# The Environment and our Security

## How our understanding of the links has changed

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# Abstract[1]

Environmental degradation and the exploitation of natural resources are recognized as important drivers of violence between and within states, contributing to poverty and state failure.

This paper charts our evolving understanding of the complex relationship between environmental change and security, a debate that has developed considerably since the UN Conference on the Human Environment, held in Sweden in 1972.

It attempts to outline the major theoretical approaches and to arrive at some conclusions as to what we do know about environment and security. Finally, the paper makes some suggestions for practical policies that can ensure environmental management is supportive of both peace and sustainable development.

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[1] This paper draws on a paper written by Jason Switzer and Alec Crawford of IISD for the OECD CPDC, "Managing the environment to prevent conflict and build peace: A review of research and development agency experience," February 2005.

*"If we did a better job of managing our resources sustainably, conflicts over them would be reduced. So, protecting the global environment is directly related to securing peace."*

Hon. Professor Wangari Maathai, Nobel Laureate

# Environment and security in the Cold War

The "environment and security" movement, if it can be called that, was born from a deepening public concern in the 1960s and 1970s over environmental degradation. This growing environmental awareness resonated against a nerve-wracking backdrop of Cold War uncertainty. Subsequently, a series of events— international meetings on the one hand and man-made environmental disasters on the other—illustrated some of the important links between the environment and our security.

In 1972, a United Nations conference on Human Security was convened in Stockholm under the leadership of Maurice Strong. Although the conference was rooted in the regional pollution and acid rain problems of northern Europe, it led to the creation of the United Nations Environment Programme (UNEP) and many other national environmental organizations. These organizations have been central to subsequent multilateral environmental cooperation and dialogue.

The OPEC oil crisis in the 1970s fuelled the debate over the ecological carrying capacity of the earth as well as the political ramifications of dispute over scarce resources. Meanwhile, the Three Mile Island nuclear accident in 1979 and the toxic chemical gas leak in Bhopal in 1984, to pick just two examples, graphically demonstrated some of the environmental dangers of a modern, changing economy.

In 1987, the report of the World Commission on Environment and Development, chaired by Norwegian Prime Minister Gro Harlem Brundtland, was released. Titled *Our Common Future*, it wove together environmental, economic and social issues and helped to popularize the term, "sustainable development."

# A new world "disorder"

The initial relief at the end of the Cold War, the return to democracy in Eastern Europe, German reunification and multilateral cooperation against Iraq's invasion of Kuwait in the 1991 Gulf War led many to herald the dawn of a "new world order." This, it was believed, would be one that respected human rights and the rule of law, and in which the United Nations would finally begin to function as originally intended by its founders.

Symbolic of a renewed interest in multilateralism, the Rio Earth Summit in 1992 saw the largest ever gathering of world leaders tackle questions of the environment and development. For perhaps the first time it seemed that the environment had become a matter of considerable international attention.

However, optimism over this supposed new world order was soon dashed by the gruesome images of conflict across the world in Rwanda, Burundi, Somalia and Bosnia. The inability of the international community to reach consensus on the best, or indeed any, course of action, undermined confidence in a new form of assertive multilateralism.

This inaction gave free reign to some of the worst excesses of civil war—ethnic cleansing and genocide on a scale not seen since the Second World War. Ethnic conflict was often total war, involving intractable guerrilla battles and great loss of civilian life. As the experience of trying to mediate the conflict in the Balkans proved, this form of conflict was also highly resistant to resolution.

## Environment and security research since the Cold War

The dramatic rise in intra-state conflict in the early to mid-1990s led many academics, commentators and policy-makers to search with some urgency for an explanation; often looking for answers outside traditional models of state security. This debate has taken two major, interrelated paths.[2]

First, has been a redefinition of what we should understand by security in the post-Cold War world. Second, has been empirical research to try and discern whether and how environmental change might threaten peace.

