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## Rivers and conflict

### Streams of blood, or streams of peace

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#### **Talk of thirsty armies marching to battle is surely overdone, but violence and drought can easily go together**

WHEN Ban Ki-moon, the UN secretary-general, was asked to ponder the future of the world before an audience of powerful businessmen and politicians, at a meeting in Switzerland earlier this year, he could have chosen any topic he liked. What he focused on was both a hoary old favourite, and a newly popular preoccupation, of debates on world affairs: the rising risk of wars over fresh water, as populations increase and the world gets drier.

"As the global economy grows, so will its thirst...many more conflicts lie over the horizon," he said, after deploring the fact that "too often, where we need water, we find guns." Mr Ban wasn't the first to sound the alarm. In 2006 John Reid, who was then British defence secretary, triggered headlines such as "Water wars loom" after disclosing that a unit at his ministry was preparing for a world of battles over life's most basic necessity. And warnings have been issued by people closer to the edge of contested waters. After making peace with Israel in 1979, the late President Anwar Sadat said that henceforth Egypt would not wage war, except over water.

But is the idea of countries marching to battle to get water, or to defend it, really plausible? Researchers at Oregon State University say they have found evidence to the contrary, showing that the world's 263 trans-boundary rivers (whose basins cover nearly half the land surface of the world) generate more co-operation than conflict. Over the past half-century, 400 treaties had been concluded over the use of rivers. Of the 37 incidents that involved violence, 30 occurred in the dry and bitterly contested region formed by Israel and its neighbours, where the upper end of the Jordan river was hotly disputed, and skirmished over, before Israel took control in the 1967 war. And some inter-state water treaties are very robust. The Indus river pact between India and Pakistan survived two wars and the deep crisis of 2002.

Where the doom-mongers do have a point is this: drought, desertification and food shortage are among the factors that foment conflict within states by tipping some areas, at least, into social collapse. The drying up of old grazing lands, once shared by Arab herders and African farmers, is one of the things that pushed Sudan's west into chaos and misery.

But what about war between nations that more-or-less function? For anyone who takes a cynical view of the causes of war, water seems a less likely agent than say, oil or diamonds. For dictators or warlords (the sort who sponsored or prolonged ghastly wars in Congo and Angola), water is less enticing than minerals or gems. It is harder to steal and sell.

But conflicts of interest over water can certainly poison inter-state relations, even when an imbalance of power is so great that the aggrieved party could never consider using force. Mark Zeitoun, a Canadian scholar at the London School of Economics, says rivers provide a perfect case of "asymmetrical co-operation" between countries that are forced to work together on terms dictated by the strongest. Take the Nile, where the main riparian states, Egypt, Sudan, Uganda and Ethiopia, or their colonial masters have been watching each other's water use closely for a century at least—and Egypt usually gets its way.

The Nile is vast. Geographers still argue over exactly where the White Nile rises. Its tributaries and tendrils extend over a tenth of Africa's surface, and 160m people live in the river basin, in ten countries. That number is predicted to double within a few decades. These pressures, and Egypt's record of posturing and occasional threats, have been cited by some as a harbinger of war.



Under successive regimes, Egypt has been protective of a 1959 agreement that divides the uses of the lower Nile between itself and Sudan. It has used its diplomatic muscle, and its influence at the World Bank, to prevent any water projects in Ethiopia that would restrict the river's flow.

A wild card, these days, is China, which is unconstrained by World Bank diplomacy and would enrage Egypt if it ever helped the Ethiopians divert part of the Blue Nile to agriculture. Even as Egypt has softened its public stance and reached out to its riparian partners, its intelligence is active in the Horn of Africa.

Still, no medium-sized country in its right mind would fight China over water, whether the dispute was far from the Middle Kingdom or right on its borders.

There is certainly a mounting conflict of interest between China and some neighbours over the use of two rivers that rise in Xinjiang, a region that the government in Beijing wants to develop and populate. The Chinese have diverted part of the Irtysh river, which feeds Russia's Ob river and ends up in the Arctic, to a canal supplying the booming oil town of Karamai. And China is also making more use of the Ili river, which

ends up in Kazakhstan's Lake Balkhash, a vast, shallow expanse. Perhaps exaggerating, the UN Development Programme (UNDP) has said Lake Balkhash could turn into a salty mess, like the Aral Sea; and there are fears that wind-borne salt from its dried-up basin might speed the melting of glaciers on which China and Kazakhstan depend. But Kazakhstan (population 15m) won't pick a fight with 1.3 billion Chinese.



