

Preventing Climate Conflicts: Cooperative Approaches to Facing the Security Risks of Global Warming

by Jürgen Scheffran and Janpeter Schilling



Plant in dried out area. Photo © Max Velsen, www.sxc.hu

A rapidly depleting resource-base combined with an ever growing demand for energy and food creates a great challenge to the world of the 21st century. What makes this challenge unique is that humankind is beginning to experience the outcomes of its own unsustainable environmental behaviour on a global scale. With climate change we are becoming threats to ourselves, however with significant differences in terms of the responsibilities of those causing it and the risks to those affected by it. The other global threat competing with global warming is nuclear war, which is also predicted to have a devastating but cooling impact on the planet's atmosphere.

The linkages between climate change, natural resources, human needs and societal stability are highly complex and interwoven in various ways (see graph in Figure 1). Since climate change affects many of these links at the same time, there is the possibility that it can trigger cascading events and tipping points, leading to societal instability, security risks and conflicts, especially in already fragile regions. This is the reason why climate change has been called a "threat multiplier". (For more discussion on the security implications of climate change see the list of related publications at the end of this article).

To prevent these destabilizing effects cooperation and strategies are needed which respond to the diverse character and tremendous implications of the problem. The graph can help to identify the decision points along the

causal chain where strategies for stabilizing this interaction could be effective. The following article sketches possible options for conflict prevention and cooperation and draws conclusions with a view on the Copenhagen climate change summit in December this year.

International instruments for emission reduction and resource efficiency

The signatories of the 1992 UN Framework Convention on Climate Change (UNFCCC) have agreed to prevent dangerous levels of anthropogenic climate change (Art.2). Since greenhouse gas (GHG) emissions are the main driver for climate change, reducing them means tackling the problem at its roots. Through more efficient and low-carbon uses of energy, less resources are needed to sustain the current level of wealth. For example in Europe this would mean to accelerate the decentralization of the energy market and to make better use of geographically favorable locations for renewable energy. In this context, it is important to further develop sustainability criteria for renewable energy sources such as bioenergy to minimize land use conflicts with food production, environmental protection and development. There is also a significant potential for the efficient use and recycling of waste material.

In order to give developing countries the opportunity to increase their welfare level without having to use low-efficiency, highly polluting technologies (and therefore contributing more to climate change), it is essential that

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developed countries need to redirect the subsidies of fossil fuel or nuclear power to renewable energy and provide innovative technologies as well as capital. This calls for an intensified use and implementation of international collaboration, agreements and instruments such as taxes, emission trading schemes, and other Kyoto instruments. Countries can strengthen their cooperation in energy policy through multilateral funds such as the Global Environment Facility or the Carbon Finance Unit. Here, national protectionism has to be replaced by a genuine multilateral approach. Cooperative approaches are also important when it comes to internationally recognizing the environment as a GHG sink. Countries should be rewarded for preserving natural ecosystems such as tropical rainforests and wetlands. It is a challenge to better understand and adapt to the natural carbon cycle, rather than transform it with large-scale geoengineering experiments.

Double Zero: Negotiation Challenges of Preventing Global Warming and Nuclear War

Editorial by Jürgen Scheffran

The world is facing multiple risks and threats which pose enormous challenges to humanity. In the two decades since the end of the Cold War we have seen significant reductions in the nuclear arsenals. But with more than 20,000 nuclear weapons left the planet can still be destroyed multiple times over, even more as the explosion of a few hundred nuclear weapons may lead to a dramatic cooling on a global scale. More countries (India, Pakistan and North Korea) have joined the nuclear club, others are getting close, most prominently Iran. A number of countries are acquiring ballistic missiles, a few enter the arena of missile defense and space warfare.

Not less dramatic are the risks of global warming, caused by the emissions of carbon dioxide and other greenhouse gases. The 2007 reports by the Intergovernmental Panel on Climate Change (IPCC) draw a dire picture. Climate change is supposed to endanger ecosystems and social systems all over the world. Devastating impacts on food and water availability, floods, droughts and storm disasters and large-scale events could affect large populations and force them to migrate. Increasingly, the security risks and conflicts of global warming are raised in policy statements and reports from think tanks and research groups.

