

Will states see more water conflicts as the climate changes?

New insights from CLICO

While no one can predict the future with certainty, analyzing historic water-related events provides important insights into the risk of future water conflict. An analysis, currently conducted within CLICO, shows that within countries in the Mediterranean, Middle East and the Sahel, there is more cooperation over water than conflicts. Violent conflict over water is in fact extremely rare. Scarcer water resources resulting from climate change may in general have negative impacts in the region, but there is some hope for the future that cooperation over water management rather than violent conflict could still prevail as the norm.

These are preliminary results of an ongoing investigation part of CLICO about security implications of water scarcity, focusing on cooperation and conflict over water within, rather than between states. The results are based on the analysis of about 78.000 media reports collected on water-related events in 33 countries in the Mediterranean, Middle East and the Sahel. This database, developed by researchers from the ETH Zürich (ETHZ) and the Peace Research Institute Oslo (PRIO), is the first of its kind. It contains detailed information on the date and location of water-related events and actors involved, and for each event, an indication of the intensity of conflict or cooperation.

Using this unique database, the CLICO research team, lead by Thomas Bernauer (ETHZ) and Halvard Buhaug (PRIO), also observed that, contrary to common belief, democracies are not generally better than other states at avoiding water-related conflict. However, democracies turn out to be more successful in limiting water conflicts to low, non-violent levels of intensity, and the same is true for economically more developed states. Also, whether there is more conflict or cooperation within a country seems to be influenced by factors such as population density and economic development;

Research demonstrates that climate change already has and will have a dramatic impact on the timing, flows, and quality of water across the globe.¹ For example rain may fall less frequently or at different times of the year. An increase in temperature could trigger an increase in water demand.

As a corollary, some researchers expect conflicts over scarcer water resources to become more frequent. Such assumptions are frequently reported in the media and taken up by the policy discourse. They are also used to build scenarios of future “water wars” resulting from climate change. However, other researchers have found that in times of water stress in transnational river basins, states are more likely to cooperate rather than entering in conflict.

This policy brief shares the latest insights from research on climate change, water conflicts and human security performed in the EU-funded project CLICO. The brief presents results on conflict and cooperation on water within states, on adaptation to climate change in international river basins, and discusses donor-funded adaptation projects. Insights for policy makers are presented for each of these topics.

¹ Bates, B., Kundzewicz, Z., Wu, S., & Palutikof, J. (2008). Climate Change and Water. Geneva: IPCC Secretariat

these, in turn, influence water demand. By contrast, fluctuation in rain fall throughout the year, which influences water supply, is less relevant.

According to Halvard Buhaug, “based on these preliminary findings it seems that fears of future climate-induced conflicts over water in the region are unwarranted, at least in the short- to medium-term future”.

International rivers: how can adaptation work and conflict be avoided?

Climate change influences rivers on the globe. In a close future, many rivers may carry less water or carry it at different times of the year. Adapting to the impacts of climate change is already a complex process in a river basin belonging to one single country. In trans-boundary basins – basins shared by more than one country – the political boundaries that cross the basin make the governance of these basins and agreement on their use politically more complex and may lead to conflict between states. Climate change is now an additional factor to take into account in agreements on such river basins, besides differences in power between countries, their degree of dependency on the river’s water, the challenges of international coordination, and changes to historical patterns of water use resulting, for instance, from economic development. In a trans-boundary river basin, countries’ responses need to take into account not only the potential impacts of climate change within their own boundaries, but also potential effects of climate change – and the adaptation efforts addressing it – in neighboring countries.

According to research conducted by the University of East Anglia in CLICO, the adaptive capacity of a trans-boundary basin is different to the sum of the national adaptive capacities. The evaluation of 42

Further reading:

Bernauer, T. et al. (2012) Water-Related Intrastate Conflict and Cooperation (WARICC): A New Event Dataset, forthcoming in *International Interactions* 37(3).

An earlier version is available at <http://www.clico.org/working-papers>

river basins located in the Mediterranean, the Middle East, and the Sahel by the research team, indicates how certain types of basins would benefit from political interventions. The study helps identify priorities for global climate adaptation funds and improving interventions in these areas. The river basins were evaluated according to specific indicators developed for entire basins going beyond addressing adaptive capacity at the national or sub-national level. Such indicators are useful for policy and governance purposes because they can help identify suitable policy interventions, determine priorities, set goals, and both track and communicate progress.

Also against a background of future changes in river levels due to climate change, a team of CLICO researchers from the Hebrew University of Jerusalem have investigated existing international agreements between countries sharing a river basin and, in particular, the conflict resolution mechanisms (CRMs) they contain. CRMs come at a certain (political) cost, and are thus not always incorporated in treaties. Trust between states, water stress, and dependency on the river’s water facilitate the adoption of CRMs in treaties. On the other hand, states with a greater recognition of political and civil rights are less likely to adopt CRMs. This is also true

where riparian states have unequal degrees of political freedom. Moreover, having colonial powers as signatories to a treaty may also hinder CRMs adoption. Once the perceived benefits of adopting CRMs outweigh the perceived costs, parties are more likely to incorporate a higher number of CRMs, a greater variety of mechanisms, and more mature mechanisms.

