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Special Assembly 5 - Urbanization Committee

Taking measures to increase water quality in urbanized countries

RESEARCH REPORT

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Forum: Special Assembly 5 - Urbanization Committee

Issue: Taking measures to increase water quality in urbanized countries

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Introduction

The world is rapidly becoming more urbanized as cities grow and develop. It is widely known that there are many benefits of urbanization. For example, urbanization provides individuals with more job opportunities and better health care. However, it can also bring forth challenges such as lack of access to clean water. Considering that approximately half of the entire world population lives in cities, the issue of water quality and urbanization effects many, which is why it is so important to battle the negative effects of urbanization as a function of the Urbanization Committee.

Although it is expected that access to clean water and sanitation would be higher in urban areas as opposed to rural, today, there are about 700 million people living in urban areas with no access to improved sanitation, and 156 million without improved water sources. In a globalized society, an issue which affects such a huge population must be dealt with through the help of all member states, not just the few who are majorly affected. Accepting this fact and moving forward with it ties to the theme of this conference, "Globalization: Creating a Common Language". The problems of many must be considered by all and communicating efficiently will help member states move forward.

Definition of Key Terms

LEDC: Abbreviation of "Less Economically Developed Country". Used to describe "developing" countries.

MEDC: Abbreviation of "More Economically Developed Country". Used to describe "developed" countries.

Irrigation: A system to supply water to land or crops. This is usually done with channels and pipes.

Wastewater: Water that has been used. This could be by humans or factories etc.

Water Treatment Facilities: These facilities treat water, which means they carry out processes to raise the quality of water so it can be used or re-used. The process changes depending on what the water will be used for. It could be used for drinking, irrigation, industrial supply, etc.

Filtration: The act of separating any unwanted substances from liquids. Filters are used so that certain substances can be separated from water to make it cleaner and more usable.

Urban Areas: Areas that have a built infrastructure and high population density. These are usually cities, towns or suburbs.

Green Urban Areas: Parks, forests, meadows etc. that are found in urban areas.

General Overview

As the world's population continues to grow, urban areas expand, and the percentage of the world population living in these areas increases. The growth of cities is economically beneficial to states, but poses a huge threat to natural dynamics and resource availability.

The amount of people who migrate to urban areas increases every year for most countries, and this makes it increasingly difficult to provide citizens access to sanitation and safe drinking water. This leads to outbreaks of diseases such as malaria or cholera, amongst many others.

Financial limitations are also a cause of low water quality, as cities with low budgets on infrastructure struggle to establish proper pipelines, or correct the currently existing ones.

However, it is not only developing countries that struggle with this issue. Developed countries also struggle with similar issues because at times urbanization takes place too rapidly for a proper water system to be integrated. The demand for water increases yet there is no system to provide clean water to such large groups of people.

In some nations, different solutions applied to various cities can be seen. Cities have attempted to bring a solution to this issue through methods aiming to reduce water consumption or produce more clean water. Most of these countries are a part of the Global South and might not have efficient or sustainable funding in order to make these methods function continuously. Financial aid from countries which fit under the categorization of MEDCs could be proposed as a possible solution to this aspect of the issue of water quality in urbanized areas.

Major Parties Involved and Their Views

This is an issue that affects most of the world, since a majority of urban areas struggle with it. However, the areas that are most impacted by this issue are in the **Indian peninsula** and **Sub-Saharan Africa**. Countries such as **Uganda, Ethiopia, Nigeria, Ghana, DR Congo, Nepal and Bhutan** are amongst the list of states with the world's worst water quality.

Many of these countries have recognized the issue and began taking measures to put a stop to it. The major cities of these countries have played huge roles in trying to tackle the issue on an individual basis. For example, the city of Accra in Ghana has tried to incorporate innovative approaches to supplying water to their citizens, and is currently continuing to carry out research to improve the situation.

Although it may seem like the issue is only a problem for LEDCs, MEDCs are also known to struggle with clean water access. A prime example of this is the ongoing water crisis in Flint, Michigan in the United States of America.

Evaluation of Previous Attempts to Resolve the Issue

Up until now, the most notable attempts to resolve the issue have been made by individual cities.

Some cities - such as Zaragoza, Spain - have tried to tackle the problem by reducing water consumption and have succeeded in reaching their objective.

Lima, Peru has gone about the issue by promoting the usage of treated wastewater for green urban areas' irrigation systems.

Rainwater harvesting has also been considered by several cities, such as Belo Horizonte in Brazil.

Major problems that many cities have faced is connected to pipelines. Many pipelines leak water, due to either poor condition or simply because of age. On top of this, many big cities have to combat illegal connections being made to pipelines. Alexandria, Egypt, for example, has chosen to deal with this by establishing detailed monitoring and regulation of pipelines during and after production. They have also started repairs of pipes as well as adding new water meters frequently.

Some urban areas which are not financially advanced and thus are not connected to pipelines opt for private water vendors to receive a clean water supply, however this is extremely costly for those cities. Accra, Ghana, has called for community-management of water selling points, to solve this problem.

Possible Solutions

One of the most common problem that cities with lack of clean water access faces is that their infrastructure is insufficient in many different aspects. Many pipelines are unable to withstand the increasing water pressure as water demand increases, and thus they leak or burst, leading to loss of water. Additionally, illegal connections to pipelines is a factor that leads to water leakage. Monitoring and repairing pipelines, as well as infrastructure rebuilding can be a solution to this, although it could be an expensive option.

Implementing a filtration system to clean unsanitary water from currently available water sources could solve the crisis concerning water quality, and it could utilize some sources that were previously unusable. However this solution requires that the filtered water is transported without getting contaminated. The pipelines or other transportation devices that are being used must be in good condition. Another option would be to attach filters to individual faucets, to insure that the water is filtered even after transportation, but this would cost much more than using central filters.

Wastewater treatment is another possible option that many countries already utilize. It is a system in which water that has already been used is treated, and then sent back into pipelines for re-usage. This option requires building treatment facilities, as well as making sure that the facilities are powerful enough to treat and dispense water for an entire city without delay, with minimal water loss.

When thinking of solutions, it is important to think of both how to fix the quality of water and to ensure that the entire population is able to access it. Cities that are overcrowded tend to struggle with obtaining sufficient amounts of water, which leads to a drop in quality. Encouraging citizens to refrain from migration, or population control could help minimize this.

RESEARCH REPORT

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