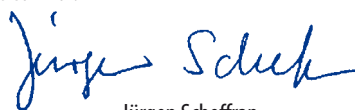
There are various linkages between nuclear weapons and global warming. As Jonathan Schell has put it in his book „The Seventh Decade“: “The two perils have a great deal in common. Both are the fruit of swollen human power—in the one case, the destructive power of war; in the other, the productive power of fossil-fuel energy. Both put stakes on the table of a magnitude never present before in human decision making. Both threaten life on a planetary scale. Both require a fully global response.” In both cases, it is largely the most powerful countries causing the problems while most affected are the weakest countries.

It is notable, that both threats to humanity are closely related to the current fossil-nuclear energy system which generates more than 80 percent of the world's energy. While nuclear power is inextricably linked with nuclear weapons development, fossil energy sources release carbon that drives global warming. Replacing fossil fuels with nuclear fuels to reduce carbon emissions means to replace one problem with another, given the costs, safety concerns and security risks of nuclear power. Some suggest geo-engineering approaches to manage the risks, such as nuclear waste management and carbon sequestration. Burying the dangers underground only hides the problems since neither the nuclear materials nor the carbon will disappear but will remain a time bomb for future generations. More appropriate is to avoid the problem in the first place by a sustainable energy-system that is nuclear-free and carbon-free.

To move towards a double zero for nuclear weapons and carbon emission, the international community has to work together at an unprecedented scale and negotiate viable solutions. While the Kyoto Protocol was not able to reduce emissions to 1990 levels, it is essential to stabilize atmospheric carbon concentrations at non-dangerous levels, as required by the UN Framework Convention on Climate Change. As the bare minimum scientists demand that temperature change within this century should not exceed two degrees Celsius above pre-industrial levels. To achieve this goal, an 80% emission reduction or more by the middle of the century is widely held as necessary. Similarly, the elimination of nuclear weapons has found broad support, now including the US President and the UN Security Council. Ratification of the Comprehensive Test Ban Treaty, a strategic arms reductions treaty and a nuclear weapons material cutoff treaty are logical next steps in preparation of the 2010 Review Conference of the Non-Proliferation Treaty. However, a piecemeal approach will not solve the problems, and a larger framework is required in both areas.

To turn rhetoric into concrete actions, non-governmental organizations have made concrete proposals for comprehensive solutions in both the nuclear and climate fields. The Model Nuclear Weapons Convention, drafted in 1997 and updated in 2007 by an international group of experts, outlines a path to Global Zero. A model treaty for drastic emission reductions and effective adaptation measures has been presented by non-governmental organizations in preparation of the climate summit in Copenhagen in December this year.

If both problems are not tackled comprehensively, one problem could turn down the solution of the other, as was the case during the Bush administration. Therefore it is essential to strengthen the positive linkages between both policy areas. Nuclear disarmament would improve the conditions for climate cooperation which in turn would make nuclear weapons more obsolete. The vicious spiral of death needs to be replaced by a sustainable life cycle, instead of sustained wars we need sustainable peace. To end with Jonathan Schell: “Anyone concerned by the one should be concerned with the other. It would be a shame to save the Earth from slowly warming only to burn it up in an instant in a nuclear war.”



Jürgen Scheffran



Dr. Jürgen Scheffran is professor at the Institute for Geography in the KlimaCampus of University Hamburg. He leads the Research Group Climate Change and Security.
Contact: juergen.scheffran@zmaw.de

Imprint and Contact



International Network of Engineers and Scientists for Global Responsibility (INES)

Schützenstrasse 6a
D-10117 Berlin
Germany
Phone: +49 (0)30 20 65 38 31
Fax: +49 (0) 30 21 23 40 57
office@inesglobal.com
ISSN: 2072-3806

Editorial Team: Prof. Jürgen Scheffran, Dr. Joachim Spangenberg, Gabriele Krauskopf, Reiner Braun

