

Don't WASTE Time: Managing Sanitation Systems to Protect Groundwater

We're not sitting around - the activation of youth for groundwater and sanitation

Michel FREM

Chair, GWYN

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**I am groundwater and
I'm worth protecting**

IMPORTANCE OF GROUNDWATER

- The impacts of groundwater quality degradation are mostly felt by vulnerable people.
- Sustains many ecosystems.
- Almost half of the global population is not connected to safely managed sanitation systems.



Globally, water use is expected to grow by roughly **1% per year over the next 30 years.**



An estimated 4 billion people live in areas that suffer from severe physical water scarcity for at least one month per year.



Humans extract about **1,000 km³** of groundwater per year, a number that appears to have **been increasing by about 2% every year over the past two decades.**

This corresponds to



of all human freshwater withdrawals.





~ 900 MEMBERS 111 COUNTRIES



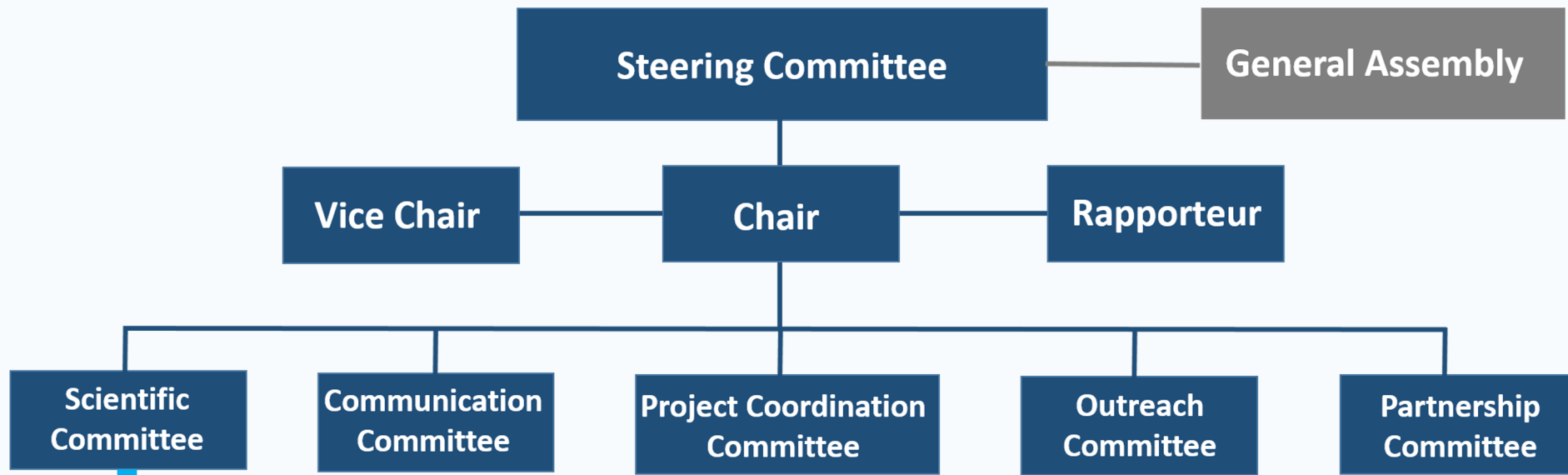
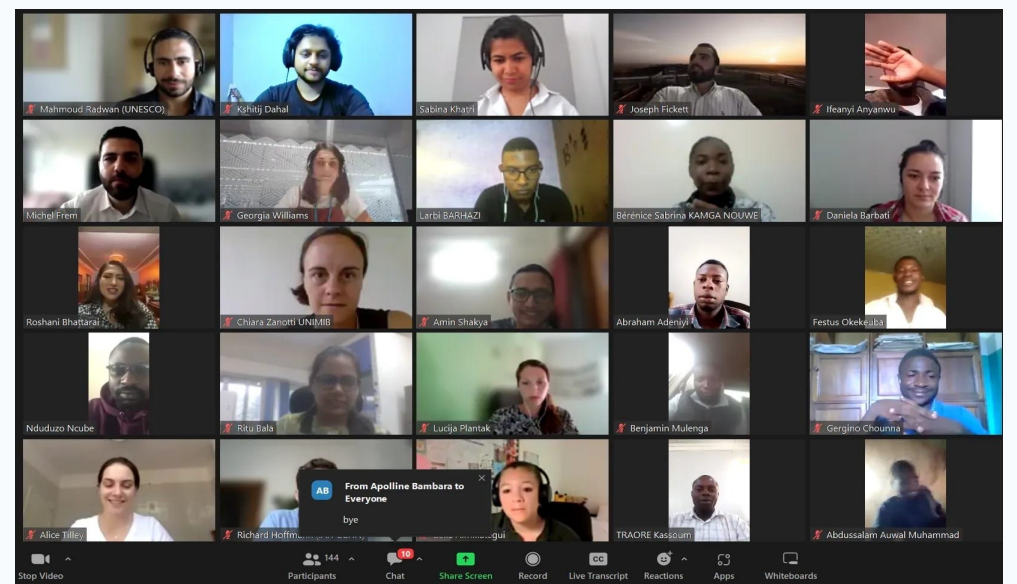
5 COMMITTEES

