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Conflict or Cooperation? The Stark Choices Facing a Hot, Thirsty World

By Flavia Loures, Senior Program Officer, International Law and Policy, Freshwater Program, WWF, and Ana Paula Parente, Project Officer, UN Watercourses Convention Global Initiative, Freshwater Program, WWF

Rivers and lakes do not respect political boundaries, yet they are often the basis of them. How is ownership of water established when rivers, lakes, and aquifers cross, form, or lie underneath the borders of competing nations? What mechanisms exist to stop water from being held, diverted, or polluted by one country to the disadvantage of others? And what are the procedures or frameworks for considering claims or resolving disputes over transboundary water resources?

These are not trifling issues. Half the global land surface area and 40 percent of global population lies in the catchments of the 276 rivers that form or cross international borders. Three quarters of the world's countries face potential disputes with neighbours over shared rivers, lakes, wetlands, or aquifers.

In the Middle East, 5 percent of the world's people survive on 1 percent of its water; control of the River Jordan and access to it is a dominant issue in this volatile area. In Africa, Egypt has been ever ready to threaten upstream states on the Nile River over any plans they may have for developing the river. In Asia, China and India's neighbours are increasingly concerned with unilateral plans for power generation in the Ganges-Brahmaputra, Indus, and Mekong basins.

Still, in the past 60 years, there have been only 37 cases of violence between states over water. This is ascribed, among other factors, to the existence of around 300 international agreements governing the use, management, and protection of transboundary waters. However, with climate change and other mounting threats to water resources, such as population growth and increasing water demand, the risk of more frequent and widespread conflicts within and between states looms on the horizon. This is especially true in a world where cooperative management frameworks exist for only about 40 percent of the world's transboundary watersheds. Even where agreements exist, most have major failings and gaps (e.g., lack provisions on emergencies, dispute settlement, or transboundary water pollution) or do not involve all states within a basin.

Work to resolve these issues started well over 60 years ago when some noted international lawyers with the UN International Law Commission were tasked with developing a proposal for a global international agreement that would not only reduce the potential for conflict but also help guide equitable sharing and appropriate management of international waters.

Their efforts came to fruition in 1997, when an overwhelming majority of countries in the UN General Assembly voted to adopt a convention on the non-navigational uses of international watercourses – the UN Watercourses Convention. Voting for the convention in 1997 were 106 countries, with only three voting against: Burundi, China, and Turkey.

The UN Watercourses Convention aims to “ensure the utilization, development, conservation, management and protection of international watercourses and the

promotion of the optimal and sustainable utilization thereof for present and future generations.” (Preamble) This mission is to be accomplished, for example, through procedures for notification of planned measures, exchange of information on the overall health and status of river systems, and well-developed dispute settlement mechanisms. The convention also encourages states to adopt joint management bodies for shared water basins and requires them to implement measures for dealing with water pollution and for protecting the ecosystems of international watercourses.

The convention is a tool for conflict prevention and socioeconomic development, addressing water resources as part of the peacemaking process, and taking into account the needs of developing countries, consistent with the UN charter. Although adopted more than a decade ago, the convention has yet to become effective. It counts today 20 contracting states – 15 short of the required number for entry into force. The contracting countries are Finland, Germany, Guinea-Bissau, Hungary, Iraq, Jordan, Lebanon, Libya, Netherlands, Namibia, Nigeria, Norway, Portugal, Qatar, Spain, South Africa, Sweden, Syria, Tunisia, and Uzbekistan. Of course, some nations with key water issues remain absent from this list, such as those within major river basins, including the Amazon, the Congo, and the Mekong watersheds. Entry into force would serve as a compelling drive for more nations to become engaged in the ratification process and eventually join the convention, reinforcing its authority and influence in the relations between riparian states.

In 2006, WWF launched the UN Watercourses Convention Global Initiative to inform and support the convention’s entry into force and its future implementation. Since then, the initiative has evolved into a global effort of advocacy and capacity building led by WWF and other groups, and supported by key basin states, such as Ghana and Iraq, as well as major international donor countries, such as Norway, Sweden, and The Netherlands. As a result, awareness of the convention has increased considerably and a number of new countries are expected to announce their intent to sign. This could potentially enable the convention to enter into force by the end of 2011.