For another “asymmetrical” relationship, take the one between Turkey, where the Tigris and Euphrates rise, and Syria and Iraq, both highly dependent on those rivers. Turkey's effort to build up to 22 dams on the two rivers is a constant source of tension, and tempers flared in 1990 when Turkey briefly interrupted the Euphrates. Turkey is now anxious to discuss water with the American-backed government of Iraq; cynics discern an effort to lock in some deals favourable to the Turks while the Iraqis may be amenable.

What about Israel, a country that (in matters aquatic, as in much else) views itself as eternally vulnerable while its neighbours often regard it as a hard-nosed bully? Israel's strategic situation was transformed after 1967: it no longer had to fight over water, and was able to co-operate “asymmetrically” with its neighbours in Jordan and (at least while the Oslo peace accords still worked) the Palestinians.

And as Israel builds up its capacity to turn sea water into fresh, a new form of co-operation has been proposed. This would involve pumping desalinated water from the Mediterranean to supply the West Bank—with the rider that Israel would retain access to a rich underground aquifer on the West Bank, under the terms of any settlement. This would lock the Palestinians into deep dependence on Israel.

Some of the gloomiest forecasts of water wars have focused on sub-Saharan Africa. The ever-cheerful UNDP said in 1999 that the basins of the Nile, Niger, Volta and Zambezi were all potential flashpoints. But even in Africa, outright inter-state war over rivers seems unlikely. As in other places, rivers in Africa often make for more neighbourliness, not less; the more countries a river passes through, the greater the regional co-operation. Indeed, as that UNDP report came out, Namibia and Botswana amicably accepted an international court ruling over an island in the Chobe river, a tributary of the Zambezi.

## Dripping wet

Recently, there has been progress towards durable water treaties for several big African river systems, such as the waters that flow down off the Lesotho highlands. It helps that some of Africa's mightiest rivers—the Congo, Limpopo and Zambezi—flow through remote and very wet places. In those climes, the challenge is not how to share waters, but how to use them at all.

The Niger, by contrast, is shrinking. Nine West African leaders agreed this week on a 20-year plan to rescue it

by reforestation and removing silt.

Among the Nile basin countries, internationally sponsored initiatives have drawn hydrologists, economists and diplomats into useful debates. There is consensus on boosting the efficiency of irrigation, the main draw on the river. Radical thinkers favour sending "virtual water" from wetter parts of the basin to drier parts, in the form of grain and other food.

Still, there are risks. In Uganda, Rwanda, Ethiopia, Eritrea, Sudan and Egypt, the Nile basin has some of Africa's most militaristic countries. The inability to manage the waters of Lake Victoria, which is increasing in turbidity, bodes ill for the management of the White Nile.

If fissile Sudan finally splits, that may also have repercussions for the Nile. An independent south Sudan would more clearly bisect the river's African "suppliers" from its Arab "recipients". Mistrust between Africans and Arabs could reignite a sense of injustice over colonial-era agreements between Britain and Egypt, which gave Egypt a generous share of the Nile waters. Ugandans and Tanzanians say those imperial bargains left them out.

And yet such talk probably has its limits. An ever-flowing river is hard to control militarily. Analysts say Uganda and Ethiopia could no more restrict the Nile's flow than Egypt could invade and defend it. Water boffins, led by the influential and sober Stockholm International Water Institute, say the Nile is more likely to see huge inward investment than cataclysm.

Away from the rivers, the lack of water could produce plenty of cataclysms for dry Africa. Indeed, if population-growth and climate-change predictions are anywhere near accurate, the alarmists are probably right to hit the siren. Local squabbles, with the potential to spread, are likely to emerge with increasing frequency around fixed water points, between rival pastoralists or else pastoralists and farmers. Water "stress" may exacerbate existing separatist struggles; it may already be doing so in places like Mauritania, Mali and Ethiopia.

To take two non-African cases, it can be argued that drought helped fuel the Maoist insurgency in Nepal and the original Taliban uprising in Afghanistan.

Low-level, drought-related skirmishing is especially likely in areas of small-arms proliferation, such as the Horn of Africa; and in areas where other fault-lines, like Christian-Muslim tension, also exist.

Already, the annual death toll from battles over water and grazing in the badlands of south Somalia, southern Ethiopia and northern Kenya is in the hundreds. Aid-workers say growing numbers of people and livestock, escalation from rifles to machineguns, erratic rainfall and especially the increased rates of evaporation expected in the future will put the toll into the tens of thousands. That still doesn't add up to a real war between proper armies—but a thirsty planet is unlikely to be a stable and peaceful one.

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