Overarching target: Enhance the engagement of youth in addressing water security issues.

Objectives:

- Create a youth network of groundwater ambassadors of change;
- Empower young groundwater professionals and support their development;
- Involve youth in decision-making processes;
- Promote youth participation in international groundwater activities;
- Identify key joint priorities to implement initiatives related to groundwater and youth;
- Integrate the youth perspective in the preparation of UNESCO-IHP's groundwater activities/events.

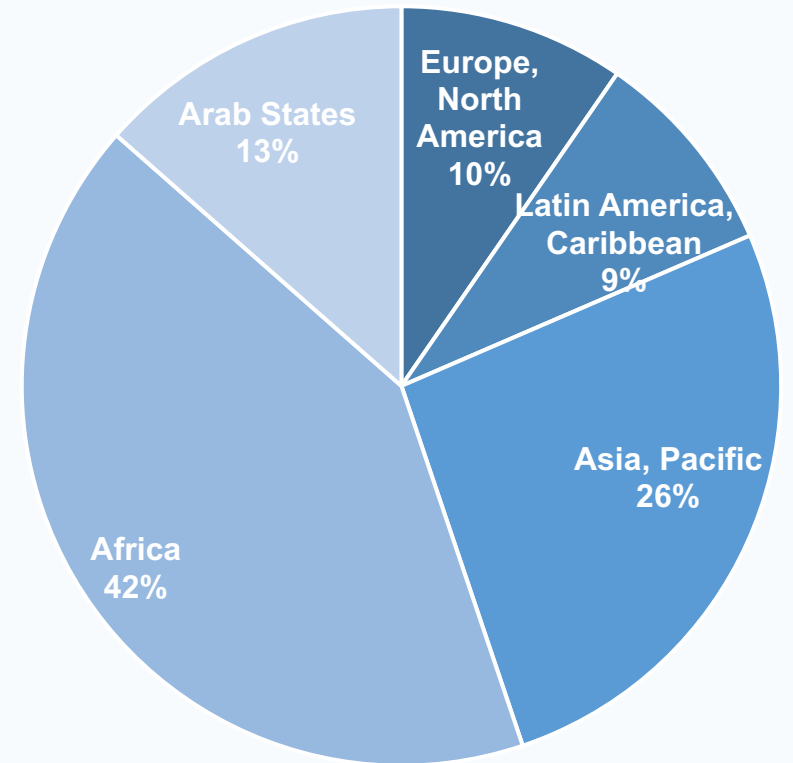
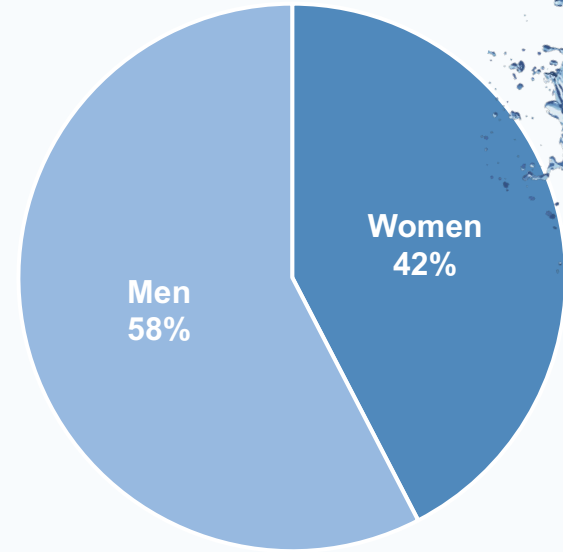
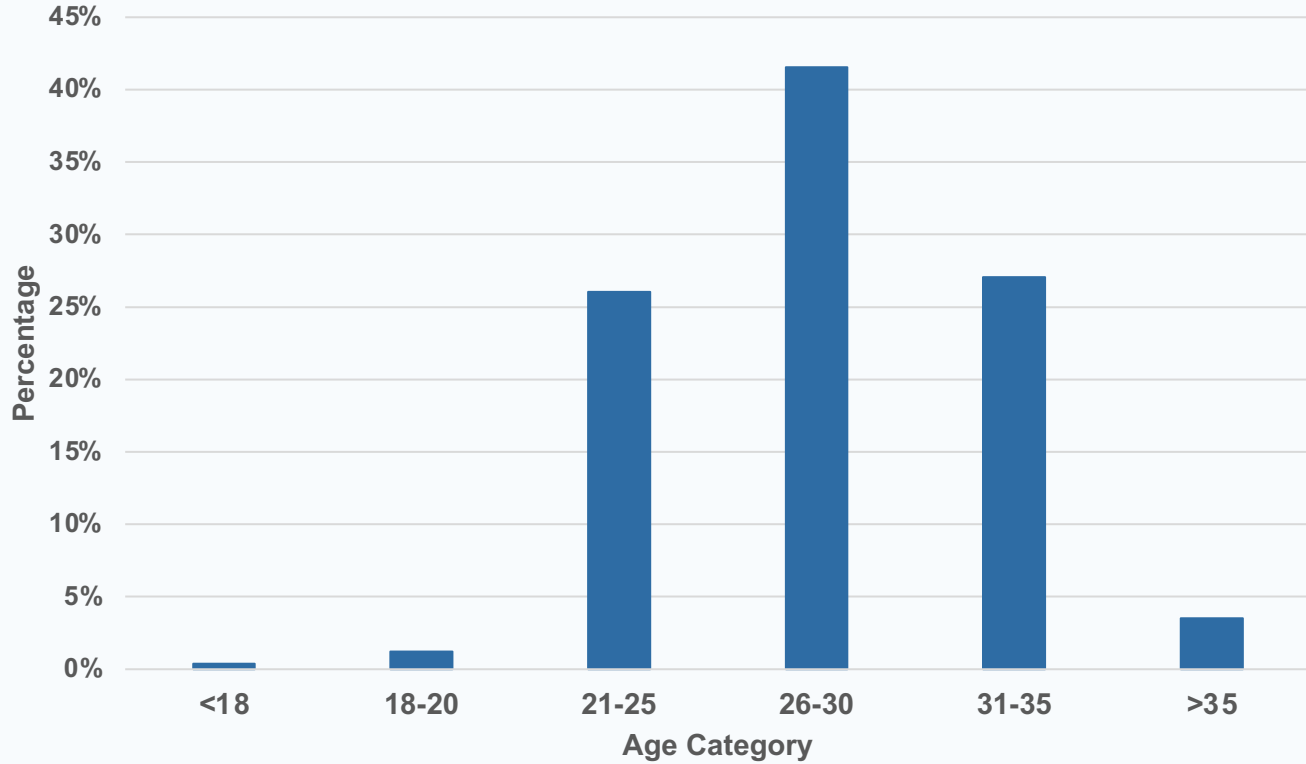
ORGANIZATIONAL CHART



