WORLD BANK YOUTH INNOVATION CHALLENGE

WATER SOLUTIONS FOR A NEW CLIMATE REALITY

Launching December 8, 2023 at COP28!

TRACK 2

TOO LITTLE WATER

WORLD BANK GROUP Jobs | S4YE SOLUTIONS FOR YOUTH EMPLOYMENT | Schweizerische Eidgenossenschaft Confédération suisse Confederazione Svizzera Confederaziun svizra | GWSP GLOBAL WATER SECURITY & SANITATION PARTNERSHIP | WORLD BANK GROUP Water | xylem Let's Solve Water

Challenge Statement

- According to the United Nations, by 2025, nearly two-thirds of the world's population could be living under "water-stressed" conditions, where water supply does not meet demand. This statistic underscores the widespread nature of water scarcity challenges affecting billions of people worldwide.

- The World Health Organization (WHO) and UNICEF reported that as of 2019, approximately 2.2 billion people globally do not have access to safely managed drinking water services. This lack of access to clean and reliable water sources contributes significantly to water scarcity-related challenges, impacting health, sanitation, and overall well-being.

- Agriculture is a major consumer of water resources, and global water use for agriculture is substantial. The Food and Agriculture Organization (FAO) estimates that agriculture accounts for about 70% of global freshwater withdrawals. The efficient management of water resources in agriculture is crucial for addressing water scarcity and ensuring food security.

- According to UNICEF, every day, over 1000 children die from diseases associated with unsafe drinking water, sanitation, and hygiene.

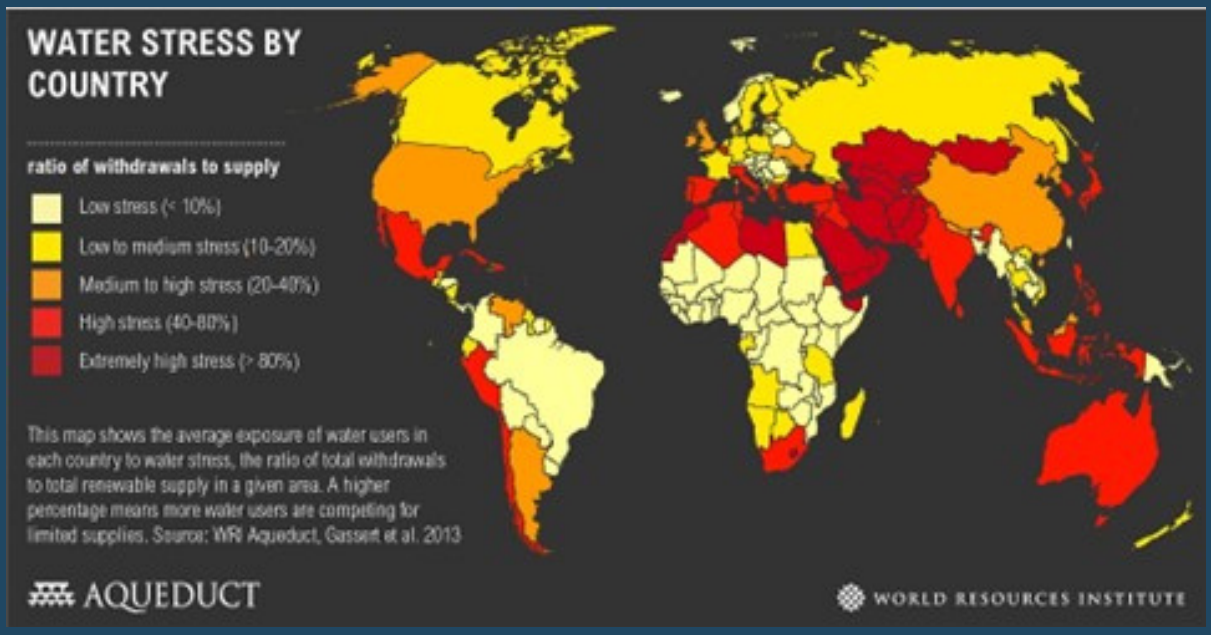

Image - World Resources Institute

Droughts have spurred a critical need for technical innovation, driving the development of advanced water management technologies, precision agriculture solutions, and resilient infrastructure to address the escalating challenges posed by water scarcity and ensure sustainable resource use.

