



Forum: Commission on Sustainable Development

Question of: Tackling the issue of water pollution from urban and industrial waste to increase water quality

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I. Description of the issue

Since water is one of the most important things for human, animal and plant life, it deserves an adequate protection. If the water gets polluted, it can hardly be used anymore. Water pollution is defined by the detection of toxic substances in marine ecosystems such as rivers, lakes, oceans and groundwater, which make it impossible for humans, animals and plants to use this water. However, water pollution can be divided into two sections, on the hand the industrial wastewater and on the other hand the urban wastewater. For example, almost 80% of global industrial wastewater ends up in seawater with highly toxic pollutants for the human/ animal organism as well as the environment. Due to this pollution from industries that have become more and more in recent years and also humans who dump their garbage into the sea, especially plastic, thus creating pathogens. Subsequently, people use this water for drinking, cooking, bathing and much more but it can not be ruled out that by this water organisms and the environment will not suffer. The contaminated water might cause diseases and also death. East-Asian countries in particular are affected by this crisis. Some of them are very large and have financial resources to build more industries by the sea. Oil drilling and mining are strongly represented, as a industry, since it enriches the country with raw materials and oil, which is either used for themselves or sold to other countries. If it gets sold to other countries, the own country will earn a lot of money. *Fig.1* states an example of water use of four different countries and *Fig.2* shows rather in the East side of the world, how much the water is polluted. Fortunately, there are several NGO's which are fighting water pollution, such as *Greenpeace* and *Ocean Conservancy*.

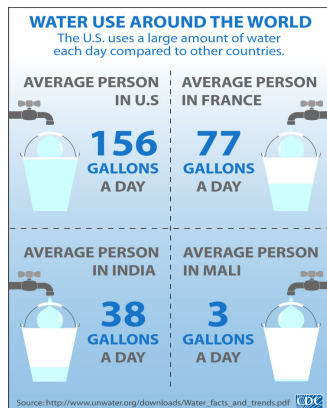


Fig.1: Water usage 2020

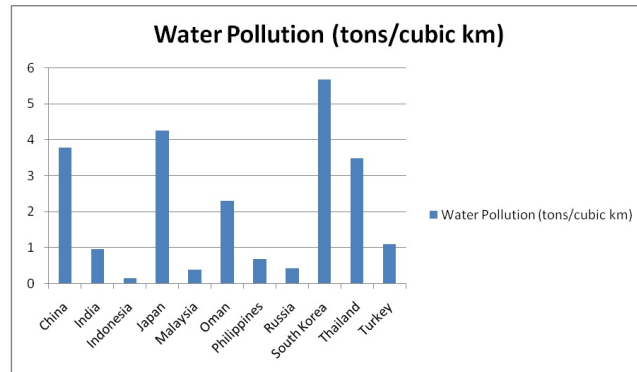


Fig.2: Water Pollution statistic (year unknown)

II. Definition of Key Terms

Biodiversity: It refers to the variety of life on earth. There are humans, animals and plants. Also microorganisms are included. It also covers the two environments, the marine life and the earthbound.

Commercial aspects: In this context, the commercial aspects show the economic impacts of water pollution. One example would be: increased costs for water treatment.

Industrialization: This is the development of all industries. It started in the mid-18th century to 1830.

Nitrogen: Nitrogen is a chemical element abbreviated with 'N'. It is contained in the air we breathe with around 78%. Even though Nitrogen is important for the marine organisms, too much is toxic. The normal value of Nitrogen in the seawater is up to 0.05ppm (parts per million). Too much will cause an immersive algae growth, which produce more oxygen than water is able to absorb. As an effect, fishes and other animals of the sea will die. Furthermore it promotes the growth of noxious bacteria, which is harmful for humans. Possible cause of consume is methemoglobinemia which is a blood disorder.

Non-Commercial aspects: The non-commercial aspects refer to the social, environmental and health impacts of water pollution. One example is the damage of natural resources, like wetlands or the negative impacts on the humane health.



