

SDG 6: Clean Water and Sanitation

KEY POINTS

- Trade can provide the means to disseminate the technologies needed for better water management. It can help to scale up solutions and spread best practices with regard to water management as goods producers connect through supply chains.
- Trade in water services can help attract the investments needed to build or maintain public water supply and sanitation utilities. Trade can also provide access to innovative and competitive technologies that increase the efficiency of sanitation and wastewater management.
- WTO Director-General Okonjo-Iweala participated in the UN Water Conference in March 2023 and is a co-chair of the Global Commission on the Economics of Water.
- While water itself is mostly not traded, indirect trade in water – particularly as embedded in traded agricultural goods – can play an important role in saving water resources and enhancing food security.

Trade policies and trade measures for water conservation and management

Water is assumed by many to be provided by nature and available to all for free, but, in reality, water access cannot be taken for granted. Water resources are distributed unevenly across the globe. Furthermore, its supply is significantly affected by climate change, deforestation, and pollution. Trade and trade policies can play a role in addressing these challenges, especially in economies most vulnerable to extreme weather events, water or food scarcity and climate shocks. As developed further in the 2022 World Trade Report, the removal of unnecessary barriers to trade could significantly augment the potential of trade, finance, investment and access to technologies, and could help reduce costs and exposure to climate-induced shocks (WTO, 2022b).

Trade can facilitate the development and deployment of goods, services and technologies, such as drought-resistant crop varieties, drip or other irrigation, and water conservation and storage systems. There is WTO interest in initiatives on environmental goods and services, and 74 WTO members are actively engaged in the Trade and Environmental Sustainability Structured Discussions. Trade in environmental products could contribute

to the diffusion of water resource management and conservation technologies and products, including the design, construction, installation or provision of technologies and products related to water supply. It may also support water pollution management technologies and products, such as those needed for wastewater treatment management and for tackling water pollution (Muller and Bellmann, 2016; WTO, 2022b).

The WTO Environmental Database (EDB)⁵ is a repository of WTO members' environment-related notifications and information drawn from their trade policy reviews.⁶ Between 2009 and 2021, 1,486 trade measures were notified and tagged in the EDB with the environment-related objective of "water conservation and management". WTO members have mostly deployed support measures, in the form of grants and non-monetary initiatives (27.1 per cent and 26.8 per cent, respectively, of the notified measures) to incentivize effective management of water resources.

With 70–80 per cent of the world's freshwater allocated to agricultural purposes, there is a strong focus on agriculture, with more than half of such trade measures for water conservation or management (52.3 per cent) notified under the WTO Agreement for Agriculture, and the rest being notified under the WTO Agreement on Subsidies and Countervailing Measures (22.8 per cent) and the WTO Technical Barriers to Trade (TBT)

Agreement (21.7 per cent) and dealing with technical specifications, standards, and conformity assessment procedures. Measures taken by developing economies and least-developed countries (LDCs) account for 43.8 per cent of the notifications tagged on water conservation and management.

The Enhanced Integrated Framework – a partnership of economies, donors and partner agencies, including the WTO, that assists LDCs – and the WTO Aid for Trade initiative include projects to help countries mobilize support and build trade-related capacities for initiatives such as climate adaptation, irrigation and water conservation and management. Examples of such projects are the provision of greenhouses and hail nets to small farmers in Lesotho to promote resilience to changing weather patterns, and mapping landslide risk and promoting sustainable soil and water management in Timor-Leste to enhance coffee-growing communities' adaptation to and preparedness for climate change (WTO, 2022b).

Thus, there is ample scope to examine how trade policy can improve the economics of water rights. In many sectors, trade distortions are also economic distortions, and there is need for coherence between trade and economic policies. Trade may also be key to adaptation as it directly – or indirectly, through trade in embedded agricultural or other products – allows for movement of water resources from areas with surplus to those facing scarcity.

Water supply and sanitation services

Services play a significant role in the sustainable management of water and sanitation, which concerns not only the supply of water services *per se*, but also various other relevant services.

Water services consist of the supply of water for consumption and the treatment of wastewater, and water supply involves the capture of the resource, its treatment to reach a determined level of quality, transportation through a primary network (aqueducts or mains) and delivery to users through a secondary network (pipelines and taps).

Wastewater services entail the removal of sewage through pipes and drains and its chemical, physical and/or biological treatment to remove contaminants and make the water content available for reuse or release into the environment. The supply of water services entails the building of infrastructure and the operation of specialized processes with complex technologies, which necessarily implicate a wide range of other services including design, engineering and construction, installation, maintenance and repair, and technical analysis and testing services.

