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water and landscape
AGUA y TERRITORIO

The Clico Project

Climate Change, Water Conflicts and Human Security in the Mediterranean, Middle East and Sahel

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Climate Change, Hydro-conflicts and Human Security

The Mediterranean, Middle East and Sahel (MMES) has a long history of conflict. The CLICO project sought to discover whether the effects of climate change in terms of water scarcity, droughts and floods in the region present a threat to human security, not least by exacerbating social tensions and intra- and inter-state conflicts. The study also considered the proposition that climate change might be a catalyst for cooperation and peace.

Climate change predictions indicate intensified and more frequent extremes for most MMES countries. The CLICO project focused on analysing some of the region's apparent 'hotspots'.

Human Security and Climate Change

Human security is defined as the condition of living with freedom and dignity, safe from hunger, repression and disease and protected from untoward disruption of the daily rhythms of life. Today, in Sahel alone, 18 million people are at risk of food insecurity. Future climate change threatens the MMES region with rising temperatures that could both reduce the availability of water to sustain everyday existence and livelihoods, and bring about catastrophic events such as floods and landslides.

While people are not ordinarily passive, their ability to adapt to changing circumstances arising from climate change varies according to a number of additional factors besides the intensity of climate effects or events themselves: their vulnerability; their sensitivity to its effects – especially when they are directly reliant on ecosystem services; and their resources and entitlements, including knowledge and support systems.

A Region Vulnerable to Climate Change

MMES nations span a range of topographies and ecosystems with widely differing climates. Comprising countries at varying stages of development, the region is home to very distinct populations, from the Bedouin with low levels of formal literacy but a well-developed knowledge of ecosystems, to high-income per capita urban populations.

It is projected that over the 21st Century, the region will generally experience gradual warming of temperatures and reduced rainfall from climate change, resulting in significant changes in water availability. At the same time, the hazards of flash flooding and landslides will increase and some low-lying areas are at extreme risk from rising sea levels.

Key Observations

People and institutions alike will inevitably seek to mitigate risk from climate change through adaptation to its effects. Rather than isolated physical changes, in actuality, complex interactions between climate, environmental, physical, political, social, economic and institutional factors affect human security in terms of multifaceted adjustments to demographics, finances, political

stability and government policies. Climate pressures tend to increase people's exposure to risk.

The Notion of 'Water Wars' Is a Fallacy

Much has been made of disputes arising over access to water in the Nile basin, or those between Israel and Palestine. CLICO assessed such conflict and found that water wars are extremely rare. In some disputes, such as within Sudan and between Israel and Palestine, water may be cited as a cause, but in fact political, economic and social issues play a much stronger role in triggering conflict. Water is used as a means of control in war; it is not itself the cause of war. Where neighbouring countries share water resources, discord across national boundaries is more likely to stimulate cooperation. Nations with good and resilient transboundary institutions have little to fear from water scarcity.

CLICO found a slightly higher incidence of disputes than cooperation over access to water within MMES nations, but even then the likelihood of their escalating into violence was remote. There is less domestic water conflict in non-democratic countries, but the little that there is tends to be much more violent than in democratic countries. Importantly, it is increased water consumption due to economic growth that increases domestic tensions, rather than climatic variability.

In some circumstances, CLICO established that conflict and cooperation co-exist; furthermore, conflict can in fact be beneficial when it spurs action for change to reduce vulnerability, while conversely, cooperation can mask oppression and maintain suffering. The questions of why, when and how conflicts about water may be beneficial require further analysis.

Mediterranean sea, biosphere reserve Spain-Morocco.
Diana Pascual & Eduard Pla. 2012

Vulnerability Matters

Even if violent conflict is unlikely, climate change does threaten human security directly. Loss of life and massive displacements are likely effects of floods, landslides or sea-level rise. Taken together, the conditions of social exclusion and inequality, poverty, weak institutions, inadequate infrastructure and lack of information create a state of vulnerability.

Poverty brings with it higher incidences of food insecurity and ill health, which limit the options for adaptation. Key sources of vulnerability of marginalised people tend to be ignored by governments when adaptation is considered: for example, social security and working rights improvements of seasonal migrant workers of Kurdish origin in Turkey are largely excluded from adaptation policies formulated by the Turkish state; Bedouins in Egypt face a comparable situation.

