Woodrow Wilson International Center for Scholars

JULY 2006
NO. 1

Navigating Peace

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The Environmental Change and Security Program's Navigating Peace Initiative, supported by the Carnegie Corporation of New York and led by ECSP Director Geoffrey Dabelko, seeks to generate fresh thinking on the world's water problems in three areas:

- Expanding opportunities for small-scale water and sanitation projects;
- Analyzing water's potential to spur both conflict and cooperation; and
- Building dialogue and cooperation between the United States and China using lessons from water conflict resolution.

WATER CAN BE A PATHWAY TO PEACE, NOT WAR

By Aaron T. Wolf, Annika Kramer, Alexander Carius, and Geoffrey D. Dabelko

"Water wars are coming!" the newspaper headlines scream. It seems obvious—rivalries over water have been the source of disputes since humans settled down to cultivate food. Even our language reflects these ancient roots: "rivalry" comes from the Latin *rivalis*, or "one using the same river as another." Countries or provinces bordering the same river (known as "riparians") are often rivals for the water they share. As the number of international river basins (and impact of water scarcity) has grown so do the warnings that these countries will take up arms to ensure their access to water. In 1995, for example, World Bank Vice President Ismail Serageldin claimed that "the wars of the next century will be about water."

These apocalyptic warnings fly in the face of history: no nations have gone to war specifically over water resources for thousands of years. International water disputes—even among fierce enemies—are resolved peacefully, even as conflicts erupt over other issues. In fact, instances of cooperation between riparian nations outnumbered conflicts by more than two to one between 1945 and 1999. Why? Because water is so important, nations cannot afford to fight over it. Instead, water fuels greater interdependence. By coming together to jointly manage their shared water resources, countries can build trust and prevent conflict. Water can be a negotiating tool, too: it can offer a communication lifeline connecting countries in the midst of crisis. Thus, by crying "water wars," doomsayers ignore a promising way to help *prevent* war: cooperative water resources management.

Of course, people compete—sometimes violently—for water. Within a nation, users—farmers, hydroelectric dams, recreational users, environmentalists—are often at odds, and the probability of a mutually acceptable solution falls as the number of stakeholders rises. Water is never the single—and hardly ever the major—cause of conflict. But it can exacerbate existing tensions. History is littered with examples of violent water conflicts: just as Californian farmers bombed pipelines moving water from Owens Valley to Los Angeles in the early 1900s, Chinese farmers in Shandong clashed with police in 2000 to protest government plans to divert irrigation water to cities and industries. But these conflicts

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Number of Countries Sharing a River Basin

NUMBER OF COUNTRIES	INTERNATIONAL BASINS
3	Asi (Orontes), Awash, Cavally, Cestos, Chiloango, Dnieper, Dniester, Drin, Ebro, Essequibo, Gambia, Garonne, Gash, Geba, Har Us Nur, Hari (Harirud), Helmand, Hondo, Ili (Kunes He), Incomati, Irrawaddy, Juba-Shibeli, Kemi, Lake Prespa, Lake Titicaca-Poopo System, Lempa, Maputo, Maritsa, Maroni, Moa, Neretva, Ntem, Ob, Oueme, Pasvik, Red (Song Hong), Rhone, Ruvuma, Salween, Schelde, Seine, St. John, Sulak, Torne (Tornealven), Tumen, Umbeluzi, Vardar, Volga, and Zapaleri
4	Amur, Daugava, Elbe, Indus, Komoe, Lake Turkana, Limpopo, Lotagipi Swamp, Narva, Oder (Odra), Ogooue, Okavango, Orange, Po, Pu-Lun-T'o, Senegal, and Struma
5	La Plata, Neman, and Vistula (Wista)
6	Aral Sea, Ganges-Brahmaputra-Meghna, Jordan, Kura-Araks, Mekong, Tarim, Tigris and Euphrates (Shatt al Arab), and Volta
8	Amazon and Lake Chad
9	Rhine and Zambezi
10	Nile
11	Congo and Niger
17	Danube

Note: From "International River Basins of the World" by Aaron T. Wolf et al., 1999, *International Journal of Water Resources Development 15*(4), 387–427. Adapted with permission of the author.

usually break out *within* nations. International rivers are a different story.

The world's 263 international river basins cover 45.3 percent of Earth's land surface, host about 40 percent of the world's population, and account for approximately 60 percent of global river flow. And the number is growing, largely due to the "internationalization" of basins through political changes like the breakup of the Soviet Union, as well as improved mapping technology. Strikingly, territory in 145 nations falls within international basins, and 33 countries are located almost entirely within these basins. As many as 17 countries share one river basin, the Danube.