Given that water services require costly infrastructure, most of which is laid underground and entails large, fixed costs, water services are traditionally operated by local public authorities, and the scope for the introduction of competition is more limited than for other infrastructure services, such as telecommunications. The last two or three decades have seen the increase of private investment in the water sector across the globe. The involvement of the private sector can take several forms, ranging from public-private partnerships (PPPs) to full privatization. In this context, trade in water services, in particular the supply of water services involving foreign direct investment (corresponding to mode 3 of the General Agreement on Trade in Services (GATS) modes of supply),⁷ has gained more room to develop.⁸

Developing economies facing challenges of sustainability and financial viability may consider PPPs as an option to improve their water supply and sanitation services. In this context, trade in water services can help bring in investment needed for the building or maintenance of public utilities. Trade can also provide access to innovative and competitive technologies that increase the efficiency of sanitation and wastewater management.

The UN 2023 Water Conference and the Global Commission on the Economics of Water

The UN 2023 Water Conference,⁹ which was co-hosted by the Netherlands and Tajikistan in March 2023, marked a watershed moment. Following a gap of nearly 50 years – the only previous UN Water Conference having been held in 1977 – global leaders and key policymakers engaged on water. One of the main outcomes from the UN 2023 Water Conference was the Water Action Agenda,¹⁰ which collected over 700 commitments from member states, inter-governmental organizations (IGOs), non-governmental organizations (NGOs) and other stakeholders.

WTO Director-General Okonjo-Iweala participated in the Plenary Interactive Dialogue¹¹ of the UN 2023 Water Conference on the subject of Water for Sustainable Development, as well as in a number of other high-level events.

Director-General Okonjo-Iweala also engaged with the media and with other stakeholders in her capacity as co-Chair of the Global Commission on the Economics of Water.¹² At the UN 2023 Water Conference, the Commission published its preliminary findings in "Turning the Tide: A Call to Collective Action" (Mazzucato et al., 2023), a basis for its final report, which is to be published in May 2024.

International trade in water

Water itself is mostly not traded, at least not directly in large volumes or values. There is, however, growing interest in indirect trade in water, particularly as embedded in traded agricultural goods. Among the thousands of goods traded and listed in the Harmonized System (HS) of commodity classification used to codify international trade and tariffs, only HS 2201 (*Waters, including natural or artificial mineral waters and aerated water (...); ice and snow*) is explicitly a traded product, with a merchandise export volume of 871 billion litres or 926 billion tonnes, and merchandise export value of US\$ 3.7 billion in 2020, according to the UN Comtrade Database.¹³ The top five exporters are France, China, Italy, the United States and Belgium, and the top five importers are the United States, Hong Kong (China), Belgium, Germany and Japan. Globally, the average WTO bound ceiling tariff and the actual applied tariff on beverage waters (HS 220110) are 53 per cent and 22 per cent, respectively (WTO, 2022c).

However, this trade in water does not imply that fresh water supplies are evenly distributed globally. There are economies, or regions within economies, with water scarcity, and others with water abundance. International trade could potentially help to alleviate local problems of water scarcity by moving resources to where they are most needed, but for economic, political or environmental reasons, economies may be unable or unwilling to do so. Large-scale shipments of water are essentially non-existent. Reasons for the lack of this trade are also technical, as water is bulky and difficult to transport (WTO, 2010; Temmerman, 2017).

There is also the concept of virtual water trade. In theory, trade in “virtual water” would suggest that countries facing freshwater scarcity could import more water-intensive products and export less water-intensive products. However, trading in virtual water can also enhance water inequalities if water-scarce countries decide to export water-intensive commodities themselves. It can also create the risk of maladaptation unless countries fully account for the opportunity costs of freshwater use.

The main user of freshwater is the agriculture sector, which accounts for 70–80 per cent of global water use. Importing water-intensive commodities, instead of producing them with local water, could therefore be considered as an integral part in policies that aim to increase food security and nutrition in water-constrained countries. Globally, virtual water trade could play an important role in saving water resources and enhancing food security if trade flows are directed from regions with higher water productivity to those with lower productivity. Estimates suggest that trade in agricultural products results in water saving of 369 billion cubic meters, equivalent to 4 per cent of global water use.¹⁴ Some studies show small to substantial increases in global

virtual water flows owing to trade liberalization, with increasing imports of water-intensive goods and shifts to less water-intensive activities by water-scarce regions, and increased water-intensive exports by relatively water-abundant regions (FAO, 2022). However, most studies on the relationship between international trade and national water endowments demonstrate that other factors, such as labour, capital, land endowment and access to arable land, farming structure, technology and agricultural policies are more important than water availability in determining agricultural and virtual water trade patterns (FAO, 2022).

Another limiting factor in the concept of virtual water is the fact that the price of freshwater used in agriculture or other sectors generally does not reflect its economic value, nor the environmental externalities associated with its use. This distortion can lead to sub-optimal distribution of production and international trade flows from an economic and an environmental point of view. Aligning trade and sustainable water use is therefore also critical in order to improve global water governance.