Graphic Design: Benedikt Wohlleben

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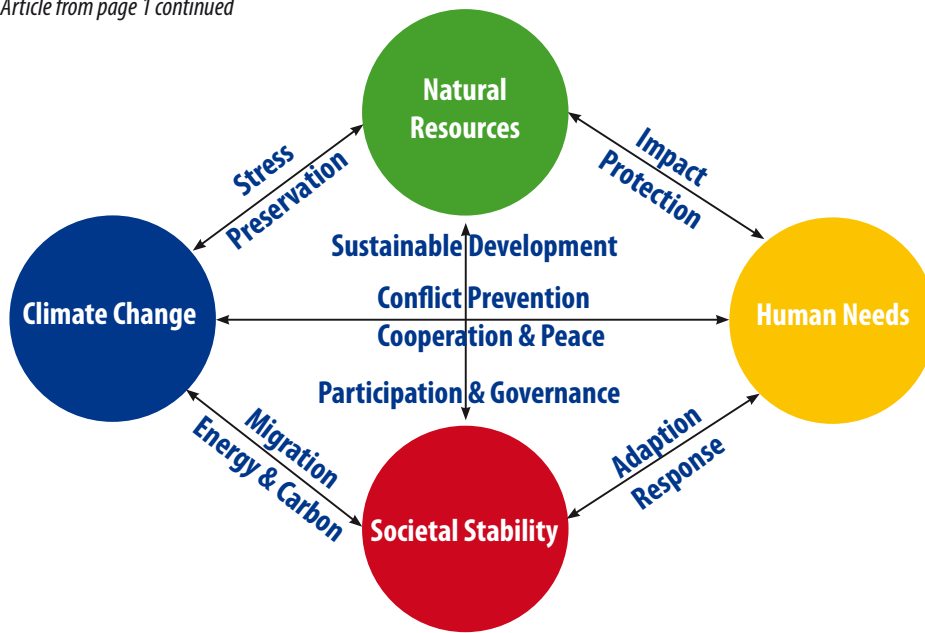


Fig. 1: Causal links between climate change, natural resources, human needs and societal stability, with possible strategies.

Sustainable development cooperation and adaptation

Since developed countries have better means to adapt to and minimize the effects of climate change, they are more robust and less likely to experience environmentally induced social shocks. Hence, boosting the economy through sustainable development that addresses the needs of people in less wealthy regions, strengthens the adaptive capabilities to manage climate change and thereby reduces social vulnerability and security risks. Additionally, promoting human rights and effectively reducing poverty enhances the resilience of societies. In this context, development cooperation such as the Official Development Assistance and the use of microfinance institutions has to be seen as a measure of security risk containment. Considering the magnitude to contain security risks posed by climate change, it is insufficient to simply expand the current development instruments but develop focused initiatives, e.g. a new international fund to cope with the expected increase of migration phenomena.

Introducing global climate change responsibility and justice

The developed countries are responsible for emitting the largest share of GHG. Yet, it is the less wealthy regions of the world who suffer most from the effects of climate change. But this inequity does not only have a social component between rich and poor and a geographical one between North and South, it also has a temporal dimension which unfolds between current and future generations. To achieve a balance of risks, costs and benefits a new global deal is required that implements ethical principles of climate equity and justice that could lead to a fair and efficient burden-sharing across generations and nations. For this purpose the UN Framework Convention on Climate Change (UNFCCC) introduced the “common but different responsibilities” formula to differentiate between the roles of industrialized and developing countries. For

practical purposes, the “polluter pays” and the “ability-to-pay” principles are relevant in this context. The challenge is to set country tailored emission reduction targets that are in sum sufficient to prevent dangerous climate change and concurrently do not overburden single countries or regions. Specific concepts such as the Triptych approach or the Contraction & Convergence proposal seek to achieve the delicate balance. While the first one envisions staged, sector-specific emission allowances to be shared among a group of countries, the second one focuses on a per-capita emission target which will eventually be equal for all countries. A third option called Common but Differentiated Convergence allows countries to choose a reduction path according to their development. It is up to the developed countries to promote international emission reduction targets and to account for an ambitious share of the burden. The willingness of each country to cooperate will be essential in this process.