Renewed interest in Africa and Europe has recently boosted such prospects. The most recent countries to join were Tunisia and Spain, in 2009, and Guinea-Bissau and Nigeria, in 2010; two more countries from Europe are expected to complete the process by the end of this year. Other states in West Africa, including Benin, Burkina Faso, Ghana, and Niger, are expected to follow suit.

Momentum is building to hold discussions on the role and relevance of the convention for the Mediterranean region; the convention could bring new water champions to this region, where water resources are unevenly distributed, and fragile rivers and aquifers are at particular risk from over-extraction, drainage, infrastructure works and droughts. If widely endorsed by the Mediterranean countries, the UN Watercourses Convention could promote better transboundary water management and ensure political stability and peace in the region. Among such countries, France has recently confirmed its willingness to actively promote the convention, in addition to announcing its imminent ratification. Now, therefore, is the time for more countries to become involved, especially those that voted in favour of the convention’s adoption but have yet to join, thereby fulfilling their commitment to the international community.

The entry into force of the UN Watercourses Convention is needed to address a major policy gap in the governance structure for international waters toward a more

cooperative, peaceful, and secure world. Once in force, the convention will promote better, deeper, and more widespread and systematic levels of cooperation. On the other hand, if the convention remained ineffective, it would not gain binding effects for governing interstate relations in the absence of agreements; it could also become increasingly irrelevant and less likely to succeed in delivering on the job for which it was adopted. With climate change impacts threatening freshwater systems around the globe, an effective and widely endorsed UN Watercourses Convention is a vital pillar to support urgent work on climate change adaptation in a transboundary context and, by extension, prevent conflict.

Therefore, WWF calls on governments to join the UN Watercourses Convention as a matter of urgency, and calls on all actors in the international community, especially the United Nations itself, to become actively engaged in the process for the convention's entry into force and future implementation.

You can find additional information including the full text of the UN Watercourses Convention [here](#). See the current status of the Convention [here](#).

For more information on the UN Watercourses Convention Global Initiative, please see [here](#).

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POLICY & RESEARCH

Mexico 2080: Global Warming Leads to Mass Migration

Climate change could have disastrous consequences for Mexico. Researchers at Princeton University have conducted a quantitative study linking climate change, crop yields, and migratory patterns for the country. The results are shocking. In the absence of efficient adaptation mechanisms, grain and wheat yields will drop between 39 to 48 percent by 2080. Such a development would spell doom for a large part of Mexico's agricultural sector, on which over half the country's population is dependent. The study estimates that such declines in agriculture would result in a 2 to 10 percent increase in the number of emigrants. Assuming that the population stays constant at about 110 million inhabitants, 1.4 to 6.7 million additional refugees would result because of the impacts of climate change alone.

For some time now researchers and policy makers have been warning of a potential rise in refugee movements and in the number of "climate refugees" or "climate migrants", especially from the countries of the global south. However, existing estimates about the number of people forced to leave their homes by the year 2050 due to droughts, floods, or other negative impacts of rising temperatures were often not based on hard data.

Although the results of the study cannot simply be extrapolated to other regions, they do provide important pointers for several (primarily developing) countries, where climate change is expected to lead to declining crop yields. The study also highlights that the rate of migration and the willingness to migrate can be decreased through policy measures targeted at the agricultural sector - e.g., the introduction of climate-resistant seeds. The study by Oppenheimer, Feng, and Krueger does not merely highlight the need to

implement CO₂ abatement and adaptation strategies, it also provides a tangible basis for obtaining a clearer picture of the challenges that climate change and migration may pose in the future. (*Stefanie Schäfter*)

The full report by Shuaizhang Feng, Alan B. Krueger, and Michael Oppenheimer „*Linkages among climate change, crop yields and Mexico–US cross-border migration*“ can be downloaded [here](#).

Please find more information concerning climate change induced influences on food security and a broad database [here](#).

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Development Goals Far Off Track

“Expressing our concern that it falls far short of what is needed.” These are the words of the Heads of State and Government in their outcome document of the UN Summit on September 20th-22nd in New York, where they discussed progress on the Millennium Development Goals (MDGs). Departing from this assessment, you may wonder how much further a target referred to as the Orphan MDG must fall short of what is needed. The “orphan” in question is improved sanitation, embedded in MDG 7 dedicated to environmental sustainability. Unfortunately, even after the summit, many leaders continue to neglect its importance.

Adequate sanitation greatly improves health conditions and reduces child mortality. But it can also help make progress on other development goals, such as gender equality and universal education. For example, a recently published Amnesty study on sanitation in Kenyan slums revealed the significant adverse impact on gender of inadequate sanitation facilities.

