Introduction:

The Global Burden of Disease study reveals the global burden of premature deaths attributable to unsafe water, sanitation, and hygiene (WASH) from 1990 to 2019. The data covers 195 countries and territories, providing valuable insights into the trends and disparities in WASH-related mortality across regions and over time.

1. The Problem: Persistent Burden of WASH-Related Premature Deaths

Despite progress in reducing WASH-related mortality in some regions, the global burden of premature deaths due to unsafe WASH remains significant. In 2019, countries like the Central African Republic, Chad, and Somalia reported over 60,000 premature deaths each, highlighting the persistent challenges in ensuring access to safe WASH services in low-income settings.

2. Key Insights

- Sub-Saharan African countries consistently bear the highest burden of WASH-related premature deaths throughout the study period.

- India, despite progress, still reported over 62,000 premature deaths in 2019, indicating the need for sustained efforts to improve WASH access in high-population countries.

- Some countries, such as Ethiopia and the Democratic Republic of the Congo, have seen substantial reductions in WASH-related deaths since 1990, but still face a high burden.

- High-income countries generally report very low numbers of WASH-related premature deaths, highlighting the role of economic development in ensuring safe WASH access.

3. Impacts on Health, Society, Environment, and Carbon

Health:

Unsafe WASH is a leading risk factor for diarrheal diseases, which are a major cause of premature mortality, particularly among children under five. The high burden of WASH-related deaths in many low-income countries underscores the urgent need to prioritize WASH interventions as a key strategy for improving public health outcomes and reducing health inequities.

Society:

The burden of WASH-related premature deaths has significant social and economic costs. Losing productive members of society to preventable illnesses perpetuates poverty, hinders educational attainment, and undermines overall development. Investing in safe WASH services can yield substantial returns in terms of improved health, gender equality, and economic growth.

Environment:

Poor sanitation and wastewater management associated with unsafe WASH practices can lead to environmental degradation, such as water pollution and ecosystem damage. Improving WASH services not only protects human health but also contributes to environmental sustainability by reducing the burden of untreated waste and promoting the safe management of water resources.

Carbon:

While the direct carbon emissions from unsafe WASH practices may be relatively low, the indirect impacts can be substantial. For example, treating WASH-related illnesses in healthcare facilities can contribute to greenhouse gas emissions through increased energy consumption. Moreover, the loss of productive lives due to premature mortality can hinder the adoption of sustainable practices and technologies that could help mitigate climate change.

4. Recommendations

1) Prioritize WASH interventions in countries with the highest burden of premature deaths, particularly in Sub-Saharan Africa and parts of South Asia.

2) Invest in sustainable and climate-resilient WASH infrastructure, such as water treatment systems and sanitation facilities, to ensure long-term access to safe services.

3) Integrate WASH interventions with other public health and development initiatives, such as maternal and child health programs, to maximize synergies and impact.

4) Strengthen data collection and monitoring systems to track progress, identify gaps, and inform evidence-based decision-making on WASH policies and investments.

5) Foster multi-sectoral collaboration and partnerships to mobilize resources, share best practices, and scale up proven WASH interventions.

5. Assumptions and Limitations

- The premature death estimates rely on the accuracy and completeness of mortality data, which may vary across countries and over time.

- The attribution of deaths to unsafe WASH is based on established epidemiological methods, but there may be some uncertainty in the estimates.

- The data does not capture the full spectrum of WASH-related morbidity and the broader social, economic, and environmental impacts of unsafe WASH.

- The categorization of countries into high, medium, and low health impact groups is based on arbitrary thresholds and may not reflect the full complexity of WASH-related risks.

Map Evaluation:

The world map illustrates the global burden of premature deaths attributable to unsafe water, sanitation, and hygiene (WASH) based on data from the Global Burden of Disease study. The colour scale represents the number of premature deaths, with the darkest blue indicating countries with the highest burden (around 25,000 deaths), followed by greyish blue (approximately 10,000 deaths), medium blue (roughly 3,000 deaths), light pink (about 523 deaths), and finally, cream colour representing countries with the lowest burden. Also, the grey countries are data that are missing.

The map reveals a striking disparity in the distribution of WASH-related premature deaths worldwide. Sub-Saharan Africa and South Asia stand out with the highest concentration of countries in the darkest blue category, highlighting the urgent need for improved WASH services in these regions. Most developed countries in North America, Europe, and Australia fall into the cream-colored category, indicating a lower burden. The presence of several cream-colored countries, particularly in Africa and parts of Asia, suggests data limitations that may hinder a comprehensive assessment of the true global burden of WASH-related mortality.

A map of the world

Description automatically generated

Conclusion:

The global burden of premature deaths attributable to unsafe WASH remains unacceptably high, with over 1 million deaths in 2019 alone. The stark disparities between high-income and low-income countries underscore the urgent need for targeted interventions and investments to ensure universal access to safe WASH services. Improving WASH is not only a moral imperative but also a critical strategy for advancing public health, social development, environmental sustainability, and climate resilience. By prioritizing WASH interventions and strengthening multi-sectoral collaboration, we can accelerate progress towards the Sustainable Development Goals and build a healthier, more equitable world for all.