GW Monitoring Working Group

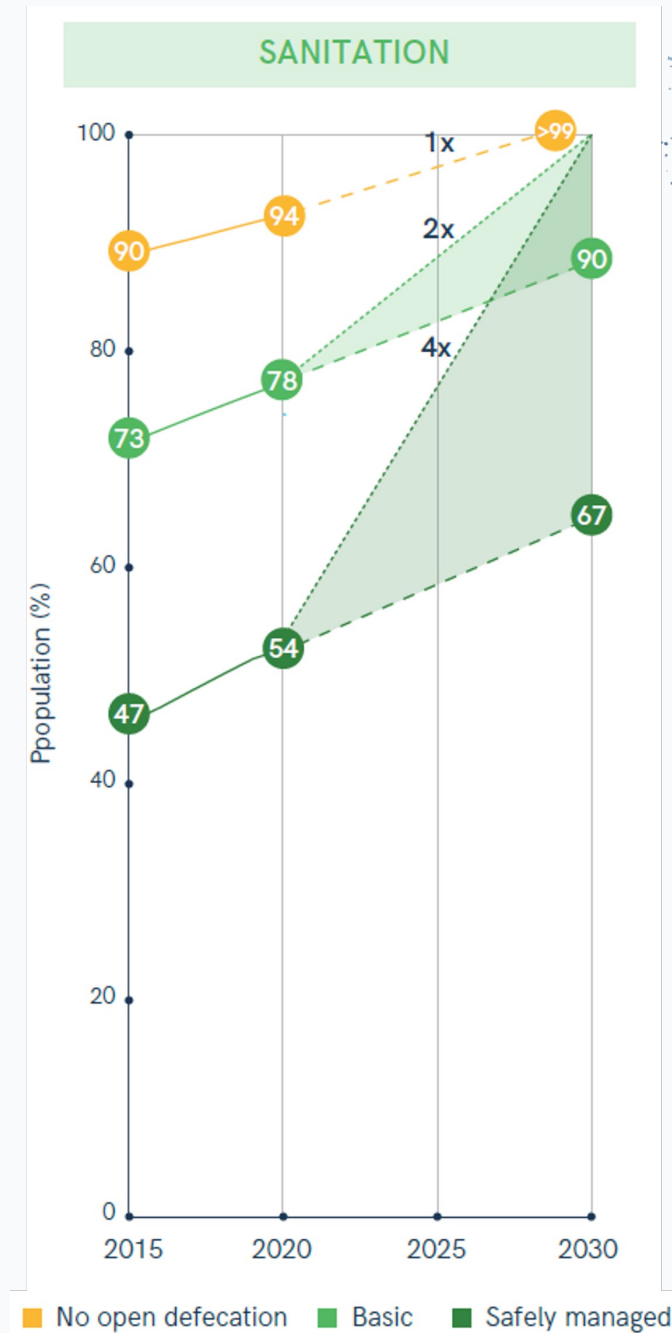


GENERAL ASSEMBLY



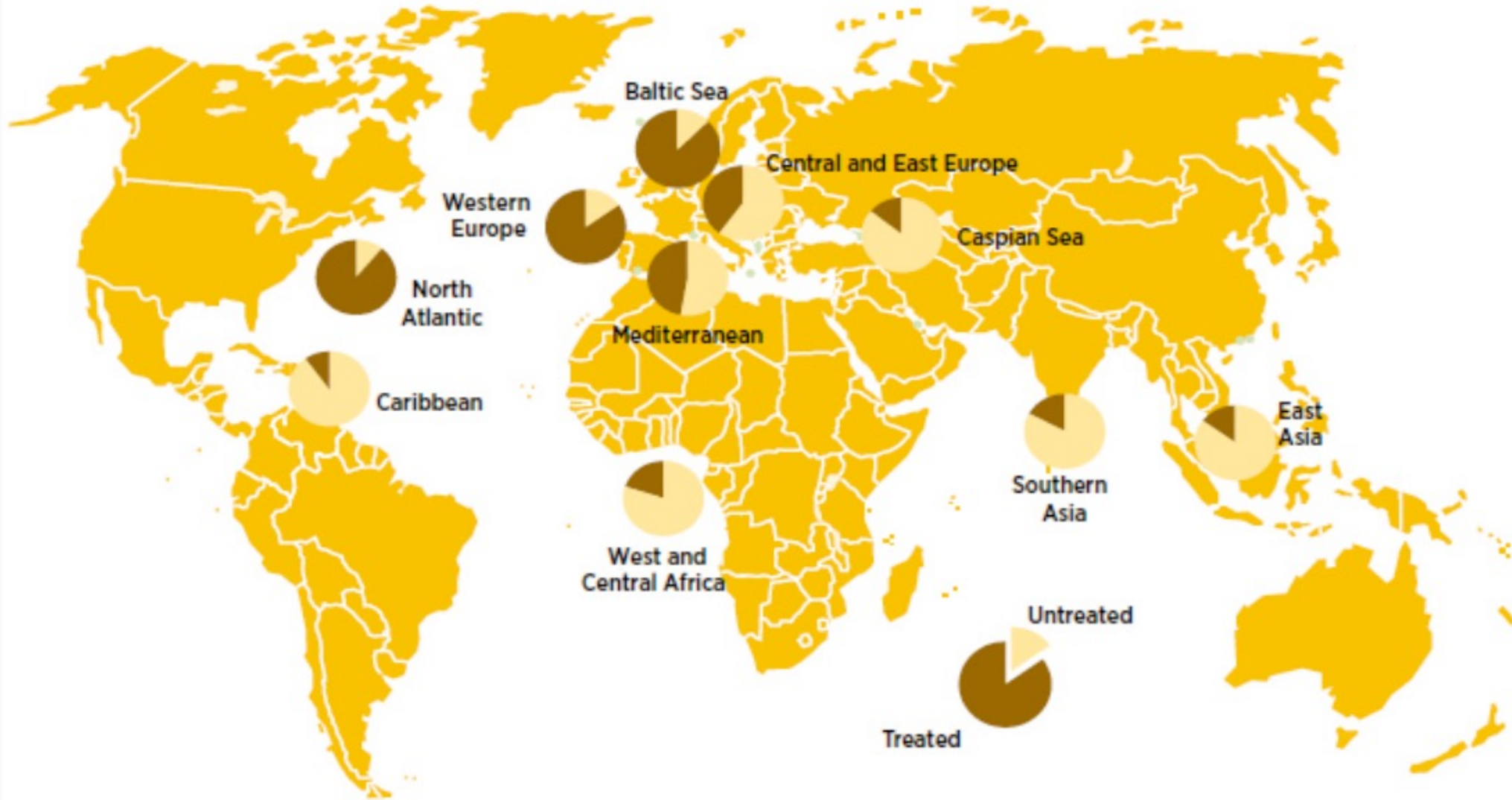
SDG TARGET 6.2

- SDG Target 6.2 is the world's promise to ensure safe toilets for all by 2030.
- Off track in fulfilling this target.
- This crisis led to serious impacts on public health, education, economic productivity, environmental integrity and gender equality.



Global coverage of WASH services, 2015-2020 (%) (WHO and UNICEF, 2021)

UNTREATED WASTEWATER DISCHARGE RATIOS



Ratio of treated to untreated wastewater discharged into water bodies (UNESCO, 2012)