Strengthening cooperation in risk, instability and conflict management

Cooperation is also highly important in managing risk, instability and conflict, as far as these are already unavoidable. An intelligent sharing of forces on a regional and global scale has the potential to mitigate the effects of natural disasters. Among others, this includes flood and wildfire control, disaster relief, protection of refugees as well as prevention of crime and looting. International cooperative emergency plans are especially important for fragile and weak states where national responding capabilities are quickly exhausted when facing natural disasters. For this purpose the OECD's Development Assistance Committee has set up a Fragile States Group that has defined Principles for Good International Engagement. These principles need to be widely implemented. At this point it should be stressed that improving risk management and intervention must not lead to devaluation of crisis prevention, since this clearly remains the favourable option. Given the huge amount of resources still spent for military purposes

and the continued risks of arms races and wars (including nuclear war), it is an imperative to pursue arms control, non-proliferation and disarmament. A nuclear-weapon-free world would be an essential contribution to eliminate the gravest threats our planet is facing. The transformation of security policy would reduce the destructive potential of military forces, prevent new destabilizing developments of advanced weapon systems and establish regional security concepts built on conflict resolution and peace-building.

Small scale cooperation and participation

On the micro level, the inclusion of local citizens and stakeholders can serve as a participatory approach to deal with environmentally related security issues and bring in different views on solving the underlying problems. Giving the public an opportunity to participate in decision making processes, e.g. through public hearings, surveys, forums and focus groups, opens a window for early conflict prevention and mediation. This is particularly important for the management of natural resources where violent conflicts are often more likely due to a lack of alternative ways of articulating disagreement. Local participation can be integrated into regional development cooperation mechanisms.

Global governance and institution building

All of the cooperative options discussed, call for a new global governance architecture to implement an integrated set of effective strategies, ranging from mitigation to adaptation and from the local to the global level. This requires a strong international framework and institutions to produce appropriate solutions, rules and regulations. The goal is to create a combined strategy out of sustainable energy use, environmental protection, economic development and preventive security policy, incorporating states as well as non-governmental actors. New concepts of adaptive governance would adjust the actions and interactions to the complex and changing environment created by climate change.

Conclusions and implications for Copenhagen

The magnitude and complexity of the climate change challenge and its possibly severe and far reaching security implications can be at the same time overwhelming and depressing. This article tried to show that, while the importance of climate change can hardly be overemphasized, there are manifold ways, levels and sides from which the problem can be tackled. In order to succeed, it is essential that we understand climate change as a common problem which we can only face together by jointly developing the problem-solving capacities of our global society. Since environmental destruction, societal instability and conflict are mutually reinforcing each other in a negative coupling, the world is facing the double challenge of achieving a dual transition to both sustainable development and to peace and security – concepts which can strengthen

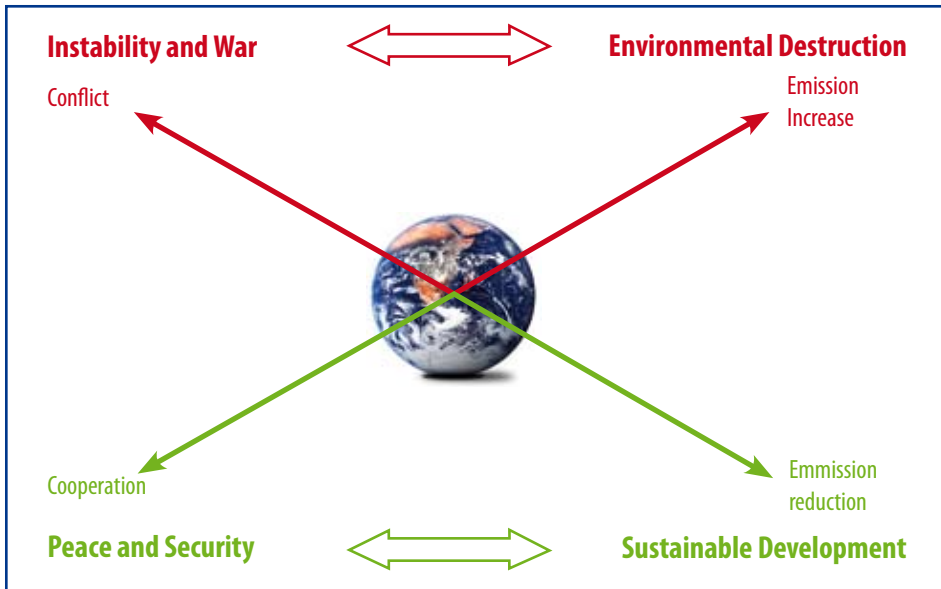


Figure 2: The transition from the negative coupling between climate-induced environmental destruction, instability and conflict to a positive coupling between sustainable development, peace and security.