These results, coupled with a “Toolkit of Mechanisms to Reduce Uncertainty in International Water Treaties”, already developed as part of CLICO, help policy-makers involved in the design and

implementation of these treaties to better deal with uncertainty on the future flow of rivers resulting from climate change.

Further reading:

Milman, A., Bunclark, L., Conway, D. and Adger, W.N. (2012) „Adaptive Capacity of Transboundary Basins in the Mediterranean, the Middle East and the Sahel“. Tyndall Working Paper 151, January 2012.

De Bruyne, C., Fischhendler, I. (2011): "Governance mechanisms to address conflicts in water treaties", under review in *Journal of Conflict Resolution*

Adaptation in developing countries: lessons for donors

Many developing countries are predicted to feel the impact of climate change in a particularly severe way, but they often lack the necessary funds, knowledge, and capacity for adequately reacting to it. These countries often look at the international community to assist in this regard, as well as towards developed countries – poignantly, local actors often highlight that their countries contributed next to nothing to the problem of climate change, and expect help in addressing it from the (rich) countries that did.

As part of CLICO, researchers of Ecologic Institute conducted interviews with policy-makers in different countries, inter alia on multilateral and bilateral cooperation on adaptation. International donors are often behind important adaptation actions in developing countries. For example, UNDP support was a decisive factor in the formulation of the Palestinian “Climate Change Adaptation Strategy and Programme of Action”.

However, adaptation activities implemented

by donors, while being perfectly reasonable and effective responses to climate change in themselves, are often intertwined with existing conflicts or political controversies in host countries. For example, sometimes national or regional governments use them to further their own agendas. In other occasions, groups in conflict with the government and affected by donor-funded adaptation activities perceive them as interventions of a government they oppose. As a consequence, they consider that adaptation activities will affect them negatively. International actors working in situations of conflict or strong political tensions should be aware that adaptation responses which make sense operationally can be politically controversial and thus unintendedly exacerbate political conflicts, as well as serve other agendas than adaptation to climate change.

An example is the situation of pastoralists in the Somali region of southeast Ethiopia, where a separatist movement operates. Government efforts to foster settlement of pastoralists and their uptake of agriculture

are seen by parts of the local population as attacking their livelihoods and aiming to increase central government control. However, the government promotes these as reasonable adaptation policies as it considers pastoralism to be no longer sustainable with current population figures.

According to interviewees in Ethiopia, another problem is that the size, focus, and operation of donor schemes on adaptation have in the past often changed too fast and erratically. Some of the commitments made by the international community in relation to climate change did not materialize. There are cases of developing countries which while anticipating funding as a result of pledges made during the Copenhagen Climate Summit, developed their capacity, institutions, and national action plans for adaptation. However, these commitments were not honoured. Thus, capacity in

developing countries was wasted and valuable time and investments were lost. In order to be more credible in terms of adaptation, the international community and donors need to provide clear and long-term frameworks on which local stakeholders can rely.

A related concern is the sustainability of adaptation actions in developing countries. Funding from international sources is often allocated to projects with a limited duration and budget. Some countries are unable to continue funding these projects out of their own budget once international funding has finished, or they lack efficient institutions to monitor, evaluate, and sustain the adaptation actions while they are being implemented. These issues need to be identified and properly addressed in order for initiatives funded by the international community to be more effective.

Conference: Energy, Water and Climate Change 2012 – Building Bridges between Europe and MENA

December 9-12, 2012, Cyprus

The EWACC 2012 – Building Bridges conference will bring together a broad range of expertise – scientists from various research fields and backgrounds, the private sector, stakeholders, policy makers and high-level officials – to foster sustainable development by broadening and deepening the Euro-Mediterranean dialog. The event will also host the final conference of the FP7 EU project CLICO which investigates the complex and context-specific inter-dependencies between environmental, social and political-economic factors on water, conflict and human security in the Mediterranean and the Sahel.

For more information: <http://ewacc2012.cyi.ac.cy/>



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This policy brief was written by Christiane Gerstetter and Rodrigo Vidurre (Ecologic Institute) (www.ecologic.eu). It builds on research carried out at the University of East Anglia, the ETH Zürich, the Peace Research Institute Oslo, the Hebrew University Jerusalem and the Ecologic Institute. The policy brief is part of the research project "Climate change, Hydro-conflicts and Human Security" (CLICO). CLICO is a collaborative effort of 14 research institutes from Europe and the Middle East. It examines the relationships between hydro-climatic hazards, human security and conflict. CLICO is funded under the 7th Research Framework Programme of the European Union (FP7) and publishes regular policy briefs. More information on CLICO and its results can be obtained at www.clico.org or by contacting the CLICO project coordinator Prof. Giorgos Kallis (University of Barcelona): giorgoskallis@gmail.com.