Ozone depletion: This term stands for the damage or thinning of our ozone layer around our atmosphere. The ozone layer is a shield and protects the earth from the sun's dangerous ultraviolet radiation. Additionally it is responsible for the earth's temperature. The damage of it heats up the atmosphere.

Pathogens: These are bacteria which cause diseases.

Pollution: Pollution is the term for describing the existence of substances which are released into the environment. They always have negative effects.

UNEP: The United Nations Environment Programme is an UN agency that works to promote the *Sustainable Development Goals*. Their work contains raising awareness and making additional research to explain the impacts of water pollution.

Wastewater: This water has been used for example to clean dishes (urban) or to produce products (industrial). It contains mostly a big amount of pollutants, that have a bad impact on the human health and environment

Waterkeeper Alliance: This is a non-governmental organization which is very valuable when it comes to water pollution. They work international to protect waterways and also promote their work through advocacy, legal actions and also community engagement.

Power plants: Power plants are facilities in which energy is produced, often obtained from environmentally friendly sources such as solar radiation or wind power. However, sometimes still, the energy is obtained by burning fossil fuels, which is not very environmentally friendly.

III. Background Information

This issue causes many different other problems, for example if the water is contaminated, it will have a negative impact on the climate change, marine organisms, people and everything near the coasts. Because of the bacteria which will decompose the nutrients in the water and also cause diseases According to the industrialization, which is still ongoing, more and more industries are getting established, especially near the oceans and seas, because it is less complicated for the industries to get

access to the water for the products which they produce. During the production, the industries also create a lot of waste, which ends up in oceans, seas and rivers. Thus the water quality decreases. Water quality is measured by using parameters like temperature, pH value, dissolved oxygen and the amount of pollutants and contaminations. *Fig.3* shows how much N (Nitrogen) is in the water of certain regions. The different colours stand for the amount of N. The more N is found in water, the worse the water quality is. This map is important to make even clearer which countries are more affected and which less. Noteworthy are North Africa, Australia and parts of East Asia. There the water is heavily contaminated with nitrogen.

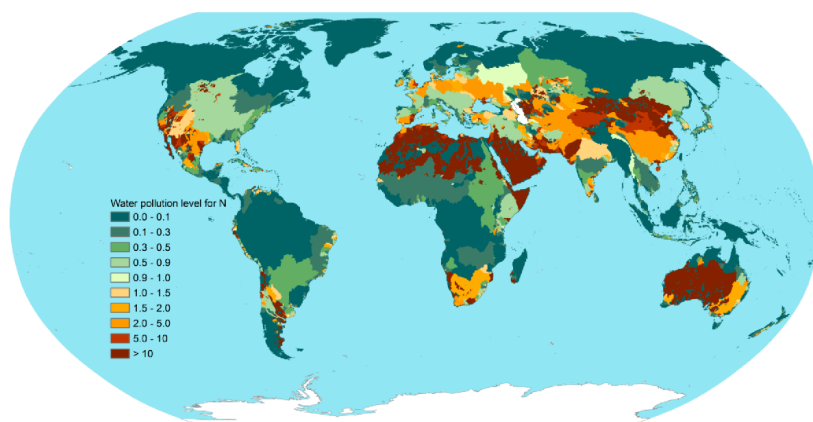


Fig.3: World Map showing the N value in the countries (2009)

The society and economy suffer massively from water pollution, because the treatment is very time-consuming and expensive. Especially LEDC's can do nothing. The tourism, which is part of the economy, is the main source of income for many countries. Hence *Fig.4* shows non-commercial and commercial aspects that are responsible for less tourism. The shown aspects are big parts of economies, because tourists have to pay for hotels and activities which mostly are near water. Probably many people will not travel to areas that are polluted that much since it is harmful for their health.



Fig.4: Figure showing commercial and non-commercial aspects (2016)

Another reason for water pollution is the urban wastewater. Europe, for example, has special laws for the disposal of wastewater, since this is the main factor next to industrial waste for water pollution.

This contaminated water is not as harmful for the environment as the industrial wastewater. It contains besides harmless bacteria and viruses, nitrogen and phosphorus, which together leads to eutrophication, without certain treatment. Compared to industrial wastewater, the urban wastewater is more monitored and more advanced.