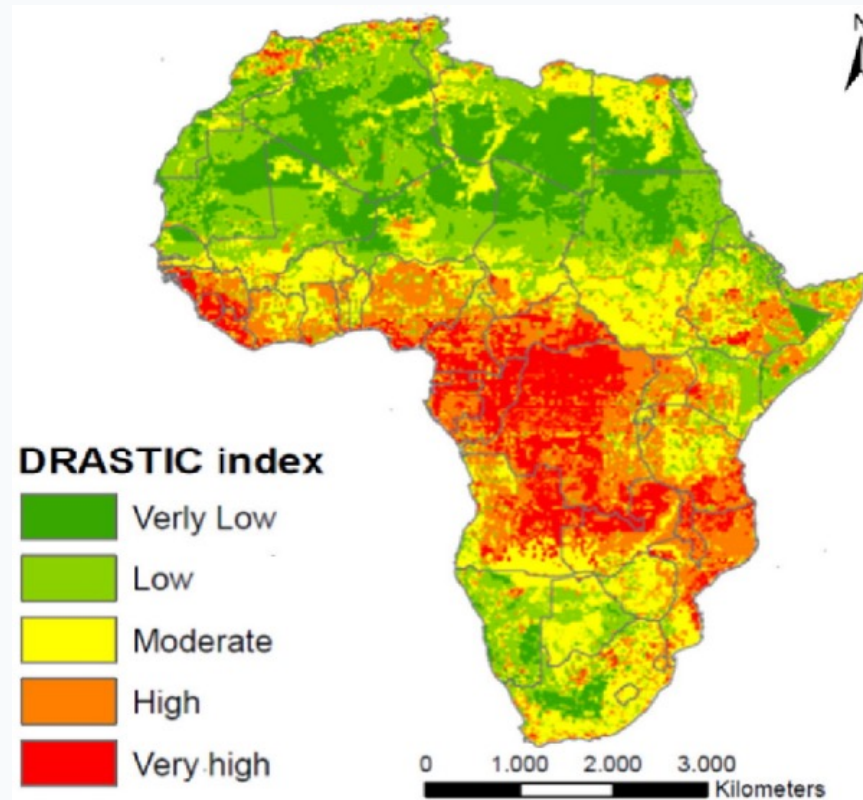
GROUNDWATER VULNERABILITY

POLLUTION SOURCES

- Pit latrines and septic tanks
- Sludge disposal in landfills without impermeable layers
- Irrigation with untreated wastewater
- Sewerage outfall (often inadequate wastewater disposal and reuse)
- Climate change impacts

POLLUTION TARGETS

- Wells
- Streams and rivers
- Dams and lakes
- Karstic features (sinkholes and caves)
- Natural lands and forests



Groundwater intrinsic vulnerability map of Africa (Ouedraogo et al., 2016)