Contrary to received wisdom, evidence shows this interdependence does not lead to war. Researchers at Oregon State University compiled a dataset of every reported interaction (conflictive or cooperative) between two or more nations that was driven by water in the last half century

(see chart). They found that the rate of cooperation overwhelms the incidence of acute conflict. In the last 50 years, only 37 disputes involved violence, and 30 of those occurred between Israel and one of its neighbors. Outside of the Middle East, researchers found only 5 violent events while 157 treaties were negotiated and signed. The total number of water-related events between nations also favors cooperation: the 1,228 cooperative events dwarf the 507 conflict-related events. Despite the fiery rhetoric of politicians—aimed more often at their own constituencies than at the enemy—most actions taken over water are mild. Of all the events, 62 percent are verbal, and more than two-thirds of these were not official statements.

Simply put, water is a greater pathway to peace than conflict in the world's international river basins. International cooperation around water has a long and successful history; some of the world's most vociferous enemies have negotiated water agreements. The institutions they have created are resilient, even when relations are strained. The Mekong Committee, for example, established by Cambodia, Laos, Thailand, and Vietnam in 1957, exchanged data and information on the river basin throughout the Vietnam War.

Israel and Jordan held secret "picnic table" talks to manage the Jordan River starting in 1953, even though they were officially at war from 1948 until the 1994 treaty. The Indus River Commission survived two major wars between India and Pakistan. And all 10 Nile Basin riparian countries are currently involved in senior government–level negotiations to develop the basin cooperatively, despite the verbal battles conducted in the media. Riparians will endure such tough, protracted negotiations to ensure access to this essential resource and its economic and social benefits.

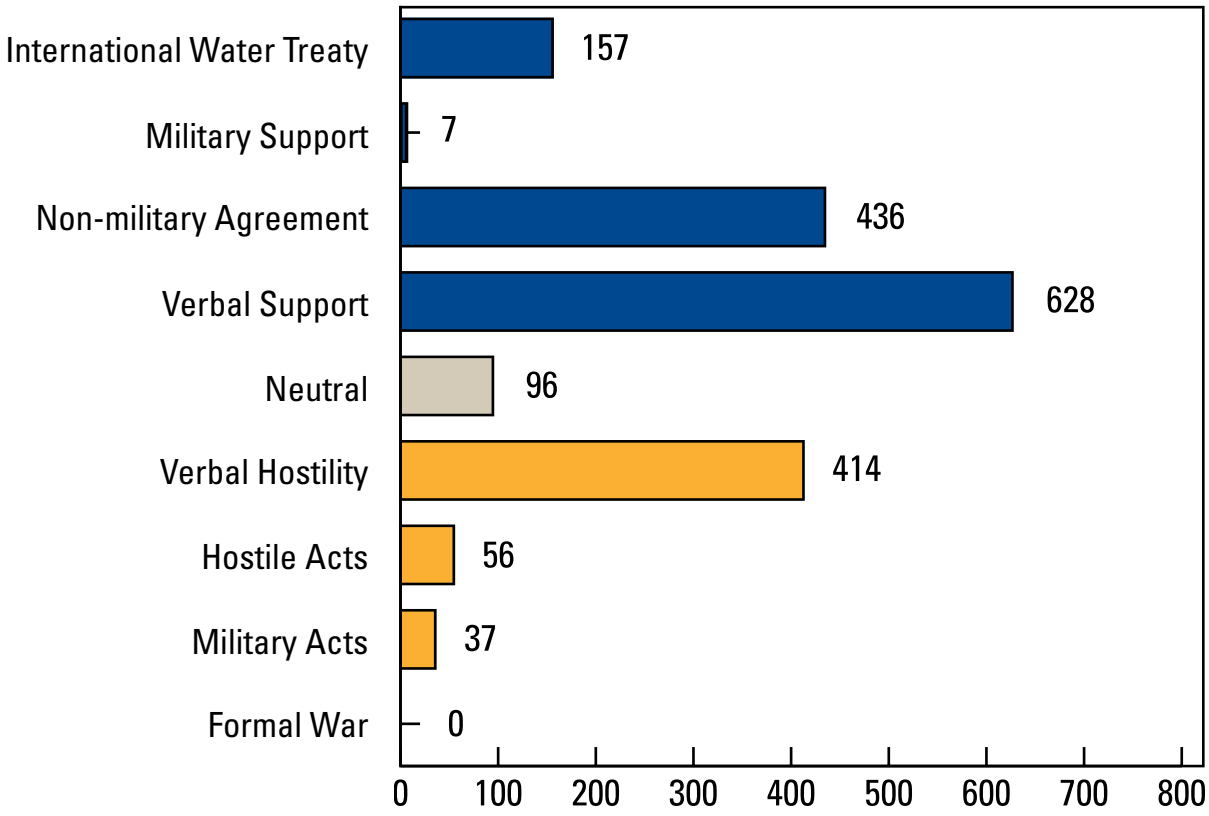
Southern African countries signed a number of river basin agreements while the region was embroiled in a series of wars in the 1970s and 1980s, including the "people's war" in South Africa and civil wars in Mozambique and Angola. These complex negotiations produced rare moments of peaceful cooperation. Now that most of the wars and the apartheid era have ended, water management forms one of the foundations for cooperation in the region, producing one of the first protocols signed within the Southern African Development Community (SADC).