At the summit, the President of Liberia, Ellen Johnson-Sirleaf, lamented that the sanitation target is “under-discussed, under-prioritized and, therefore, under-resourced.” She pointed out that 80 percent of the countries in sub-Saharan Africa are off track for the sanitation target. World leaders have shown little interest in making progress here because building toilets is less “fashionable” than constructing new wells or making other more visible advances. In a sense, U.S. President Obama got it right when he recognized the need to channel aid more effectively. Despite this statement, and reflecting the extent of the neglect of the topic, he focused on more popular topics – a move clearly owed to looming U.S. mid-term elections coupled with plummeting popularity rates.

Given the high payoffs of investments in development cooperation leaders as well as practitioners will have to ask themselves why they do not channel more resources toward improving sanitation. Pledges were made, as in the past – but world leaders will finally have to deliver. (*Stephan Wolters*)

The Outcome Document of the UN Summit is available at <http://www.un.org/en/mdg/summit2010/pdf/mdg%20outcome%20document.pdf>

The Amnesty International report “*Insecurity and Indignity*“ is available [here](#).

Read the op-ed by Ellen Johnson-Sirleaf for the *New York Times* in the run-up to the summit [here](#).

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India as a Lab for Climate Security

The future water supply of India will undergo dramatic changes. This is a known fact. India needs, therefore, to be regarded as a laboratory for climate security. A new report published by the Indian Institute for Defense and Security Analysis (IDSA) outlines the key reasons for this development: a high probability of severe water stress in many parts of India, the high dependency on agricultural productivity, population dynamics, and numerous transboundary rivers.

In the report, IDSA systematically outlines the specific conditions of bilateral water-relations of India with Pakistan, Bangladesh, Nepal, Bhutan, and China. The main finding is that there is a tremendous need for tailor-made water diplomacy and a redefinition of Indian interests in water supply, particularly in relation to the expected impacts of climate change.

To this end, India's vision of itself as an upper riparian state is hardly adequate. The origins of the Indus, Ganges, and Brahmaputra are either partly or completely located outside - and upstream - of India in Nepal or China. As a medium riparian state, however, the authors recommend more intensive cooperation especially with neighbouring Nepal. The same goes for Pakistan, where the Indus treaty has served as a profound platform of cooperation since 1960. However, the report also refers to the negative impacts of terror activities in the neighbouring country which may endanger this long tradition of water cooperation.

Similar are the prospects of Indo-Chinese water diplomacy – especially due to the important role of Tibet for India's water security. Apart from negative climatic trends, China's intention to build dams such as the Yarlung-Tsangpo pose a serious challenge for bilateral relations. When visiting the "policy laboratory" to find solutions for climate security in India and beyond, decision makers should especially be aware of the report's cover, which depicts the map of the region's water courses without outlining political borders and impressively illustrates the regional character of water supply. Today, however, comprehensive cooperation (e.g., embodied by a regional adaptation strategy) is far from a reality. (*Dennis Taenzler*)

For the report "*Water Security for India: The External Dynamics*", please check www.idsa.in.

Another recent report on the relationship between water and security, prepared by adelphi and published by German Technical Cooperation (gtz), is available at <http://www.gtz.de/de/dokumente/gtz2010-en-water-security-nexus.pdf>

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Conflict-Free Minerals for Renewable Energy

How will we supply our economy, lifestyle, and future with sufficient resources? This question is omnipresent in conferences, research, and policy making in Germany at a time when the government is preparing its new resource strategy. In this context, resource conflicts are frequently highlighted, both as a humanitarian disaster for mineral exporting countries and as a supply risk for importing countries.

Indeed, new approaches for dealing with resource conflicts have emerged recently. The OECD has just published draft due diligence guidance for responsible supply chains of minerals from conflict-affected and high-risk areas. The new U.S. Financial Reform Act even turned into law reporting of the origin of certain minerals.