AFRICAN VOICES FROM THE GWYN

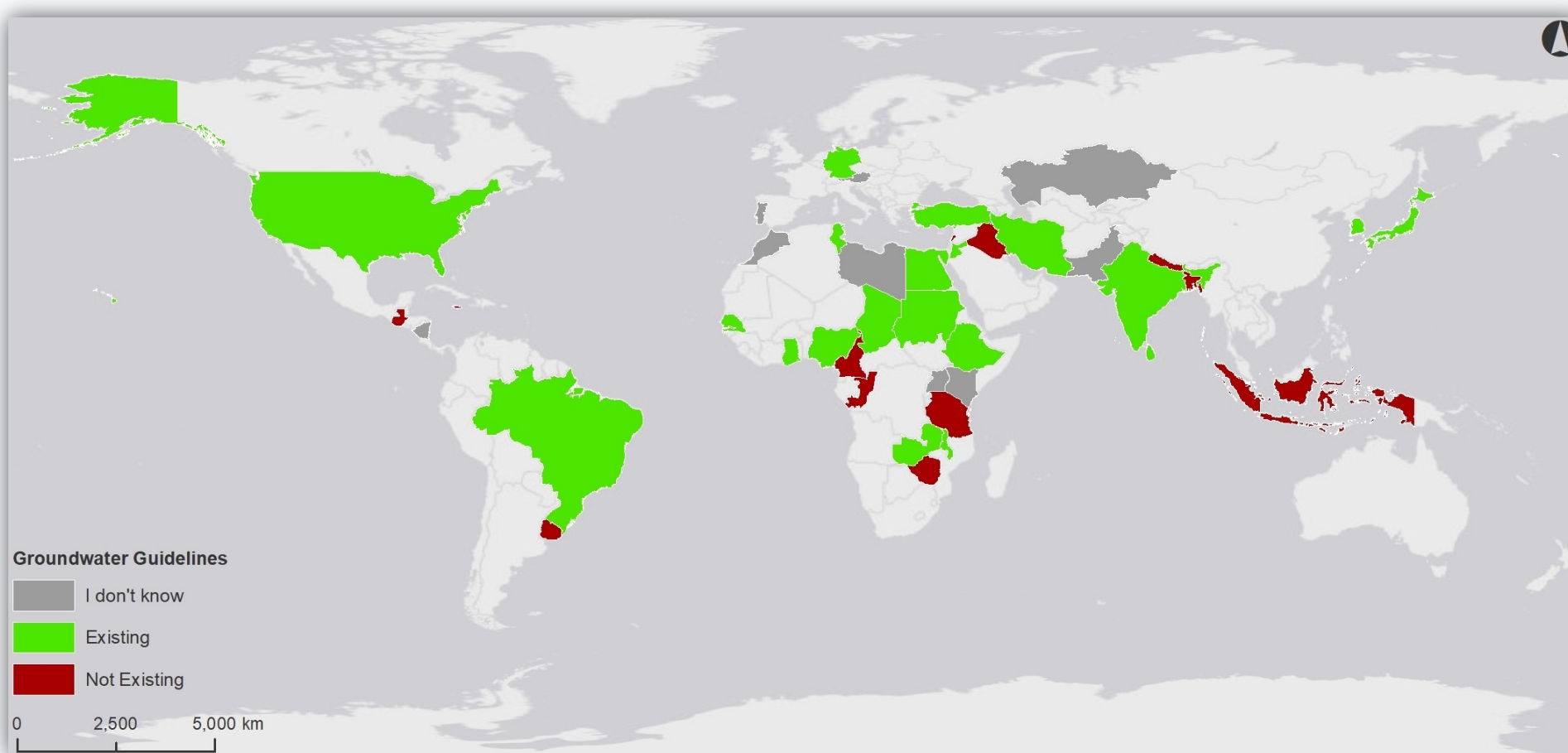
- Abstract submitted to the 5th SADC (Southern African Development Community) Groundwater Conference (16-18 November 2022 in Namibia).
- Main recommendations:
 - Improve “groundwater education” in Africa;
 - Raise awareness on the vulnerability of this invisible resource;
 - Promote WASH initiatives.



