A crisis is coming in trade and water, part 2

Water may be saved through trade provided it moves from countries that use water wisely to those lacking water, as a coming water crisis—driven by climate change, neglect of infrastructure, and misguided policies—threatens global economic growth in countries struggling to develop, and in developed countries.

Savings don't refer to the volume of virtual water of the imported product, but to the volume of water the importers would have required to produce the same quantity of product.

Globally, savings represent on average 10% of the 352 cubic kilometers of global freshwater used each year.

Most virtual water goes into agricultural exports rather than industry, and is heavily subsidized to make them competitive.

There is no recognized way to price water, so it reflects demand and supply, and water, both surface and groundwater, is underpriced. The reality is that water resources are becoming more expensive to exploit, and this is not reflected in the price of a final product.

> It all depends on what the government is doing locally. Look at how a developing country tries to balance out the issues around water. It's not necessarily an international trade issue at that stage. It is about just how strong the regulatory system and government intervention are and what kind of trade-off they are making.

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As conventional water sources become scarcer, investment in unconventional supplies—desalinated water, reclaimed water, harvested rainwater, recycled sewage—can become competitive, but this is not sufficient to tackle the issue in the medium term.

The solution is not to limit trade in agriculture, but to encourage companies to look at the water supply and respect the rights of those who have water and want to trade with those who do not, while acknowledging that water is a common good.

> If you put water in there as an important ingredient in shaping international trade, at the WTO, for instance, then you see things a bit differently. Perhaps some of the decisions taken during the negotiation would have been different if water had been included somewhere. And the virtual water concept helps raise awareness, including among negotiators, that the by-product of the negotiation can impact how water is used. So if you want to secure production, secure an efficient water system. We are at the moment understanding the linkages between trade and water. Fortunately, we are getting data to be able to say something and to start speaking the WTO negotiators' language through models and projections—what could happen under these scenarios. But it is still in its infancy and it goes back to the point that the only way we are commodifying water is through bottled water, but that's more for convenience, not generally. You can only buy a bottle of water because of the quality of that, but you would never water your food production with a bottle of water. It makes no sense, right?

Some 2.5 billion people do not have ready access to clean, safe water for drinking, washing, and cooking, and access can be secured only by funding infrastructure projects—drainage, treatment of raw water and wastewater, distribution, abstraction, and storage—but the high cost and low returns of such facilities are not attractive to private investors, leaving the state to foot the bill.

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Access to water of sufficient quantity and quality underpins economic development, and technology, innovation, and hard infrastructure are pivotal in resolving the water crisis.

Investment in infrastructure and services; strong management that articulates planning, distribution, and efficiency; and consistent and adequate regulatory frameworks will help all areas of the economy get the water they need without harming the environment.

Reducing trade barriers and promoting services in the water sector, thereby giving it a cost in production, could make regulators pay more attention to what is perceived to be a plentiful resource, and push them to look at more efficient and cheaper solutions.

Supporting the efficient spread of water technologies is crucial to solving the water crisis.

Singapore has significantly reduced its dependence on water imported from Malaysia by investing in desalination technologies and now serves as a global water research and development hub. Large multinational companies now invest in Singapore to support water technology research.

> Treated water, even sewage water, if treated the right way, is healthier than natural water in many parts of the world. But there is a behavioral gap: you don't want to drink the water that you pissed. We have the technology, the know-how to treat water, either to give it back to the environment or to reuse it. I was in a discussion with a big growing company that made all the effort to increase its water efficiency. They came to a point where, basically, they weren't wasting water anymore. They came to ratios that are outstanding in terms of how much water they put into final products, brilliant technology. And what's the next step? The next step is to reuse our waste water. So instead of sending it to the local wastewater facility run by the municipality, we could use it and put it back into our product. But consumers might say, "No, we don't want waste water, even it is clean, we don't want it in your product. We want clean, natural water." It's a

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> matter of raising awareness and changing the idea. As for technologies being too expensive, it's a false argument. We consider water to be cheap, and people do care about where it comes from, because of the symbolism behind it—it's God's gift. People don't want to pay for water. But if they start paying for water, then start saving it, using it efficiently, eventually technology will become cheaper. Because water is expensive, you can invest in technology because that becomes cost-efficient. [17:21]

Demand for investment is expected to increase rapidly, creating a predictable gap between the current funding capacities and new infrastructure requirements.