each other in a positive way (see Figure 2). Integrated strategies seek to develop synergies between environmental policy, development policy and security policy. In December of this year, the participants of the world

climate conference in Copenhagen have the opportunity to show that they have understood this as well. The industrialized countries have to lead the way into a new climate policy area which is characterized by collective,

responsible and sustainable actions. Ambitious and concrete emission reduction targets have to be the outcome of the summit. But as we have seen, this is only a small part of the solution. Comprehensive cooperation efforts in all disciplines and on all scales are necessary. A shift in international policy towards a combination of distribution mechanisms, market processes and interest structures is needed which adequately meets the inequities associated with climate change.



Jürgen Scheffran is professor in climate change and security (CLISEC) in the Institute for Geography and the KlimaCampus Cluster of Excellence at the University of Hamburg. KlimaCampus brings together meteorologists, oceanographers and ecologists with social and economic experts as well as conflict researchers and media scientists. The CLISEC research group analyses and models possible impacts of climate change on human and international security and regional conflicts.



Janpeter Schilling is a research associate and phd-student in CLISEC. As a young geographer he is interested in the interface of climate and peace research, particularly in Africa. Contact: ZMAW, Bundesstr. 53, 20146 Hamburg, Germany. Emails: juergen.scheffran@zmaw.de, janpeter.schilling@zmaw.de.

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Climate Change, Social Stress and Violent Conflict

International Conference, KlimaCampus at Hamburg University, November 19/20, 2009

Climate change is becoming a focal point for security and conflict research and poses a challenge for the world's policymaking and governance structures. The magnitude and diversity of risks associated with global warming could trigger a sequence of cascading events, involving environmental degradation, economic decline, social unrest and political instability, that could threaten human security and societal stability and lead to violent conflict. In parts of the world (notably in Africa, Asia and Latin America) the erosion of social order, state failure and violence could go hand in hand. In the worst-affected regions, conflicts may spread to neighbouring states, e.g. through refugee flows, ethnic links, environmental resource flows or arms exports. Such spillover effects can destabilize regions and expand the geographical extent of a crisis, overstressing global and regional governance structures. The devastating impact of hurricane Katrina in 2005 and the 2003 heat wave in Europe demonstrated that not only poor countries are vulnerable to climate change but the world's richest nations as well. Climate change could increase resource competition between major powers (e.g. in the Arctic) and induce strategies with additional risks and conflicts (e.g. nuclear power, bioenergy, geo-engineering).

The workshop aims to bring together national and international experts to explore and discuss main elements of the current "state of the art" in terms of knowledge on security implications and conflict potential of climate change. Furthermore participants will explore research needs, both with respect to problem analysis and methodologies. Besides providing a snapshot of the current debate, it aims at building connections among individuals and research groups that can provide a basis for establishing an international network on climate security and conflict. In addition to reviews of current knowledge, the workshop organizers also invite suggestions for new efforts by the research community. This concerns both traditional concerns, such as the causal relationship between resource scarcity and violent conflict, as well as future large scale and cascading effects triggered by climate change. Effects for consideration can include harvest losses, floods,

droughts, sea-level rise, mass migrations and natural disaster, that together with other factors could lead to social stress, societal instabilities, security risks and violent conflicts.

Guiding questions

- What are the major causal chains between climate change and violent conflict, and what is the empirical basis for these linkages, revisiting previous assessments of environmental conflict?
- Which approaches, methods and theories are helpful for the analysis of the links between climate change, social stress and violent conflict?
- Is it adequate to call climate change a threat to national or international security?
- Are broader security conceptions (such as environmental or human security) useful for evaluating the violence risks of climate change?
- What is the likelihood, potential damage and resulting risk for violent conflict of water and food scarcity, mass migrations and natural disasters induced by climate change?
- Will the international community face more violent conflict or more cooperation on climate change and the use of natural resources?
- What are the most likely and most adequate responses of the world's policymaking and governance structures to address the climate-conflict nexus and what can institutions contribute?

