

Water Security – A Source of Future Conflicts?

by Maxim Worcester

There are growing concerns that water shortages and limited or unequal access to water could lead to conflicts within countries and possibly between countries in the near future. Water shortages will also lead to an increase in migration, causing millions of people to move between countries to seek new sources of water. The UN estimates that by 2025 two out of three of the world's population will live in water stressed conditions. This is based upon the assumption that the world population is growing by 80 million per annum which means that we will have to find additional 64bn cubic meters of water a year.

Currently, 700 million people in 43 countries live below the annual water-stress threshold of 1700 cubic meters per person. The WHO estimates that the lack of clean water that afflicts up to 40 % of the world's population reduces potential global growth by at least \$560bn which equates to about 1 % of global GDP. Clearly the effect is strongest in the poorest countries thus making it increasingly difficult for such countries to break out of a downward spiral of poverty and increasing instability further. Not only water shortage is a problem- the other form of weather insecurity, floods, can equally destroy assets and reduce growth potential. In 2005 more than 20m people in the Horn of Africa were affected by drought, whilst the floods that hit Mozambique reduced its GDP by 20 %.

With an average water availability of 1200 cubic meters per person and a growing urban population, the Middle East is the world's most water stressed region. Only Iran, Iraq, Lebanon and Turkey are above the threshold. The Palestinian Territories , especially Gaza, suffer the most acute scarcity of only 320 cubic meters per person, while sub-Saharan Africa has the largest number of water stressed countries of any region affecting a quarter of the population.

Many countries derive their water from rivers that flow through other countries first which is a potential source of conflict. The Tigris-Euphrates basin serves Iraq, Syria and Turkey. Iraq and Syria rely for most of their water on the Tigris and Euphrates rivers which flow out of Turkey. Turkey's South-east Anatolia Project, which encompasses the creation of 21 dams, could reduce flows in Syria by around 30 %. This has already affected relations between the two countries, Damascus has accused Ankara of meddling with its water supply, in turn Turkey has accused Syria of sheltering Kurdish terrorists.

The Jordan river basin is divided between Lebanon, Syria, Jordan, the Palestinian Territories and Israel. Tensions as to who owns the water and how it should be shared out between countries could fuel further military crises as the population grows and supplies decline due to global warming.

The Brahmaputra River has caused tension between India and China and could be a future flash point. In 2000, India accused China of not sharing information about the river's status in the run up to landslides in Tibet that in turn caused floods in north eastern India and Bangladesh.

The Nile River is a further source of potential international conflict. Ethiopia is pressing for a greater share of the Blue Nile's water which would leave Egypt as a loser. Egypt is also concerned that the White Nile, running through Uganda and Sudan could become depleted before it reaches its borders. Climatic change and an exploding population combined with water scarcity pose a critical driver of conflict in an unstable region. Already today Egypt is forced to import significant volumes of food as scarcity of water does not allow sufficient domestic production.

Regional disputes around water scarcity are as much a concern as are internal conflicts surrounding the fair distribution of water. China has embarked on a \$3bn programme to divert water from Shanxi and Hebei provinces in order to fill a water shortage in Beijing which is encountering significant opposition. All along the water stressed northern plains and the Yellow River authorities are mediating between farmers, municipalities and industry. There were violent protests in 2000 following the announcement of a plan to divert water from agriculture to industry in Shandong.

The fight for water between industry, agriculture and the urban population is likely to intensify as the urban population grows. In 1950 only 17 % of the total population was located in urban centres, today that figure stands at over 50 %. Africa has the world's fastest growing urbanisation rate, currently 3.5 % and expected to reach 48 % by 2015. There is also a trend towards urban mega cities with populations above 10m. By 2015 there are expected to be around 24 such mega cities including Lagos, Mumbai, Luanda, Jakarta, Mexico City, Shanghai, and Manila.

All these cities today suffer from water stress and this is likely to become even more acute as the population swells to unsustainable levels giving rise to potential discontent, public health problems and urban conflicts. In a recent article in an Economist Publication "The World in 2008", the mayor of New York, Michael Bloomberg, writes that a new urban global community is in the process of emerging and that these cities will collaborate with each other in order to solve common problems such as water supply, energy production and waste management and that such cities will not sit back and wait for national governments to solve their problems. Obviously Bloomberg is thinking of collaboration with such cities as London, Singapore and Stockholm rather than Lagos, Jakarta and Luanda, which will further deepen the North South divide and points to future conflict for resources between urban and rural communities which will also affect richer global cities in the Northern Hemisphere.