GROUNDWATER MONITORING – YOUTH PERSPECTIVES

Most important groundwater-related issues:

1. Groundwater level decline
- 2. Groundwater contamination (76%)**
3. Decrease of groundwater recharge
4. Degradation of GDEs
5. Seawater intrusion
6. Groundwater level rise
7. Land subsidence



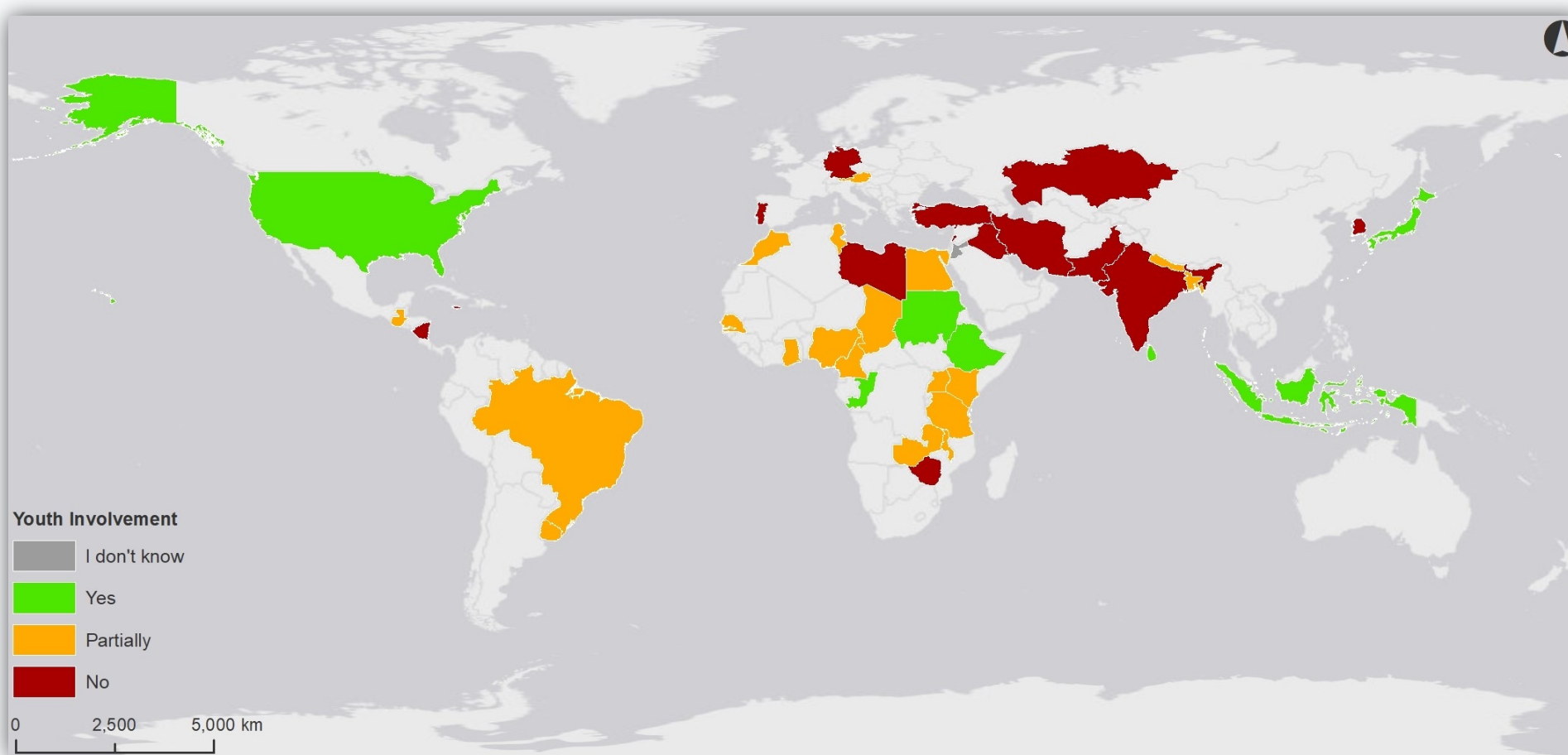
The form can be accessed via:



