Data reliability and bias evaluation:

The data evaluation was done for 6 document which talked about death due to unsafe water, source and amount of unsafe water and the annual freshwater withdrawals. I evaluated the data according to year it was last updated and the credibility of the source. I was able to research about the sources for each document except for one where there was no source credit available.

‘Generation and discharge of wastewater in volume’ data’s source is Eurostat. It has partnered with European Statistical System (ESS) aim to prevent unreliable data. They provide high quality statistics and is obligation for trustworthiness which is enshrined in law. This makes it a reliable source to utilize data from. The method for collection was questionnaires. Eurostat uses questioner to obtain data every calendar year as well as gap filling and corrections for earlier reference years. There was no bias found.

The data for ‘Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (per 100,000 population’ was downloaded from The World Bank and obtained from World Health Organisation. Since both sites are very reputable sources, we can consider this data reliable. The Death rates are calculated by dividing the total deaths by the total population size. The selection of participants is considered by impact of diarrhoeal diseases, intestinal nematode infection, and protein-energy malnutrition. This could be considered as a candidate for Sampling bias as there are more impacts such as typhoid, polio and etc… not mentioned. As the data is not available across time periods and countries it is not sufficient.

The data for ‘ Premature\_deaths\_due\_to\_UNSAFE\_WASH’ was found from OCED.Stat. It is a reputable source and the method used here the calculate the Global Burden of Diseases (GBD) was used from the articles in ‘The Lancet’. They examine trends from 1990 the present considering the 204 countries, 369 diseases and injuries, and 87 risk factors. Hence there is no bias which makes the data reliable.

The source for ‘Proportion of bodies of water with good ambient water quality’ is UNWater. UNWater being a monitoring hub provide reliable data and information on key water trends. The methodology used here was in-situ measurements of these water quality parameter groups. The measured values are compared to national target levels for different parameters If the values meet targets 80 per cent or more of the time, the water body is classified as good. No data biases were found however the data provided was not sufficient.

The data ‘Wastewater Discharges Per Year Per Country’ provided is given from the source OCED.stat. It is a reputable source and the method of data collected and guidance was provided by: UN-Habitat, WHO, UNSD for monitoring methodology. Eurostat for Questionnaire for EU countries. UNSD Questionnaire for OCED countries. UN-Water for Data collection process and timeline. Through collaboration they were able to collect of wastewater discharged per year. There were no biases found hence it is a reliable source.

1st point:

[European Statistical System - German Federal Statistical Office (destatis.de)](https://www.destatis.de/Europa/EN/Methods/ESS/_inhalt.html#173226)

www.destatis.de. (n.d.). *European Statistical System - German Federal Statistical Office*. [online] Available at: https://www.destatis.de/Europa/EN/Methods/ESS/\_inhalt.html#173226 [Accessed 27 Feb. 2024].

[Eurostat and the European Statistical System - Statistics Explained (europa.eu)](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Eurostat_and_the_European_Statistical_System#European_Statistical_System_.28ESS.29)

ec.europa.eu. (n.d.). *Eurostat and the European Statistical System*. [online] Available at: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Eurostat\_and\_the\_European\_Statistical\_System#European\_Statistical\_System\_.28ESS.29 [Accessed 27 Feb. 2024].

2nd point:

[Exploring anti-corruption, transparency, and accountability in the World Health Organization, the United Nations Development Programme, the World Bank Group, and the Global Fund to Fight AIDS, Tuberculosis and Malaria | Globalization and Health | Full Text (biomedcentral.com)](https://globalizationandhealth.biomedcentral.com/articles/10.1186/s12992-020-00629-5)

Kohler, J.C. and Bowra, A. (2020). Exploring anti-corruption, transparency, and accountability in the World Health Organization, the United Nations Development Programme, the World Bank Group, and the Global Fund to Fight AIDS, Tuberculosis and Malaria. *Globalization and Health*, 16(1). doi:https://doi.org/10.1186/s12992-020-00629-5.

3rd point:

[About the Global Burden of Disease (thelancet.com)](https://www.thelancet.com/gbd/about)

www.thelancet.com. (n.d.). *About the Global Burden of Disease*. [online] Available at: https://www.thelancet.com/gbd/about.

4th point:

[Water Quality and Wastewater | UN-Water (unwater.org)](https://www.unwater.org/water-facts/water-quality-and-wastewater)

United Nations (2023). *Water Quality and Wastewater*. [online] UN-Water. Available at: https://www.unwater.org/water-facts/water-quality-and-wastewater.

[Water Scarcity | UN-Water (unwater.org)](https://www.unwater.org/water-facts/water-scarcity)

United Nations (2021). *Water Scarcity*. [online] UN-Water. Available at: https://www.unwater.org/water-facts/water-scarcity.

[UN World Water Development Report 2021 | UN-Water (unwater.org)](https://www.unwater.org/publications/un-world-water-development-report-2021)

UN-Water. (n.d.). *UN World Water Development Report 2021*. [online] Available at: https://www.unwater.org/publications/un-world-water-development-report-2021.

5th point:

[Exploring anti-corruption, transparency, and accountability in the World Health Organization, the United Nations Development Programme, the World Bank Group, and the Global Fund to Fight AIDS, Tuberculosis and Malaria | Globalization and Health | Full Text (biomedcentral.com)](https://globalizationandhealth.biomedcentral.com/articles/10.1186/s12992-020-00629-5)

Kohler, J.C. and Bowra, A. (2020). Exploring anti-corruption, transparency, and accountability in the World Health Organization, the United Nations Development Programme, the World Bank Group, and the Global Fund to Fight AIDS, Tuberculosis and Malaria. *Globalization and Health*, 16(1). doi:https://doi.org/10.1186/s12992-020-00629-5.