UN 2023 Water Conference Youth Rapporteurs

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Event Title: Why Water Reuse and Desalination are Important for Water Security (side event)

Many competing water needs with increasingly limited resources require creative inspiration for maximizing the benefits while minimizing the usage. Water can no longer have just one use, but be reused with the most value extracted from the beginning until the end. A net 0 water view must be taken where instead of disposing of conventionally seen unusable water such as saltwater or wastewater, it can be instead used for additional purposes. Both water reuse and desalination need to be rapidly scaled and sped up to find their way prominently into green infrastructure. Whether wastewater is discharged into water sources untreated (causing environmental pollution and sanitation problems) or if it is treated, only 4% is reclaimed for a variety of alternative uses. Agriculture is 70% of the world's water budget, but that could be reduced if reclaimed water is utilized for irrigating crops.

Partnerships need to be formed by those in science, economics, industry, politics, and the public to collaborate, provide additional funding, and deliver education on the issue. Though the technology is rapidly improving, a mix of solutions is needed towards alleviating water security issues around the world. Reusing water that has already served one purpose does not warrant increased consumption than usual. Conservation, for lowering demand, is still the priority while reuse and desalination are additional tools for increasing available water resources.

The technology making reuse and desalination possible has become more affordable than before and the cost has been reduced substantially making it more feasible to implement into areas. Though when wastewater effluent is discharged back into a river as the more economical option rather than treating and reusing it for additional uses, it must be questioned whether we are truly valuing water. If a market is found for the byproducts of reuse and desalination, the business profits could offset the operation costs. Brine from desalination could be used in producing concrete and potassium nitrate from wastewater could be used in fertilizers.

Industry can play a significant role in being responsible for their gargantuan water demand by pioneering water reuse approaches, recycling their industrial wastewater, and become a driving force to pave the way. Innovations from food and beverage giant PepsiCo has enabled them to reach closer to their 2030 goals of replenishing their water usage back into watersheds as well as providing safe water access to the nearby communities. Technologies such as improving upon reverse osmosis for desalination or capturing steam from fryers and ovens helps lower their water usage and increase their water reuse.

If the political will is not present between the government, states, and citizens then there will be increased barriers in accomplishing the goal. Though it is a smaller country than most and a coastal country with an abundant availability of seawater, Israel 30 years ago prioritized water and now has one of the forefront desalination facilities in the world. The general public is not aware of the true cost of water since, in most developed countries, municipal water is essentially free and the rate-payers pay for the management and treatment of the water. Increased awareness and communication of water reuse benefits can shift the public's perspective towards more acceptance where it originally may be met with hesitancy. A lack of proper education on the issue is keeping strides from being made towards ensuring a more water secure future.