Meanwhile, other analysts are focusing on the demand side of the resource-conflict nexus: increasing efficiency and recycling should slow raw material extraction. This improves environmental sustainability and potentially spoils the market for conflict minerals, but it may also ruin prices and foreign currency revenue for resource-exporting developing countries.

adelphi and the Wuppertal Institute for Climate, Environment and Energy researched these complex linkages between conflicts and resources (energy and mineral) over the past two years. They will shortly publish results in eight reports, including case studies and scenarios on rare earths in China as well as lithium in Bolivia. These minerals, in particular, highlight the need for assessment of unintended consequences of policy making, such as the effects of new energy policy – and the drive for renewables – on minerals supply and potential conflicts. The recommendations, therefore, include a ‘risk radar’ for certain industry sectors and/or specific new technologies, combining data on mineral deposits and substitution options with data on the socio-political and conflict context of extraction and trade. (*Moira Feil*)

The research reports will be published shortly (in German) [here](#).

You can find more information concerning the OECD due diligence in the mining and minerals sector [here](#). The draft guidance can be downloaded [here](#).

For a more detailed report on the US Financial Reform Act, please refer to the [August edition](#) of the ECC newsletter.

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CONFERENCE REPORTS

Water Is Transboundary, Even at the Village Level

Transboundary water conflicts and cooperation throughout the world still pose huge challenges to the international community. At this year’s World Water Week, which took place in early September in Stockholm, 2,600 participants from 130 countries came together to discuss water issues, primarily focusing on sanitation and water quality. There were also panels devoted to transboundary issues and the water security nexus. Of particular interest were smaller scale water conflicts, such as those in the Competing for Water project headed by the Denmark Institute of International Studies. Panelists shared

lessons learned about solving local water conflicts, the use of third party conflict mediation, and the importance of addressing interpersonal power dynamics at the local level.

Another good example of agreements on small-scale transboundary water resources came from a river basin in Tanzania, which used principles of 'Negotiate', the latest book in the Water and Nature Initiative (WANI) series of the International Union for Conservation of Nature (IUCN). Negotiating water agreements may not be a sexy endeavor, but it is crucial for the best use and management of water resources. The authors of 'Negotiate' emphasize the 4 Rs: rights, risks, responsibilities, and rewards. This may be more useful than the World Commission of Dams' previous emphasis on rights and risks, which only later added responsibilities to the mix. The 4 Rs together may have a better chance of catching the interests and issues of the differing risks and responsibilities, and they make it easier to deal with winners and losers because the process is not set up as a zero-sum game, but rather as a forum where everyone gains some things and loses others.

Returning to the Tanzania example, Irene Chikira described how groups in the Pangani Basin were more likely to engage in the negotiation process when they felt increased responsibility over local water resources. (*Irina Comardicea*)

Download the IUCN publication "Negotiate" [here](#).

For more information and to download all the WANI series books, see <http://www.iucn.org/about/work/programmes/water/resources/toolkits/>
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Revolution in Berlin? Not Really

Humankind is facing the third biggest revolution in history. After the birth of agriculture and the industrial revolution, an ecological revolution is approaching. Klaus Töpfer, former executive director of the United Nations Environment Programme (UNEP) and founder of the Institute for Advanced Sustainability Studies (IASS), outlined one of his key observations when assessing latest changes and events in global environmental politics during the 10th Berlin Conference, which took place October 8th and 9th. According to Töpfer, highlighting the importance of the social dimension of environmental politics is a step in the right direction, as implementing new concepts for addressing global environmental problems will be less a scientific or economic than a socio-political challenge. Specific recommendations for decision makers, however, will be inefficient if the scientific community remains ignored.

Yet, there has been little news about this important, but obviously less influential, scientific community dealing with global environmental problems. In other words, there was no scientific revolution in Berlin. Even worse: the recent 'climategate' controversy concerning the role of research and how to avoid a loss of credibility was of particularly high concern of the participants. Among others, Professor Adil Najam from Boston University pointed out the need to restrict the use of long-term prediction graphs and scenarios since environmental change is a present and urgent problem, which has to be addressed now.

The debates in Berlin underscored lack of action and international cooperation regarding global environmental problems such as climate change or loss of biodiversity remain huge challenges for the international community, especially as the gap between the poor and the affluent continues to grow. Thus, Prof. Dirk Messner (GDI) pointed out, the generally increasing economic growth rates of developing countries have to be evaluated with caution, since these figures might not be sustainable. The participants jointly agreed on the need to redefine the traditional paradigm of wealth and development in accordance with environmental standards. To this end, the principle of intra- and intergenerational justice should also be included. (*Judith Hardt*)

For more information concerning the Berlin Conference 2010, please visit <http://www.berlinconference.org/2010/>.

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“New” Resource Policy Makes Little Headway?