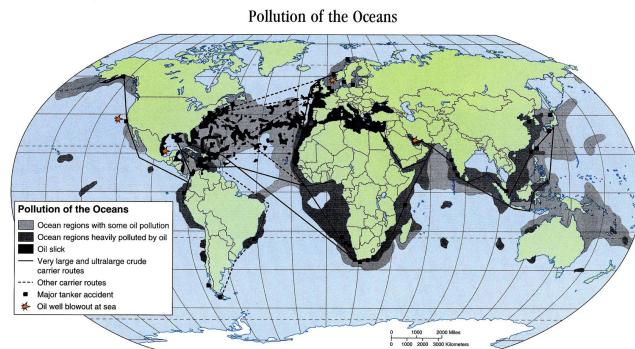


Fig.5: World Map showing water pollution caused by oil (2004)

Fig.3 will provides with an overview about water pollution caused by oil (industrial). It clearly shows that mostly LEDCs are affected. MEDCs unfortunately don't have financial accesses to combat this issue. That is also the reason, why many people haven't got enough water to drink or use. A fact is that a drop of oil contaminates more than 600 liters of water.

Moreover industrial activities such as manufacturing, mining and oil extraction are releasing a lot of pollutants into water. Next to chemicals it releases metals and organic compounds.

Nevertheless, many conflicts were caused by water pollution. One example is the argument between Ecuador and Peru because of the Amazon River. Flint, Michigan, USA complained about its drinking water to the government. Afterwards the government started to improve the water infrastructure.

Different IGOs, as well as NGOs, are trying to solve this issue. Their work contains assisting countries and communities, do research and surveys, spread awareness and sometimes also organize ocean clean-ups.

In conclusion, the human health and the protection of the environment is the most important. The human health is very easy to attack, because people consume a lot of water. It gets into the organisms very easy. Unfortunately, the human organism doesn't have the function to filter out all pathogens, so it is absolutely important that the water has a good quality. LEDCs need the most help, mostly the health status of Last but not least, many economies rely on tourism. If the water pollution will be tackled, it can be ensured that this economics will still thrive. Humans need a clean and fresh environment and since water is the base of a healthy environment it has to be searched for a good solution to tackle it.



IV. Historical Background

Long time ago, people dumped their garbage always into waterways to remove them. Water pollution is an ongoing issue, due to the industrialization and population growth. The Industrial Revolution began in the late 18th century and early 19th century, this was a sign for a fast industrialization. With it the industrial pollution became worse. As already stated the water quality decreased because of the disposal of chemicals into waterways. The urban water pollution also started in the early 19th century. The disposal of domestic wastewater led to outbreaks of many diseases. After a time, many governments started to implement directives and measures to improve the water quality and reduce the water pollution. After the first countries have implemented laws to protect the water quality in the early 20th century, the water water quality got better. According to the listed events in the next section a wider awareness got spread. The US was one of the first countries that started to try to solve this issue.

V. Timeline of Events

When	What?	Description	Relevency
1899	The Rivers and Harbors Act	-document passed in theUS -illegal to release pollutants without permit	Even if this event only concerns the United States, it is important that an economically large country serves as a
1948	The Federal Water Pollution Control Act	-establish national programme -controlling water pollution	This is one of the first steps to monitor water pollution
1972	The Clean Water Act	-passed in US -water quality standards specified	This Act protects the public health and the environment
1987	Montreal Protocol signed	-stop the production and use of substances that lead to ozone depletion and water pollution	Serves as a guideline
1992	UN Conference on Environment and Development	-also known as The Earth Summit -in Rio de Janiero -create Global Programme of Action to protect oceans	The Global Programme promotes the fight against this issue
2000	UN Millennium Declaration adopted	-sets the goal that half of the population without access to safe water get the access	People who don't can tackle this issue themselves get help
2015	UN SDG adopted	-Sustainable Development Goals due 2030	Are today one of the most valuable Goals, and goal 6 mentions water pollution



VI. Major Countries and Organizations Involved

Countries that have severe water pollution problems are China, India, Bangladesh, Indonesia, Nigeria and Brazil. Some organizations that should be mentioned are UNEP, The Ocean Clean Up, Waterkeeper Alliance.