<https://rb.gy/usfnsk>

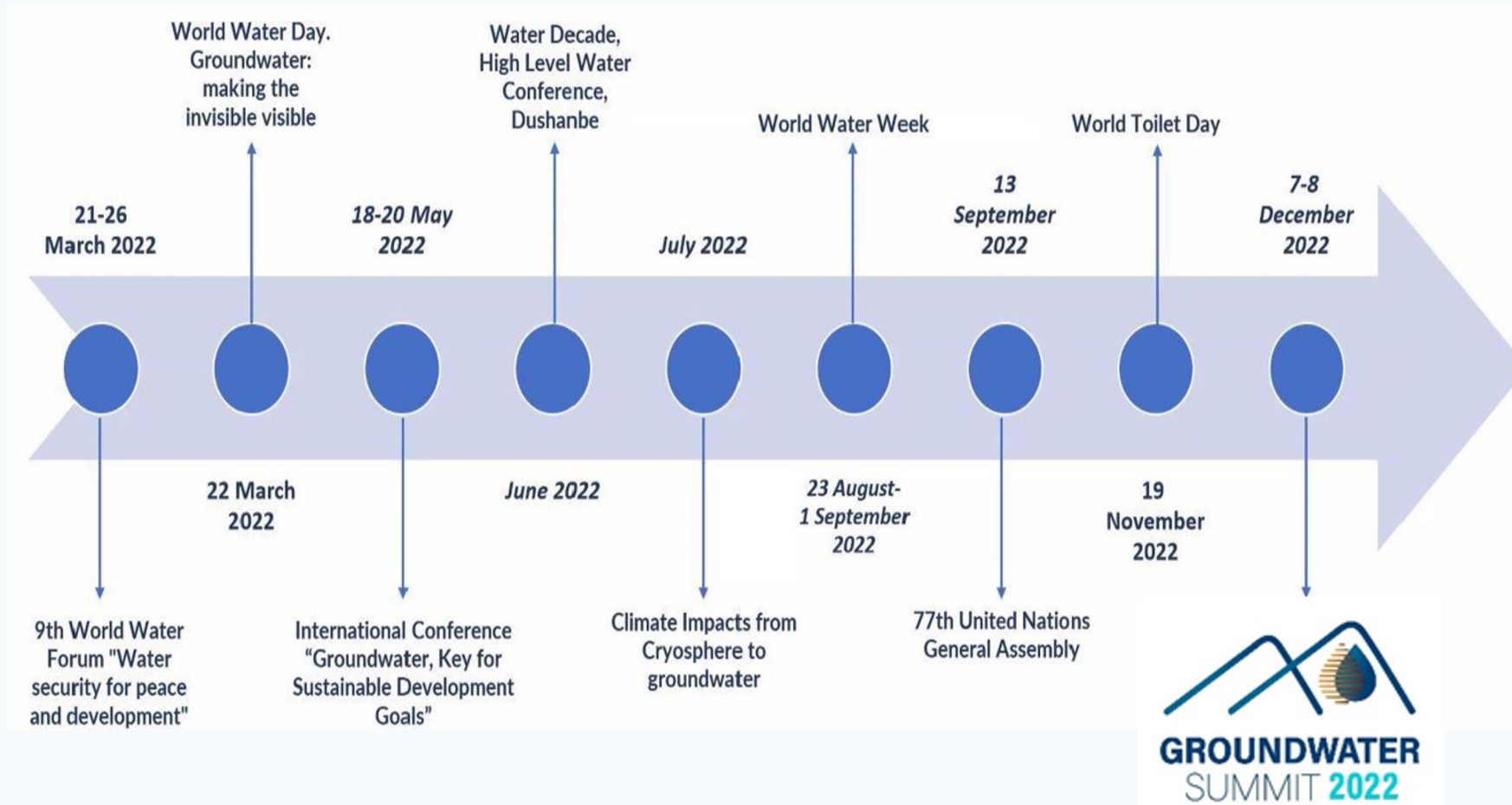
STUDENTS AND YOUNG PROFESSIONALS' SUGGESTIONS

- Education and training;
- Modernizing groundwater monitoring;
- Involving all stakeholders (including local communities, youth, etc.);
- Applying citizen science in groundwater monitoring;
- Advocating for more funding for (regular/real time) monitoring.



CONCLUSION

- Almost 0.5 billion people relieve themselves through open defecation and 3.6 billion are not connected to safely managed sanitation systems (*WHO and UNICEF, 2021*).
- Keep the message simple: **“safe sanitation protects groundwater, and 50% of the world’s population drinks groundwater”**.



REFERENCES

- Ouedraogo I, Defourny P, Vanclooster M (2016) Mapping the groundwater vulnerability for pollution at the pan African scale. *Science of the Total Environment*, 544, 939-953
- UNESCO (2012) World Water Assessment Programme (WWAP). The United Nations World Water Development Report 4: Managing water under uncertainty and risk
- UNICEF, WHO (2022) Progress on drinking water, sanitation and hygiene in schools: 2000-2021 data update. New York
- WHO, UNICEF (2021) Progress on household drinking water, sanitation and hygiene 2000-2020: Five years into the SDGs. Geneva



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UN WATER
19 November
WORLD TOILET DAY 
2022 Sanitation and Groundwater

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Groundwater Youth Network