Rural zone in Athienou, Cyprus. Adrianna Bruggeman. 2011

Inappropriate Government Responses

In the event of a natural disaster or in heeding warnings about the need to adapt to impending effects of climate change, massive state interventions, such as large dams, can exacerbate the situation. Solutions that involve population displacement or incur higher energy emissions, for example, can do more harm than good.

CLICO concludes that further examination of the kinds of institutions that improve human security, especially under conditions of uncertainty, is required.

Soft Solutions Work Better

Small-scale interventions of a social rather than technical nature are more effective in reducing vulnerabilities and damages. Demand-side water management is more effective than new dams and canals. Land-use zoning reduces damages from floods or landslides. Subsidised insurance, public early warning systems and public healthcare reduce the impacts of floods more effectively than engineering works. And diplomacy, treaties and good transboundary institutions are more effective in alleviating international tensions over water than the threat of arms.

Mapping Climate Change 'Conflict Hotspots': Proceed With Care

The current delineation of certain areas as climate change conflict hotspots is not useful and may be counterproductive or downright dangerous, creating a self-fulfilling prophecy. Govern-

ments should not ask for or use such classifications because they generally lack essential information and presume a direct link between climate and conflict. Data on institutional capacities is a much better predictor of conflict.

It is also essential to understand better how climate change effects or events in one geographical area may impact, positively or negatively, far-off territories through immigration or effects on trade and markets.

Research Parameters

The Clico Research Framework

CLICO conducted comprehensive analysis of human security in terms of socio-ecological and politico-ecological factors. The project spanned the global/ regional/transboundary perspective to that of community/individual.

Seven main questions were derived to better understand the water-conflict- security nexus, juxtaposing degrees of water insecurity with analysis of the capacity for adaptation of local populations or the availability of effective coping strategies. The questions placed emphasis on the winners and losers in each situation and the distribution of costs and benefits within both social ecological systems and wider society, including the analysis of issues related to social equity, economic interests and power relations:

- How is human security affected by risks associated with water and climate-related stressors, societal vulnerability and socio-political factors?
- How do political, economic, environmental and climatic factors exacerbate or mitigate water-related conflict?
- How does human security or a lack thereof affect demand for cooperation?
- Under what conditions may conflict reduce, rather than exacerbate, vulnerabilities?
- What constitutes the capacity of states and their institutions and other organisations to implement change, or radical change under times of stress?
- What interventions might be appropriate to reduce risk and improve human security?
- Under what conditions might policies of adaptation to possible or actual climate change impacts increase the vulnerability of some groups and/or exacerbate social conflict?

Eleven complementary case studies of sites where droughts or floods pose a risk to human security were carried out. In a separate study, CLICO created a large dataset of domestic conflicts and cooperations concerning water over a period of nearly 20 years, which was then analysed against climate, water and socioeconomic variables and now provides a baseline for further analysis. A further study collected existing international and governmental policies on water management and evaluated them in terms of their effectiveness in terms of climate change and its impacts on human security. In addition, the contents of agreements about water allocations where countries share usage of water resources were analysed to assess their capacity for adaptation both if, or when, climate change alters circumstances.

Policy Implications

Climate change combined with –some times long– standing socio-economic and political –vulnerabilities is expected to induce considerable changes on societies across the world. For many, the changes are likely to be negative, with increased risk of natural disasters and new weather patterns. Higher temperatures and lower rainfall are predicted for much of the MMES region: farming practices established over centuries may need to change in order to feed populations adequately; water shortages will become more frequent if proactive measures are not taken.

Governments Should Stop Making Reference To Water Wars

Variability in water supplies due to climate change is not a prime cause of conflict between people, yet the assertion is prevalent in the media and has been cited by governments as if it were a fact. While it canot be ruled out that in a future of climatic extremes, conflict may break out over access to water, it may also be that repetition alone is responsible for delivering a self-fulfilling prophecy of discord.