VII. Previous Attempts to Solve the Issue

Some failed attempts are the Cleansing of the Cuyahoga River in Ohio 1969. It caught fire, because of vague regulations. The next one is also known as the worst environmental disaster, the Cleansing of the Gulf of Mexico 2010. The sea was damaged due to millions of gallons of oil that were released. Still the Gulf of Mexico has not recovered. However there are also some attempts that succeeded. As already stated the Clean Water Act forbids the realizing of pollutants into the oceans. There has been a program that also was successful, it is called the Chesapeake Program since 1983. It tries to rebuild and to protect the ecosystem.

VIII. Possible Solutions

-Implementing stricter regulations and laws:

Strict regulations, can promote a greater awareness and people will be more concerned about their water consumption.

-Investing more money into treatment:

Unfortunately LEDCs need financial help because they will not be able to afford it. However, there are many countries that can help. Countries that have a good relationship with LEDCs should declare themselves willing to offer help under certain contracts.

-restrictions for industries:

If industries fail to comply with existing laws on water pollution, consequences must succeed in showing industries that it is important to keep water as clean as possible.

-educating the people about water pollution:

Education in schools will help the younger generation to protect water in future. This topic would fit to the subject geography. even offers for lectures for adults are helpful. More attention is drawn to the importance of this issue.

IX. How to prepare as a Delegate



All delegates need to inform themselves about their country's position on this issue very precisely and also know their allies for the coming lobbying. In order for all issues to be discussed fruitfully, each delegate has to write **two position papers and one resolution**. A complete resolution can serve as a possible help during lobbying. Particularly, each delegate has to know in how far their country is affected by water pollution and also what its country is trying to solve this issue. Additional information of further causes of water pollution shows the chairs your detailed research and preparation. Also take a closer look at how exactly your country tackles water pollution. If you are already dealing with your allies, it is also wise to find out which countries you do not have a good relationship with. So you could take a critical look on their actions and how they try to solve this issue. A helpful advice from your Vice Chair, take down some bullet points to write speeches during the debates. From experience I know that especially as a first timer there is no time to write a convincing speech. That's why it makes sense to have some prepared notes or bullet points in order to save time during the debate.

In addition, you may consider the following questions during your research:

- Is my country affected by this issue? (if yes, in how far)
- Does my country help LEDCs? (in case of being the delegate of a MEDC)
- Have there been outbreaks of diseases in my country that have arisen as a result of water pollution?
- Does my country have any NGOs, IGOs or other Organizations which try to solve this issue?
- Has my country signed treaties? If not, why?

Keep in to mail the documents until **8th September 2023**. The **final deadline is 1st October 2023**. You should submit your documents on the first deadline, because then I can give you a short feedback and also give you broader advice how to prepare more precise. Afterwards you have enough time to improve your documents and submit them improved on the final deadline. All documents submitted after the first deadline will not be corrected by the Student Officers.

Delegates who do not submit their documents until the final deadline, will be excluded from awards such as best delegate.

If you have got any questions, do not hesitate to contact me!

X. UN Resolutions

A/70/L.1 *Transforming our world: the 2030 Agenda for Sustainable Development*

[Etpu \(un.org\)](https://www.un.org/) (2015)

A/RES/61/105 *Sustainable fisheries, including through the 1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10*



December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, and related instruments

[UNITED](#) (2007)

A/RES/64/292 ***The human right to water and sanitation***

[UNITED](#) (2010)

A/RES/71/222 ***International Decade for Action, “Water for Sustainable Development”, 2018–2028***

[A/RES/71/222 \(un.org\)](#) (2017)

A/RES/65/154 ***International Year of Water Cooperation, 2013*** [UNITED](#) (2011)