Globally, $11.7 trillion has been invested in water facilities and related infrastructure to support the projected growth toward 2030.

The water crisis can be alleviated in several ways, but technology and hard infrastructure will remain pivotal for ensuring equitable and sustainable access.

Cross-border transfers of bulk water are politically sensitive, and having water as a commodity in trade agreements leads to delicate negotiations among states over ownership and sharing.

> Water is such a local issue. I don't want to make too many analogies with oil because oil can be transported and water cannot. Oil has a global price and water does not. We foresee that by 2030 there could be a gap between availability and the demand of water by 40% globally. It's enormous. France might not be lacking 40% of water, but in Africa, whose population is growing extremely rapidly, where infrastructure is lagging, you can imagine the consequences for stability. A pending crisis could be very big, a disaster, and we see that coming. Developed countries are not well equipped for it. The dynamic of climate change which is changing everything, not just around the dynamic of water and its availability but

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> also how we use that water. What we can grow using that water is changing because of climate change.

During the negotiations to conclude the North American Free Trade Agreement (NAFTA), Canada forced the inclusion of a clause in the regional trade agreement to "protect" its freshwater from export.

> When NAFTA was signed between Canada, the United States, and Mexico, they started negotiating tariffs on agricultural products, including the volume of agricultural products. This means that quite a few liters of water, virtual water, would be going across the borders. But Canada also said to the US, I am signing NAFTA but I'll never ship my fresh water to the US. And that's interesting because as they are shipping cereal and other food products, they are actually shipping water. But they would be very emotional about shipping bulk fresh water, in bottles, through pipes, through cars, maybe even through a river. People don't see the footprint produced and the fact that everything you produce uses water. Water is being traded. The problem is that the price of that water is not reflected as an input, like labor, like capital, like land. The concept of virtual water does not just measure the water content of a product. Say your T-shirt requires 10,000 liters of water to produce. Each kilogram of the meat you eat is 8,000 liters of water. Your bowl of cereal is actually 3,000 liters of water, an enormous amount behind what you eat.

But water is hardly ever traded as such. Notable examples of cross-country water transfers are projects between the south of France and the autonomous region of Catalonia in Spain, and between South Africa and Lesotho.

Most large-scale transfers still occur domestically. The People's Republic of China is finalizing the largest network of pipelines in history to transfer water from the north to the south of the country, at a total length of 4,350 kilometers.

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But water can flow easily between trade partners through imports and exports when it is accounted for as a production factor.

That's how parched countries like Australia and India can be major exporters of virtual water. Even though Australia's freshwater withdrawals represent just 3% of its total renewable water resources, water shortages could come at a high price for the continued growth of the country.

The southeast of Australia is constrained by reduced rainfall, affecting wheat production. Some 80% of the wheat produced in that region is for export. A major buyer of Australian wheat is Japan, a country that, given its size, geography, and hydrogeology, is crucially lacking both land and water and relies on virtual water to ensure its food sufficiency.

The water crisis in several regions of Australia has prompted its government to profoundly revise its water management to redirect water to uses that have higher value. This does not necessarily exclude international agricultural trade, which accounts for much of Australia's economic stability.

Water is too often considered an insignificant share of production cost, which doesn't reflect water's scarcity and the cost of making water available. International trade can help alleviate the water crisis through the concept of virtual water.

Reallocating water to higher-value uses, to get the most productivity from a limited resource, at the country and regional level, with coordinated trade, and trade policies, will help balance out the global water supply.

> We need to involve the private sector more in finding cost-efficient ways to resolve the problem. We go back to the same issue: water is underpriced, undervalued. It is too easy to say it is a local problem with a local solution. What can you do at the regional level, meaning Southeast Asia, North America, Central

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America, Western Europe, Eastern Europe. What can you do at the regional and global level to prevent that water crisis? People are thinking about ways to accompany good local practices at the global level because it is no good that all the local efforts are not accompanied by global efforts.

This is the last part of a two-part interview with Alexandre le Vernoy, a consultant at Groupe d'Economie Mondiale. He explains these concerns further in *Win-Win—How International Trade Can Help Meet the Sustainable Development Goals*, a landmark study by ADBI.

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