countries there is lack of the necessary technology that ensures the access to sanitary water supplies.

### *Water crisis*

The threat of a water crisis is only realized when the amount of potable water is not enough to cover the population's needs .As a matter of fact , according to the United Nations and several other world organizations there are various regions suffering from water crises that raise global concern. As it is believed, though, by other organizations, such as the food and Agriculture organization, there currently aren't any water crises but steps still need to be taken in order to avoid a future one.

### *Renewable freshwater resources*

The renewable freshwater resource is a really informative metric as it is able to describe the total of the water resources available for each country. Having knowledge like this could possibly give us an idea about whether a country is on the verge of experiencing physical water scarcity. The metric ,unfortunately, is not always right. Also it cannot describe whether the water is accessible to individuals,

households, industries, or the government. Last but not least, even if this metric is a description of a whole country, it does not accurately portray whether a country is experiencing water scarcity.



## BACKGROUND INFORMATION

As previously mentioned, our planet consists of 70,9% of water. There are several sources of water .They are divided in surface sources and subsurface sources. Surface sources include rainfall, rivers, streams, lakes, ponds and impounded reservoirs. The water from surface sources is withdrawn by constructing intake structure which is classified as:

- Lake intake
- Reservoir intake
- River intake
- Canal intake

Subsurface sources include wells, springs and infiltration galleries. Infiltration galleries are usually used to collect water from the aquifer underlying a river. The water coming from an infiltration gallery has the advantage of bank filtration to reduce the water treatment requirements for a surface withdrawal. An infiltration gallery is also considered by many as the best way to withdraw water from a thin aquifer or lens of fresh water overlying saline water.

In order to consume water we have to make sure it is clean and sanitary. To do so the water shall pass through three processes:

1. Sedimentation, which is for the removal of suspended solids in the water
2. Filtration, during which the water passes through sand medium. In slow sand filter the effective size of sand used is 0.2 to 0.3 mm and removes 90% bacteria, colour, turbidity, taste and odor.
3. Disinfection, which can be easily accomplished both by the filtration of micro-organisms and also by the use of disinfectant chemicals. Water is disinfected to kill any pathogens which pass through the filters and to provide a residual dose of disinfectant to kill or inactivate potentially harmful micro-organisms in the storage and distribution systems.

There are researches, though, that say that there has been a progress on the improvement on access to water: as the results show, 91% of the global population has access to an improved water resource. On the other hand, the number of people that even in our days don't have access to an improved source of drinking water has surprisingly fallen below 700 million people – to 663 million – for the first time, but a solution to the problem is yet to be found.

### *United Nations intervention*

- A foundation of five core attributes for water security has been established by the United Nations Committee on Economic, Social and Cultural Rights. Considering it something that should have been done a long time ago, they declare that the human right to water entitles everyone to sufficient, safe, acceptable, physically accessible, and affordable water for personal and domestic use.
- The United Nations has also addressed the effects of economic water scarcity at the 2000 Millennium Summit, by setting the increased access to safe drinking water as an international development goal. At the Millennium summit, all 189 UN member countries agreed on eight goals, the seventh of which concerns the reduction of the amount of people that don't have sustainable access to safe drinking water by half by 2015. Unfortunately the goal did not get accomplished so it was replaced in 2016, by the Sustainable Development Goals.

## COUNTRIES INVOLVED IN THE ISSUE

### *South Africa*

South Africa has obtained a water supply and sanitation system that has so far had both achievements and challenges. The government elected after the end of Apartheid had a really hard time and had to struggle in order to get access to water supply and sanitation developed. After that the government has made a really strong commitment considering high service standards and so it has high levels of investment subsidies in order to achieve those standards. South Africa since then has managed to make some progress regarding the improvement of access to water supply. It has so far achieved to reach access to an improved water source in urban areas, but also in rural areas the percentage of those with access increased from 66% to 79% from 1990 to 2010.

### *Saudi Arabia*

Saudi Arabia is one of the countries that have huge challenges to overcome concerning water supply and sanitation. The most difficult challenge for them is water scarcity. Saudi Arabia has made huge investments in seawater desalination and water distribution, as well as in wastewater treatment in order to overcome water scarcity. The drinking water of the country today comes 50% from

desalination, 40% from the mining of non-renewable groundwater and only 10% from surface water that comes from the mountainous South-West of the country. Riyadh, the capital of the country which is situated right in the heart of the country, is currently being supplied with desalinated water pumped from the Persian Gulf. At least water to residential users is almost free. The quality of the improvements service, though, remains poor, for instance regarding the continuity of supply. The country's main achievements are:

1. An important increase in desalination and in access to water
2. Wastewater treatment has expanded
3. Treated effluent is used for the irrigation of urban green spaces and for agriculture.

### *Libya*

Libya is considered to be one of the driest countries in the world, with a coastal region of less than 5% of the country. The country was lucky enough to discover in 1953 out of nowhere, during an oil search in the deserts of southern Libya, great quantities of fresh water trapped in aquifers under the Libyan deserts.

Libya used to get most of its water supply from expensive desalination plants on the coast, which as a consequence left little water to irrigate land that is truly vital in this largely desert country. Of paramount importance is the massive engineering project known as the Great Man-Made River Project that took place in 1983. It was created in order to supply water from desert aquifers to the coastal region for the majority of the Libya's people and also to expand agriculture through irrigation.

### *Egypt*

The country of Egypt has had a lot of achievements. The main are

1. There has been an increase to piped water, between 1990 and 2010, from 89% to 100% in urban areas and from 39% to 93% in rural areas.
2. In general the country has managed to achieve a relatively high level of investment in infrastructure.
3. There is a practically universal access to an improved water source with a rate of 99%.

## POSSIBLE SOLUTIONS

As mentioned previously the complexity of the issue of ensuring sanitary water supplies in LEDCs is huge. Fortunately, there are solutions to this problem.

1. In order to achieve our goal the more economically strong countries will have to contribute and provide financial aid to the less economically developed countries for the construction of water supply systems.
2. Campaigns and fundraisers should be conducted so that awareness is raised and all people are informed about the difficult situation regarding water supplies in those countries.
3. NGOs can also contribute to the solution of this demanding issue by providing both financial aid and experts on the matter in order to finish the construction of the water supply systems that will ensure that every citizen has access to sanitary water.

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