Invest In Social Security To Provide Human Security

Floods, droughts and rising sea levels are all hazardous for human life and undermine important societal infrastructures. Relocation and dispossession are frightening prospects but will be the reality of many groups in the MMES area unless policy interventions are made either to pave the way to change or to protect people. Those most in need of such interventions are the most vulnerable members of each society.

Desertification in Niger. Julie Snorek. 2011

State interventions can damage societies by forcing communities to relocate, engendering high environmental costs or pouring public money into inadequate schemes. Yet, to most people's minds, the State remains the correct institution to manage human security and disaster relief.

A strong social security net, comprising effective early warning systems and civil protection and disaster relief agencies, affordable insurance and inclusive social policies are of primary importance before, during and after disaster strikes. States should seek to ensure the security of all, especially their most disadvantaged members. Social, not national security is the key to human security in a future of climatic extremes.

Juba Port, South Sudan. Jan Selby. 2012

Integrate Policies

Many risks facing the MMES region are known; policy adjustments now could help to avert major problems in future. For example, where a community desires relocation, urban, rural, agricultural and industrial planning policies should make provision for such change via standardised measures, an evolutionary participatory approach and regular reviews.

Wherever applicable, climate change adaptation endeavours should be integrated with social, agricultural and environmental development and management policies. Making provision for conflict resolution from the outset in policies and treaties is a way of future-proofing against the uncertainties of the unfolding of climate change both now and in the coming years. While there are costs associated with negotiation and sharing information between parties, the tangible and intangible benefits of ensuring their long-term efficacy are potentially immense.

Secure Basic Rights

Ensuring equitable access to water requires integrated and integrative management of water resources based on fair allocations. In many situations, especially in arid areas, the coping mechanisms of MMES countries for enabling access to dwindling water resources results in divisive measures with divergent, win/lose results. All states should systematically seek to protect the weaker members of society and stop their exploitation. A right to water and a right to an adequate level of social entitlements can contribute the most to reducing the vulnerability of the weakest.

International Treaties Need Improvement

The handling of climate change in policies as well as both national and international treaties is generally inadequate. Crucially, international treaties need to address climate variability and change more effectively and explicitly. Conflict resolution mechanisms are important for dealing with uncertain climate and water futures. However such mechanisms are currently either absent from treaties, or are incomplete or unsophisticated due to the high costs of developing them. If negotiators were better informed on the potential implications of climate change on shared water resources, the incentive to include conflict resolution in transboundary agreements would grow considerably.

Truck to supply water in the city of Juba, South Sudan. Jan Selby. 2012

Project Identity

Coordinators

Prof. Dr. Giorgos Kallis. Scientific Coordinator.
giorgoskallis@gmail.com
Dr. Christos Zografos. Research Coordinator. Institute for Environmental Science and Technology (ICTA), Universitat Autònoma de Barcelona, Spain.
czografos@gmail.com

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Consortium

- The School of Development Studies and Tyndall Centre for Climate Change Research. University of East Anglia (UEA), UK (www.tyndall.ac.uk/index.html)
- Ecologic Institute, Germany (www.ecologic.eu)

- Centre for the Study of Civil War, International Peace Research Institute (PRIO), Norway (www.prio.no)
- Hebrew University of Jerusalem (HUJ), Israel (www.huji.ac.il/huji/eng)
- ETHZ Zürich, Center for Comparative and International Studies, Switzerland (www.cis.ethz.ch)
- The Cyprus Research and Educational Foundation (CyI), Cyprus (www.cyi.ac.cy)
- School of Global Studies, University of Sussex (UOS), UK (www.sussex.ac.uk/global)
- United Nations University, Institute for Environmental and Human Security (UNU-EHS), Germany (www.ehs.unu.edu)
- Palestinian Hydrology Group for Water and Environmental Resources Development (PHG), Palestinian Territories (www.phg.org)
- Centre for Ecological Research and Forestry Applications (CREAF), Spain (www.creaf.cat/eng/index.htm)
- The Israeli-Palestinian Science Organization (IPSO), Israel/Belgium (www.ipso-jerusalem.org)
- Department of Political Science & International Relations (PSIR), Addis Ababa University (AAU), Ethiopia (www.aau.edu.et/index. php/political-science-overview)

Further Information

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Project website: CLICO working papers and other publications are available at www.clico.org