Achieving a Water Secure World

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Imagine a world in which...

- Every person has enough clean and affordable water to lead a healthy and productive life.
- Every community is protected from water-borne diseases, floods, droughts, and erosion.
- Water is available for healthyecosystems and harnessed for its productive power.
- Water is shared fairly and peacefully across borders.

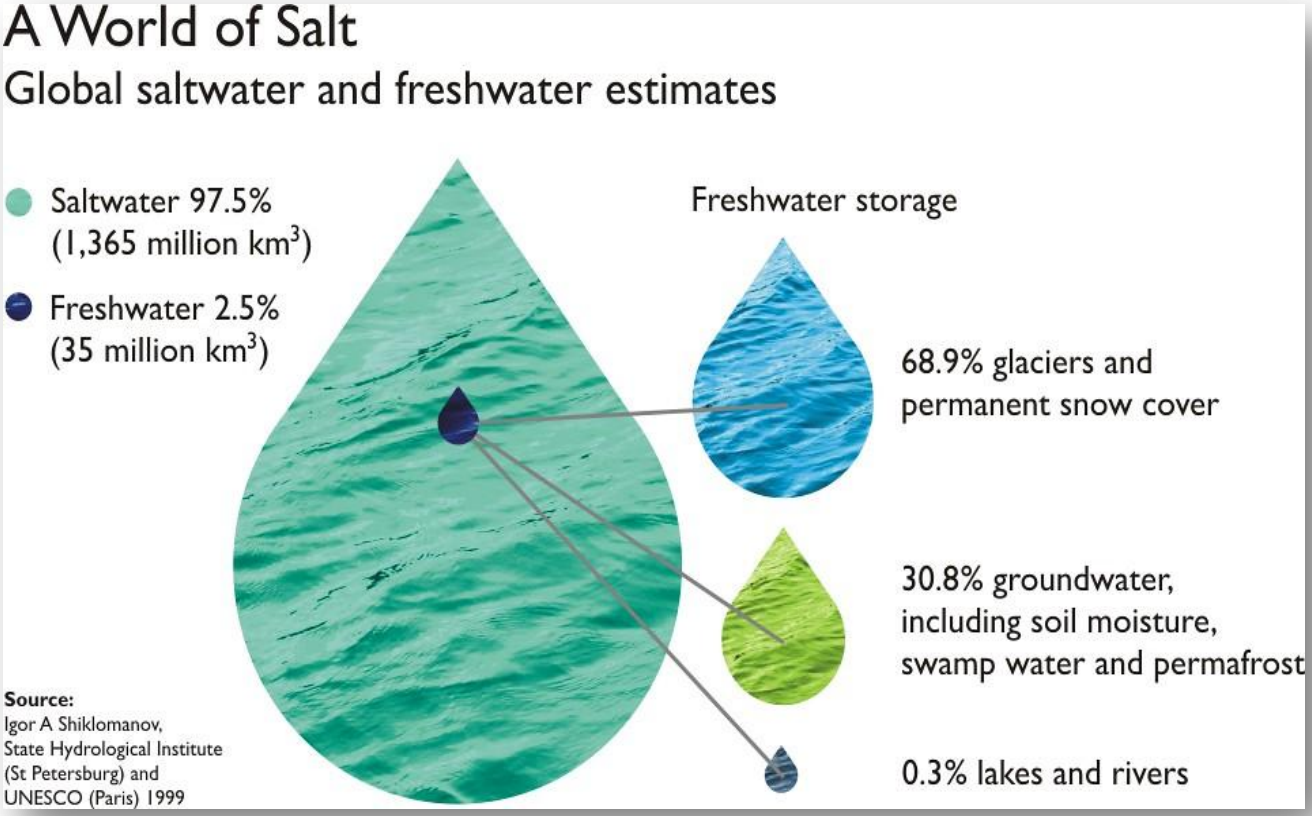
That is a water secure world![1]

Let's start with the usual cliché: water is life. By which we mean we cannot live without it. We're familiar with the most basic need because we all experience it: water to quench our thirst and to clean ourselves. The other obvious need is that water grows food. Water is also needed to make your clothes, supply your electricity and other energy sources, and for virtually every product manufactured by nearly every sector of the economy.

So we're all competing for water on a planet that has the same amount of water today as it has had millions of years ago. With such a 'blue planet', how can we have water crises?

Although 70% of our planet is covered by water, 97.5 percent of it is in the seas and oceans, unfit for human consumption. Of the remaining 2.5%, which is freshwater, nearly 70% is locked in glaciers. The remaining 30% is in surface (rivers, lakes) and groundwater reserves. About 99% of that is groundwater, of which a large proportion is constituted by soil moisture or inaccessible.

[1]The formal definition is: Water security is the capacity of a population to safeguard sustainable access to adequate quantities of acceptable quality water for sustaining livelihoods, human well-being, and socio-economic development, for ensuring protection against water-borne pollution and water-related disasters, and for preserving ecosystems in a climate of peace and political stability. (UN-Water, 2013)



The problem is that water use has grown at more than twice the rate of population. Experts say that by 2030 there will be a gap between sustainable supply and demand for water of 40% – if we carry on the way we do now. Here's another number: 70 percent of freshwater use globally goes to food production. In some places, it is as high as 90 percent!