Examples of possible topics

1. Empirical basis of linkages between environmental stress and violent conflict, revisiting the debate on violent reactions to resource scarcity
2. Empirical basis of past climate change and prediction of climate futures, in the context of potential effects on humans that might possibly cause conflicts, in particular water and food scarcity, migration, disasters
3. Conceptual approaches and contributions of academic

disciplines to understanding causal effects, cascading potential and tipping points in climate-security interactions

4. Impacts and conflicts associated with response strategies to address climate change, such as nuclear power, bioenergy, geo-engineering, disaster management.
5. Security concepts and their relations to climate change and violent conflict, connecting to the "securitization" discourse
6. Regional case studies of climate-induced security risks and conflicts: Sahel zone and Darfur, Middle East, Southern Asia, Central Asia, Latin America, Mediterranean, Arctic
7. Mechanisms and institutions for addressing climate security challenges and opportunities for strengthening international cooperation and peace.

When: November 19/20, 2009

Where: KlimaCampus, Hamburg University, in cooperation with the Institute for Peace Research and Security Policy (IFSH) and the Centre for Science and Peace Research (ZNF)

Organizing Committee: The conference will be organized by a local organizing committee of participants in the KlimaCampus, Universität Hamburg, including: Jürgen Scheffran (coordination), Michael Brzoska, Martin Claussen, Anita Engels, Lars Kaleschke, Martin Kalinowski, Jürgen Ossenbrügge.

International Program Committee: Frank Biermann, Alexander Carius, Geoffrey Dabelko, Nils Petter Gleditsch, Bill Hare, Peter Nardulli, Karen O'Brien, Úrsula Oswald Spring, Ole Wæver, Oran Young

Program: For more information see website: <http://dissec.zmaw.de>

Contact: Prof. Dr. Jürgen Scheffran, Research Group Climate Change and Security, Institute for Geography, KlimaCampus, University Hamburg, ZMAW, Bundesstr. 53, 20146 Hamburg, Germany; phone +49 (40) 42838-7722, email juergen.scheffran@zmaw.de, regarding conference: ClimateSecurity@uni-hamburg.de.

Future Climate of the Arctic

Conference on an Arctic Nuclear Weapon Free Zone Copenhagen, Denmark 10.-11. August 2009, by Adele Buckley



Ice Calves Large pieces of iceberg floating in a blue lagoon in Iceland. Photo: Daniel West © www.sxc.hu

As the Arctic regions of the world enter into a period of unprecedented change, it would be well to plan now for policy and practice that will ensure and enhance the security of peoples, lands and oceans of the Arctic. The future is as near as tomorrow, next year, or decades from now, and to the end of this century and beyond.

Climate change in the Arctic has been surprising the experts who participated in the work of the IPCC1 (Intergov-

ernmental Panel on Climate Change) because the rate of change of average temperature is exceeding predictions. The paper draws on current publications and websites, scientific research papers and breaking news about the future climate of the Arctic. The year 2050 is the target year by which massive interventions are to be accomplished; the means of international cooperation to achieve this is to be discussed at the December 2009 Conference in Copenhagen, Denmark. The successor agreement that will commence when the Kyoto Protocol ends in 2012 will be drawn under the UN Framework Convention on Climate Change (UNFCCC).

The information in this paper has been acquired from many credible sources, but relies somewhat disproportionately on climate change effects noted and projected in the Canadian Arctic. Nevertheless, climate change is global so observations about changes in land, sea and ice will be applicable throughout the Arctic, perhaps with minor alterations to fit regional conditions.

The future climate of the Arctic is examined here by looking at the projected condition of the polar ice cap, and the climate changes associated with it. Then a survey of the consequences of the Arctic climate change gives a sense of the vast extent and effect of the new conditions in the Arctic. The inescapable conclusion is that significant international attention is required to bring governance and an orderly adaptation regime to the Arctic, now a new frontier for the planet. A sense of urgency is vital.

To read the paper (pages 70-94) and see the complete documentation of the conference please visit: http://www.pugwash.org/reports/nw/nwzf_sept09.pdf#



Adele Buckley, Pugwash Council, Canadian Pugwash