

# World making PEACE, not war over water



Europe's Danube River is shared by 16 riparian countries.

**“Since 1820, more than 680 water treaties and other water-related agreements have been signed, with more than half of these concluded in the past 50 years.”**

There is no evidence that wars are looming between governments over shortages of water. This is according to researchers writing in *A World of Science*, a periodical published by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) in January.

In fact, conflicting parties are far more likely to cooperate over water issues as research has shown. Between 1945 and 2008 cooperative events between riparian states outnumbered conflicts by more than 2:1.

Authors of the article, ‘The key to managing conflict and cooperation over water’, say that water has been a productive pathway for building confidence, developing cooperation and preventing conflict, even in particularly contentious basins. The authors are Annika Kramer, Aaron T Wolf, Alexander Carius and Geoffrey D Dabelko. “In some cases, water provides one of the few paths for dialogue in otherwise heated bilateral conflicts. In politically unsettled regions, water is an essential part of regional development negotiations, which serve as de facto conflict-prevention strategies.”

This statement is significant, especially given the fact that the territory of 148 nations falls within international basins and more than 30 countries are located almost entirely within these basins. The high level of interdependence is illustrated by the number of countries sharing

each international basin – in the case of the Danube River there are 19 riparian nations, while 11 countries share the water of the Nile River.

International basins that include political boundaries of two or more countries cover around 45% of the Earth’s land surface, hosts about 60% of the world’s population and account for around 60% of global river flow. According to the researchers the number is growing: in 1978, the United Nations listed 214 international basins; today there are 276, largely due to the internationalisation of basins through political changes, such as the break-up of the Soviet Union, as well as improved mapping technology.

“The high number of shared rivers, combined with increasing water scarcity for growing populations, led many politicians and headlines to trumpet coming ‘water wars,’” The authors note. “In 1995, for example, former World Bank Vice President Ismail Serageldin claimed that ‘the wars of the next century will be about water’. Elaborate, if misnamed, ‘hydraulic imperative’ theories cite water as the prime motivation for military strategies and territorial conquests, particularly in the on-going conflict between Arabs and Israelis.”

However, there is no evidence to support this scenario, the authors say. “While water supplies and infrastructure have often served as military tools or targets, no states have gone to

war specifically over water resources since the city-states of Lagash and Umma fought each other in the Tigris-Euphrates Basin in 2500 BCE (before current era).”

Instead, according to the Food & Agriculture Organisation of the United Nations, more than 3 600 water treaties were signed from 805 to 1984 CE. Whereas most were related to navigation, over time, a growing number addressed water management, including flood control, hydropower projects or allocations in international basins. Since 1820, more than 680 water treaties and other water-related agreements have been signed, with more than half of these concluded in the past 50 years.

Researchers at Oregon State University have compiled a dataset of every reported interaction, be it conflictive or cooperative, between two or more nations where water was the driver of the interaction. Their analysis highlights four key findings. Firstly, despite the dispute in international basins, the incidence of acute conflict over international water resources is overwhelmed by the rate of cooperation. Secondly, despite the fiery rhetoric of politicians, moat actions taken over water are mild. Thirdly, there are more issues of cooperation than of conflict. Lastly, despite the lack of violence, water acts as both an irritant and a unifier.

“The historical record proves that international water disputes do get

resolved, even among enemies and even as conflicts erupt over other issues. Some of the world's most vociferous enemies have negotiated water agreements or are in the process of doing so and the institutions they have created often prove to be resilient, even when relations are strained."

The article points to the example of southern Africa where a number of river basin agreements were signed when the region was embroiled in a series of local wars in the 1970s and 1980s, including the conflict in South Africa, and the civil wars in Mozambique and Angola. Although negotiations were complex, the authors say, the agreements were rare moments of peaceful cooperation between many of the countries.

"After most of the wars and the apartheid era had ended, water proved to be one of the foundations for cooperation in the region. In fact, the 1995 Protocol on Shared Water-course Systems was the first protocol to be signed within the Southern African Development Community."

The key to successful transboundary water cooperation is strong institutional capacity. Naturally arid countries cooperate on water: to live in a water-scarce environment, people adapt to it by developing institutional strategies – formal treaties, informal working groups or generally warm relations, the authors point out.

"Institutions responsible for managing water resources have to be strong to balance conflicting interests over allocation and to manage water scarcity, which is often the result of previous mismanagement. These institutions can even become a matter of dispute themselves. In international river basins, water management typically fails to manage conflicts when there is no treaty spelling out each nation's rights and responsibilities with regard to the shared river, nor any implicit agreements or cooperative arrangements.

"Similarly, at the national and local levels, it is not the lack of water that leads to conflict but the way it is

governed and managed. Many countries need stronger policies to regulate water use and enable equitable and sustainable management."

In countries without a formal system of water use permits or adequate enforcement and monitoring, more powerful water users can override the customary rights of local communities. "If institutions allocate water inequitably between social groups, the risk of public protest and conflict increases."

The example is again taken from the tip of Africa, where in South Africa the former apartheid government allocated water in favour of white voters. According to the authors, this 'ecological marginalisation' heightened the black population's grievances and contributed to social instability.

Another important tool for effective transboundary water management is a reliable database, including meteorological, hydrological and socio-economic data. Hydrological and meteorological data collected upstream are crucial for decision-making downstream. "In emergencies like floods, this information is essential to protect human and environmental health. Tensions between different water users can emerge when information is not exchanged."

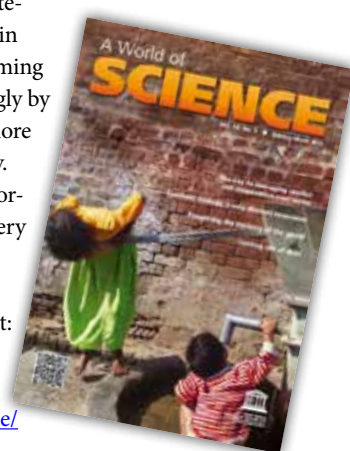
Thankfully, most disputes are resolved peacefully and cooperatively, even if the negotiation process is lengthy. Cooperative water management mechanisms can anticipate conflict and solve smouldering disputes, provided that all stakeholders are included in the decision-making process and given the necessary information, trained staff and financial support to act as equal partners.

According to the authors, cooperative management mechanisms can reduce conflict potential by, among others, providing a forum for joint negotiations; considering different perspectives and interests to reveal

new management options; building trust and confidence through collaboration and joint fact-finding; and making decisions that are much more likely to be accepted by all stakeholders, even if consensus cannot be reached.

The authors note that water cooperation might have to take a different approach in future. As exploitation of the world's water supplies increases, quality is becoming a more serious problem than quantity and water use is shifting to less traditional sources, such as deep fossil aquifers, wastewater reclamation and inter-basin transfers. "Conflict, too, is becoming less traditional driven increasingly by internal or local pressures, or, more subtly, by poverty and instability. These changes suggest that tomorrow's water disputes may look very different from today's."

- To access the full article, Visit: [www.unesco.org/new/en/natural-sciences/resources/periodical/a-world-of-science/vol-11-n-1/](http://www.unesco.org/new/en/natural-sciences/resources/periodical/a-world-of-science/vol-11-n-1/) □



*Africa's shared river basins.*