“Sustainable Resource Policies: Global and National Challenges and Opportunities” was the title of a conference organised in early October by the Federal Ministry for Economic Cooperation and Development (BMZ) together with Green Budget Germany (FÖS). The backdrop: the German government has been working hard toward a national resource strategy and all ministries have been urged to contribute.

The Minister for Economic Cooperation and Development, Dirk Niebel himself, presented the BMZ’s responses to the international challenges in the area of natural resources. According to him, a natural resource policy that fosters development must be able to transform the resource trap into a resource springboard by ensuring that natural resources and the income from these resources are used for the development of local communities. The minister outlined the four cornerstones of such a strategy: First, it must promote good governance, especially by creating greater transparency and also by strengthening systems of taxation and fostering civil society. Second, it must create structures for sustainable economic development (e.g., through diversification of the economy and by relocating the further processing steps in supply chains to developing countries). Third, there must be closer integration of trade and development cooperation. The same applies to the fourth point, climate protection and biodiversity, which can be addressed, for example, through focused measures for reducing emissions from deforestation and forest degradation, as are currently being debated under the REDD programme.

Niebel spoke out strongly about the pressing problem of land grabbing and severely criticized the EU’s agricultural policy. However, the minister largely failed to come up with any new approaches. The demand for resource certification, for instance, has long been raised as one possible solution. Yet it is doubtful that this new approach can be regarded as a big jump on the resource springboard. (*Lukas Rüttinger*)

You can find the conference documentation [here](#) (in German only).

The FÖS background paper on can be downloaded [here](#). (in German only).

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UPCOMING EVENTS

Upcoming events are also regularly published at <http://www.ecc-platform.org/>.

"Natural Resources and Conflict Prevention in Practice" in Brussels, Belgium (4-5 November)

This workshop and dialogue forum seeks to foster cooperation and interaction between representatives of the international community concerned with questions related to natural resources and conflict prevention. It is thus directed at decision makers from international organizations, European institutions, NGOs, and experts in the field. The event is organized by the Madariaga – College of Europe Foundation and Folke Bernadotte Academy.

For further information, including the concept note and the draft programme, please see [here](#).

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"Environmental Change and Migration: From Vulnerabilities to Capabilities" in Bielefeld, Germany (5-9 December)

This research conference aims to shed light on the complex dynamics of environmentally induced migration and associated societal processes by connecting vulnerability, capability and transnationality approaches. It is organized by the European Science Foundation and the Centre on Migration, Citizenship and Development of Bielefeld University. It is the first of a three-part conference series devoted to exploring the causal relationship between environmental damage and forced migration as well as the correlation of both phenomena to conflict and other repercussions.

[Here](#) you can find further information concerning the conference.

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"Transboundary Aquifers: Challenges and New Directions" in Paris, France (6-8 December)

Organized by UNESCO in collaboration with other partners, this conference will bring together experts to discuss transboundary aquifer management and to foster the exchange of ideas on new directions. Moreover, it will present the results of Phase I of the UN initiative-- Internationally Shared Aquifer Resources Management Programme (ISARM). The numerous plenary and working sessions will also address capacity building and ways to strengthen cooperation.

For further information, please see <http://www.isarm.net/publications/360>

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IN BRIEF

Climate Insecurity in Africa, US Energy Security Forum, Historic Floods in Pakistan, and Resources in the Arctic Region

A new 2010 study by Joshua Busby and others entitled “**Locating Climate Insecurity: Where Are the Most Vulnerable Places in Africa?**” examines Africa’s vulnerability to climate change. It assesses indicators such as physical exposure to climate-related disasters, household vulnerability, and political violence.

On October 13th, the US Department of Defense hosted its first-ever **Energy Security Forum**, reflecting the U.S.’s increased interest in the issue of energy use within the military. Decision makers emphasized the tremendous strategic and tactical implications.

The New Security Beat discusses this summer’s **historic floods in Pakistan and their security implications**. A government overstrained by the extent of the catastrophe, coupled with insufficient amounts of international aid, offers an opportunity for extremists to step in and offer their own aid.

In order to discuss **rival claims on energy reserves in the Arctic**, Russia, Norway, Canada, Denmark and the United States convened in Moscow on September 22nd. Melting ice caps make the region’s resources increasingly accessible, which may account for up to 30 percent of the world’s gas reserves. While the issue has raised fears of possible military confrontation, all countries affirmed their determination to resolve the dispute peacefully and on the basis of international law.

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