XI. Useful Links

- ❖ Causes of water pollution: [What are the Causes of Water Pollution? | ECU Online \(ecok.edu\)](#)
- ❖ Water quality: [GEMStat - The global water quality database](#)
- ❖ Access to clean water: [Clean Water - Our World in Data](#)
- ❖ Urban wastewater: [Urban wastewater \(europa.eu\)](#)
- ❖ Water and Urbanization: [Water and Urbanization | UN-Water \(unwater.org\)](#)
- ❖ Tackling global water pollution <https://www.unep.org/explore-topics/water/what-we-do/tackling-global-water-pollution>
- ❖ Most impacted areas [The Areas Most Impacted by Water Pollution | Sciencing](#)
- ❖ Development report 2022 [UN World Water Development Report 2022 | UN-Water \(unwater.org\)](#)

XII. Sources

- Tackling global water pollution: <https://www.unep.org/explore-topics/water/what-we-do/tackling-global-water-pollution>
- Most impacted areas: [The Areas Most Impacted by Water Pollution | Sciencing](#)
- Article about drinking water [Drinking-water \(who.int\)](#)
- Global water use: [Water Use Around the World | CDC](#)
- Ranking polluted bodies: [The 11 Most Polluted Bodies of Water Around the World | The Eco Experts](#)
- Annual review: [Global Water Pollution and Human Health | Annual Review of Environment and Resources \(annualreviews.org\)](#)
- Causes of water pollution: [What are the Causes of Water Pollution? | ECU Online \(ecok.edu\)](#)



- Water quality: [GEMStat - The global water quality database](#)
- Access to clean water: [Clean Water - Our World in Data](#)
- Effects, causes and solutions of water pollution: [Water Pollution Effects, Causes, and Solutions \(thebalancemoney.com\)](#)
- Development report 2022: [UN World Water Development Report 2022 | UN-Water \(unwater.org\)](#)
- Progress on water quality: [Progress on Ambient Water Quality – 2021 Update | UN-Water \(unwater.org\)](#)
- [The global water quality challenge & SDGs \(unesco.org\)](#)
- Urban wastewater: [Urban wastewater \(europa.eu\)](#)
- Water and urbanization: [Water and Urbanization | UN-Water \(unwater.org\)](#)
- History of water pollution: [Water and Air Pollution \(history.com\)](#)
- Industrial wastewater: [Industrial Wastewater | US EPA](#)
- Urban wastewater [Integrated urban stormwater management: Evolution and multidisciplinary perspective - ScienceDirect](#)
- NGO The Ocean Clean Up: [The Ocean Cleanup](#)
- NGO Waterkeeper: [Home - Waterkeeper](#)
- History of water pollution Rivers and Harbour Act: [Rivers and Harbors Act | InPort \(noaa.gov\)](#)
- History of water pollution Federal Water Pollution Control Act: [FEDERAL WATER POLLUTION CONTROL ACT \(epa.gov\)](#)
- History of water pollution Clean Water Act: [Clean Water Act becomes law \(history.com\)](#)
- History of water pollution Motreal Protocol: [About Montreal Protocol \(unep.org\)](#)
- UN CONference on Envirionment: [UN Conference on Environment and Development, 1992 \(researchgate.net\)](#)
- Resolution about the Millennium Declaration: [A/RES/55/2: United Nations Millennium Declaration](#)
- Sustainable Development Goals: [THE 17 GOALS | Sustainable Development \(un.org\)](#)
- Cuyahoga River Pollution (example): [New Page 1 \(uwec.edu\)](#)
- Chesapeake Bay Program: [NOAA and the Chesapeake Bay Program | NOAA Fisheries](#)

Figures:

Fig.1: [Water Use Around the World | CDC](#)

Fig.2: [Photos - Lake Pollution- Cause, Effects & Solutions \(weebly.com\)](#)



Fig.3: [\[PDF\] Global Gray Water Footprint and Water Pollution Levels Related to Anthropogenic Nitrogen Loads to Fresh Water. | Semantic Scholar](#) [Waters Polluted by Pollution Map - Bing images](#)

Fig.4: [Impact - Economic impact \(chemical-pollution.com\)](#)

Fig.5: [Impact - Economic impact \(chemical-pollution.com\)](#) [Pollution of the Oceans – Mapping Globalization \(princeton.edu\)](#)