The most immediate and critical challenge falls around hydrological interdependence and a lack of international mechanisms to resolve disputes. The historical record is surprisingly one of co-operation. According to the UN, there have been only 37 cases of violence between states over water over the past 50 years; all but seven took place in the Middle East. Over the same period more than 200 treaties on water were negotiated between countries. The considerable time needed to negotiate these treaties bears testimony to the sensitivity of the issue at stake – ten years for the Indus Treaty, 20 years for the Nile Basin Initiative and 40 years for the Jordan agreement.

However it is of concern that only one third of the agreements include co-operation on volumetric allocations. In large part, this is because the requirements for negotiating

allocations are so sensitive that they could create the potential for conflict over the adjustment of claims on shared water resources when availability declines.

With increased water stress inevitable in the next decade, some of the cracks in the agreements could begin to show and could give rise to armed conflict.

Some analysts disagree, pointing to the fact that the last major war fought over water was 4500 years ago between the two Sumerian city states Lagash and Umma in today's Iraq. Since then international rivals have generally favoured cooperation over conflict as water is simply too important to fight over. However the more recent history of small conflicts does paint a different picture. Local conflicts over water in Kenya, Sri Lanka and Bolivia have resulted in deaths and those countries most vulnerable to water stress include conflict-prone countries such as Chad, Sudan, Somalia, Ethiopia and parts of Pakistan. Even Klaus Töpfer, the former director general of the UN Environment Programme predicts that a future war over water is a distinct possibility. The most unlikely supporter of this is Mark Twain who wrote that "Whisky is for drinking and water for fighting over," a view shared, incidentally, by the CIA, Price Waterhouse and Britain's Ministry of Defence.

Progress around water management is hampered because of weak institutional capacity to broker treaties. Domestic political factors will also hinder progress: while water sharing might be good for human development in a basin, it might lose votes at home, particularly as the domestic benefits of agreements are unlikely to be felt during the term of office on any one government.

Asymmetries of power will continue to play a role within water basins, particularly in relation to dominant states. Egypt will remain the focal point in the Nile basin, India in the Ganges catchment area, Israel on the Jordan River, South Africa in the Incomati basin and Turkey in the Euphrates – Tigris watershed. In short, even if these countries are not at the source of their water supply they will by virtue of being in a position to project power be able to control supplies, at least to a certain degree. The danger arises when supplies drop to such levels that sharing has a significant economic and social effect upon such nations as these then might be tempted to use their military power to guarantee sufficient supplies or to protect them, as the case might be.

Water stress is an issue which needs to be addressed urgently as it represents a major global risk factor. Water stress has a strong impact upon climatic changes, and can lead to civil war, regional and even international conflicts. Lack of water or poor water quality is strongly linked to chronic diseases and is a possible cause for failed states. At the same time reducing water stress by locating new sources, efficient waste water treatment and improving the supply infrastructure will be a major source of work for companies with expertise in this area, most of whom are US American or European.

Water stress also correlates with increased food insecurity which will result in the need for more robust crop strains requiring less fertilisers and water, none of which can be developed without the introduction of genetically engineered strains. This in turn will lead to wide spread debates and protests in some western countries where significant and vocal movements will oppose the introduction of such methods.

The incidence of international conflict is likely to increase in the decade to come as international capacity for conflict prevention declines. At the same time internal conflicts and civil wars will become increasingly prominent and will entail regional dynamics beyond the confines of individual states, as we are seeing in Africa today. According to the Heidelberg Institute for International Conflict Research, 118 conflicts were carried out violently in 2006,

56 involving armed conflict, six of which were recorded at high intensity levels. At the same time, according to the World Bank, the number of fragile states has risen from 17 to 26 since 2003. It comes as no great surprise that the list of such countries is almost identical to those countries suffering from water stress. Water will not be a hindrance to peace if there is the political will to avoid conflict. However if countries want to fight then water will give them ample opportunities.

Remarks:

Opinions expressed in this contribution are those of the author.



Maxim Worcester is a Berlin based British security consultant, former Managing Director Control Risks Deutschland GmbH