It's not just the number of people, it's also our lifestyles. As parts of the world become richer, people want more material goods. If you are wearing jeans, water was required to make them (about 7,600 liters for one pair). If you are reading with an electric light, water was needed to provide it. If you are eating a chocolate, water was used for that – and for the packaging it came in. As people grow affluent, they want foods such as meat – more than 15,000 liters to make 1 kilo of beef! –which is much more water-intensive than vegetables. Importing off-season food from elsewhere adds to the *water footprint* of your diet.

We are also overexploiting our groundwater. In some parts of India, for example, underground reserves are drying up. It can take the hydrological cycle hundreds of years, in some cases thousands, to replenish aquifers, and some aquifers contain fossil reserves, which would take much longer to renew. Overexploiting aquifers can also lead to land subsidence, and some of the world's most populous cities are slowly sinking as a result of taking out more groundwater than goes back in.

Damaging the environment also affects freshwater supplies. Forests, for example, capture a lot of water. Cutting them down causes water that would have been captured to instead flow more easily into the sea, sometimes leading to flooding.

Freshwater is not always available where and when we need it. There are places that have poor "water endowments" where there is a physical water shortage – such as North Africa and the Gulf States. On the other hand, we have places rich in water resources, such as countries in South America, but they may not have the financial resources to build water infrastructure – pumps, pipes, reservoirs, treatment plants, dams, etc. So even if they have water, they may not be able to extract it, clean it, and deliver it to human settlements where it is needed.

Climate change is a present and future threat to water. While changing rainfall and weather patterns have always been with us, today there is an increase in the severity and frequency of extreme climate events (floods, droughts, storms) which wreak havoc on crops. Storms damage or destroy water infrastructure such as dams, dikes, and water storage on rooftops. Climate change also harms water supplies through, for example, saltwater contamination of freshwater as sea levels rise.

What can we do?

It is possible to reverse environmental damage and to change behavior. We have seen lakes and rivers cleaned up, we have seen reforestation, and we have seen clean air laws enforced. It's never too late. The environment, while fragile, is also resilient.

There are people working to find technical solutions to our water problems: technological innovations that improve the way we clean water, save it, and use it more efficiently (and re-use it).

Each of us can also act by using less water – shorter showers, energy efficient products, and eating fresh, locally produced food. Many people have given up meat and other foods that require a lot of water. You can also get involved in your local community to find out how it is managing its water.

Which brings us to the big problem about water: most if not all our water crises can be overcome if we get better at managing our water resources. That doesn't happen unless water users (that's all of us) talk about how we manage water. It's a message that the Global Water Partnership (GWP) has been communicating for 25 years: stakeholders (government, civil society, academia, and businesses) must work together to manage water resources across all sectors – agriculture, energy, tourism, industry, education, transport, health, urban development, etc. This approach is called integrated water resources management (IWRM).

The main obstacle to water security is that we are not good at managing our water resources. We waste it. We pollute it. We don't coordinate demand across sectors. We don't maintain investments in infrastructure, so we have, for example, high levels of leaks in our pipes. We are not constructing natural water storage (e.g., restoring ecosystems) or built water storage (e.g., dams). We're not measuring it or checking its quality. Also, there is corruption in the water sector so sometimes investments go to projects that ignore the impact on the water cycle, for example, when developers are given permits to build housing on a natural flood plain.

We need to have difficult conversations about how to allocate water and what trade-offs are involved. Which is why GWP, through its Country and Regional Water Partnerships, brings together various stakeholders to take action on policies and practices. An example of this can be found in another article in the next issue (Issue 30) about GWP Mediterranean.

Fortunately, in 2015, the global community adopted the 2030 Agenda for Sustainable Development at the UN General Assembly. At the core of the 2030 Agenda is a set of 17 Sustainable Development Goals (SDGs) which, for the first time, contains a specific goal on water resources (SDG 6). This puts water high on the political agenda. SDG 6 includes the integrated approach (IWRM) which is why GWP is working hard to get countries to take action on water.

Another step toward sustainable water management is for people to understand that water resources management is critical to long-term economic growth and poverty eradication. Water *insecurity* is estimated to cost the global economy some US$ 500 billion annually. That figure does not take into account the cost of environmental damages. So the total drag on the world economy could be at least 1% or more of global Gross Domestic Product.

Ultimately, sharing the benefits of water requires every sector to work together for *economic* development, *ecosystem* sustainability, and social *equity*, that is, the right of everyone to have access to water of adequate quantity and quality (called the 3 'E's).

Governments need to manage water in a coordinated and planned way. This is what we mean when we say "governance and management of water resources" for sustainable and equitable development. It is about having good policies such as setting goals for water use, protection, and conservation. We need clear legal frameworks, enforceable regulations, competent institutions, and accountability. The key to developing good polices is to do so in a transparent and participatory way, based on the best science available.

Perhaps most important of all, political will is essential. We've got to get our leaders – political and business ones – to place better management of water resources at the top of their agenda.

Let's hope humanity sees this incredibly precious resource as a gift for our livelihoods and our planet's, which, in the end, are inseparable.