Today, more than ever, it is time to stop propagating threats of "water wars" and aggressively pursue a water peacemaking strategy. Why?

- "Water wars" warnings force the military and other security groups to take over negotiations and push out development partners, like aid agencies and international financial institutions.
- Water management offers an avenue for peaceful dialogue between nations, even when combatants are fighting over other issues.
- Water management builds bridges between nations, some with little experience negotiating with each other, such as the countries of the former Soviet Union.
- Water cooperation forges people-to-people or expert-to-expert connections, as demonstrated by the transboundary water and sanitation projects Friends of the Earth Middle East conducts in Israel, Jordan, and Palestine.
- A water peacemaking strategy can create shared regional identities and institutionalize cooperation on issues larger than water, as exemplified by the formation of SADC in post-apartheid southern Africa.

Good governance—the lack of corruption—is the basic foundation for the success of any agreement. Obviously, money is also a big challenge. But good governance and money are not

1,700 State-to-State Water Interactions in Transboundary Basins, 1946-1999



Note: The data are from "International Waters: Identifying Basins at Risk" by Aaron Wolf, Shira Yoffe, and Marc Giordano, 2003, *Water Policy 5*(1), 31-62. Adapted with permission of the author.

enough. Several policy initiatives could help peacemakers use water to build peace:

1. **Identify and utilize more experienced facilitators who are perceived as truly neutral**. The World Bank's success facilitating the Nile Basin Initiative suggests they have skills worth replicating in other basins.

2. **Be willing to support a *long* process that might not produce quick or easily measurable results**. Sweden's 20-year commitment to Africa's Great Lakes region is a model to emulate. Typical project cycles—often governed by shifting government administrations or political trends—are not long enough.

3. **Ensure that the riparians themselves drive the process**. Riparian nations require funders and facilitators who do not dominate the process and claim all the glory. Strengthening less powerful riparians' negotiating skills can help prevent disputes, as can strengthening

the capacity of excluded, marginalized, or weaker groups to articulate their interests.

4. **Strengthen water resource management**. Capacity building—to generate and analyze data, develop sustainable water management plans, use conflict resolution techniques, or encourage stakeholder participation—should target water management institutions, local nongovernmental organizations, water users' associations, and religious groups.

5. **Balance the benefits of closed-door, high-level negotiations with the benefits of including all stakeholders—NGOs, farmers, indigenous groups—throughout the process**. Preventing severe conflicts requires informing or explicitly consulting all relevant stakeholders before making management decisions. Without such extensive and regular public participation, stakeholders might reject projects out of hand.

Water management is, by definition, conflict management. For all the 21st century wizardry—dynamic modeling, remote sensing, geographic information systems, desalination, biotechnology, or demand management—and the new-found concern with globalization and privatization, the crux of water disputes is still little more than opening a diversion gate or garbage floating downstream. Obviously, there are no guarantees that the future will look like the past; water and conflict are undergoing slow but steady changes. An unprecedented number of people lack access to a safe, stable supply of water. Two to five million people die each year from water-related illness. Water use is shifting to less traditional sources such as deep fossil aquifers and wastewater reclamation. 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.

No matter what the future holds, we do not need violent conflict to prove water is a matter of life and death. Water—being international, indispensable, and emotional—can serve as a cornerstone for confidence building and a potential entry point for peace. More research could help identify exactly how water best contributes to cooperation. With this, cooperative water resources management could be used more effectively to head off conflict and to support sustainable peace among nations.

BIOGRAPHIES

Aaron T. Wolf is professor of geography in the Department of Geosciences at Oregon State University and director of the Transboundary Freshwater Dispute Database. **Annika Kramer** is research fellow and **Alexander Carius** is director of Adelphi Research in Berlin. **Geoffrey D. Dabelko** is the director of the Environmental Change and Security Program at the Woodrow Wilson International Center for Scholars in Washington, D.C.

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The **Environmental Change & Security Program** (ECSP) promotes dialogue on the connections among environmental, health, and population dynamics and their links to conflict, human insecurity, and foreign policy. ECSP focuses on four core topics:

- Population, health, and environment;
- Environment and security;
- Water; and
- Environmental and energy challenges in China.

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Editor: Meaghan Parker
Production & Design: Jeremy Swanston
Photograph: Dead Sea © Avner Vengosh

ENVIRONMENTAL CHANGE AND SECURITY PROGRAM
Woodrow Wilson International Center for Scholars
One Woodrow Wilson Plaza
1300 Pennsylvania Avenue, NW

Tel: 202-691-4000
Fax: 202-691-4001
ecsp@wilsoncenter.org

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This report is made possible by the generous support of the Carnegie Corporation of New York. The contents are the responsibility of Woodrow Wilson International Center for Scholars; views expressed in this report are not necessarily those of the Center's staff, fellows, trustees, advisory groups, or any individuals or programs that provide assistance to the Center.

Source: Worldwatch Institute, www.worldwatch.org, *State of the World 2005*.

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