Rural livelihoods dependent on agriculture are particularly vulnerable, as crops wither and livestock face dehydration. Urban areas, too, confront the strain of inadequate water resources, with implications for sanitation, hygiene, and overall public health. The environmental toll is evident in dwindling ecosystems, loss of biodiversity, and increased desertification.
Mitigating the impacts of droughts and water scarcity requires a multifaceted approach, involving sustainable water management practices, improved infrastructure, and international cooperation to ensure the resilience of communities in the face of these pressing challenges.

Your challenge is to design and propose solutions that will address these issues focusing on designing a comprehensive and scalable business model; producing technology and designing policies that promote positive behavior change among people.

Opportunity Areas

Business Model Innovation:

Implementing a sustainable and innovative business model is crucial for addressing water scarcity. This may involve fostering multi-sectoral collaboration among the government, the private sector, and nonprofit organizations. The model should prioritize scalable social impact alongside financial sustainability, ensuring that the most vulnerable sectors have access to safe and clean water. Diversifying revenue streams to encompass Planet, People, and Profit is integral to achieving a comprehensive and effective approach.

Technology Innovation:

Solutions around water purification systems, including cutting-edge desalination plants, smart irrigation technologies, in addition to decentralized water treatment solutions, innovations in recycling wastewater and water quality testing are essential for improving the availability of clean water. Additionally, harnessing the power of data science and artificial intelligence to collect better data about water and improve the efficiency of water management can enhance resource allocation and minimize water wastage. Another area ripe for innovation is in water conservation - from farm irrigation techniques to in-home conservation - to reduce the demand for more water from the source. In navigating this path, it is crucial to strike a balance between scalability, affordability, and environmental sustainability

Policy Recommendations:

Addressing water scarcity requires people to reduce water consumption at all levels and for governments to establish a supportive framework for sustainable water use and management. Collaboration across local, national, and international levels is crucial for crafting and enforcing policies that encourage water conservation, advocate responsible agricultural practices, and oversee industrial water usage. These policies should integrate measures to adapt behavior change, ensuring effective implementation at the grassroots level.

Pioneering Solutions for Inspiration

- Kilimo – a start-up in Argentina that utilizes AI to empower farmers to optimize their irrigation strategies and sell water offsets to companies

- NatureDots – an enterprise based in India that employs AI to ensure healthy water bodies by identifying ecological stressors in communities and assessing deteriorating water bodies.

- Manhat – a tech startup in UAE that employs technology to trap the evaporated water from open water sources such as seas and oceans, mimicking the natural water cycle with zero carbon footprint and zero brine emission. The water produced from this process can immediately be used to irrigate crops.

- Desolenator -- a startup working on solar desalination technology. Their innovation aims to provide clean drinking water by using solar power to desalinate seawater, offering a sustainable solution to water scarcity in coastal regions

- SEAS - a startup that is developing machinery and systems that produce water from air.

Resources

- Drought Overview - Drought (who.int)
- Water Scarcity - Water Scarcity | UN-Water (unwater.org)
- Water at the center of climate crisis - Water – at the center of the climate crisis | United Nations
- 10 Things You Didn’t Know About Water - 10 things you didn't know about water | UNICEF
- Water Risk Atlas - Aqueduct Water Risk Atlas (wri.org)
- Drought and Water Scarcity on Apple Podcasts\
- Droughts 101 (nationalgeographic.org)
- Understanding Droughts (nationalgeographic.org)
- Xylem Learning Platform (xylemsales.com) - Threats and Opportunitites in Water lecture

Other Citations and Resource Links-

- https://www.worldbank.org/en/topic/waterresourcesmanagement
- https://www.who.int/news/item/18-06-2019-1-in-3-people-globally-do-not-have-access-to-safe-drinking-water-unicef-who
- https://www.fao.org/3/i7959e/i7959e.pdf
- https://www.unicef.org/media/137206/file/triple-threat-wash-EN.pdf

Learn more about the challenge here…

https://wbyouthinnovationchallenge.org

Applications Due February 23rd, 2024