This redefinition has prominently featured environmental considerations. Speaking at the launch of the 1997 Human Development Report of the United Nations Development Programme (UNDP), Dr. Mahbub ul Haq succinctly expressed a new vision of security shared by many. He argued that, "[s]ecurity is increasingly interpreted as security of people, not just territory; security of individuals, not just of nations; security through development, not through arms; security of all people everywhere—in their homes, in their jobs, in their streets, in their communities, and in the environment."[3]

In 1994, journalist Robert Kaplan wrote a highly influential article, "The Coming Anarchy," that painted a bleak picture of a West African descent into endemic conflict fuelled by spiralling population growth, environmental degradation and easy access to arms. Based on early environment and security research, the future he portrayed was one of "disease, overpopulation, unprovoked crime, scarcity of resources, refugee migrations, the increasing erosion of nation-state independence and international borders, and the empowerment of private armies and drug cartels."[4]

Kaplan's analysis of West Africa attracted a great deal of attention. Even more alarmingly, Kaplan argued this volatile and destructive mix was gaining critical mass elsewhere in the world. By arguing that the result for Northern countries might be mass inward immigration from failed developing states, he played deftly to the unspoken fears of the developed countries. However, "The Coming Anarchy" failed to give due credit to societies' capacity to adapt to environmental change, nor to the potential for international action to rein in trade in those resources used to fuel conflicts.[5]

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[2] After Dalby, S. "Security and Ecology in the age of globalisation," ECSP Report, Issue 8, Environmental Change and Security Project, Woodrow Wilson Foundation for International Scholars, 2002.

[3] Cited in Najam, A. *"The Human Dimension of Environmental Insecurity; some insights from South Asia,"* 2002.

[4] Kaplan, Robert, D. "The Coming Anarchy – how scarcity, crime, overpopulation, tribalism and disease are rapidly destroying the social fabric of our planet," *The Atlantic Monthly,* February 1994, pp. 44-76.

[5] Switzer, J & Crawford, A. *"Managing the environment to prevent conflict and build peace: a review of research and development agency experience,"* OECD/ IISD, 2005.

# Four approaches to environment and security

Since the early 1990s, a great deal of research has tried to elaborate our understanding of the relationship between environment and security. This body of work can be simplified into four discernible but interconnected approaches.[6]

First is the Toronto school, which is the name given to the research groups led by the University of Toronto's Thomas Homer-Dixon. This approach focusses, like Kaplan's, on resource scarcity as a cause for insecurity and conflict. The Toronto school argues that simple scarcity as a result of environmental change and population growth is only part of a much more complex picture. They focus on situations where elites extend their control over productive resources (in a process called "resource capture") and displace poorer communities ("ecological marginalization"). Resource capture and ecological marginalization, they argue, may lead to conflict (as people resist marginalization) and environmental damage (as displaced people move into fragile, marginal environments). In some cases, this process may be connected to state failure and political violence, especially in developing states where insurgencies are fuelled by grievances related to injustice and inequity.

A second approach is proposed by the Swiss Environment and Conflicts Project (ENCOP) led by Günther Baechler. ENCOP research links environmental conflict more directly to a society's transition from a subsistence to a market economy. They argue that violence is most likely to occur in more remote areas, mountainous locations and grasslands—places where environmental stresses coincide with political tensions and inequitable access to resources. In many cases, conflict occurs where communities resist the expropriation of resources and the environmental damage caused by large-scale development projects.

A third approach, linked to the International Peace Research Institute in Oslo (PRIO) amongst others, takes an entirely different starting point. PRIO suggests that violence in many developing countries occurs when different groups attempt to gain control of *abundant resources*. World Bank studies indicate that countries heavily dependent for their income on the export of primary commodities are at a dramatically higher risk of conflict than other poor countries, particularly during periods of economic decline.[7] Other studies suggest that many wars concern control over revenues from valuable resources—especially so if they are easy to transport and hard to trace. Examples include: illegal timber in Burma, diamonds in Sierra Leone or coltan in the Democratic Republic of Congo.

A fourth approach argues that environmental degradation is one of the many "network threats" that face the world. Climate change, like epidemic disease or international terrorism, is an example of a network threat. People make decisions about their energy use based on their immediate social, economic and ecological surroundings. These decisions constitute an informal, transnational web of individual behaviours that ultimately present a truly global security problem. Like epidemic disease, the threat is dispersed, and so is difficult to neutralize through negotiations or force. And although climate change could be extremely dangerous and costly, it is hard to identify an effective mitigation policy, since no single incentive structure can modify the behaviour of all the actors. In a 2004 article, Richard Matthew and Bryan MacDonald argue this idea holds important lessons for future environment and security research.[8]

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[6] After Dalby, S. "Security and Ecology in the Age of Globalistion," Environmental Change and Security Project, Woodrow Wilson Foundation for International Scholars, 2002.

[7] Collier, P. et al. Breaking the Conflict Trap: Civil War and Development Policy. World Bank, 2003.

[8] Matthew, R & McDonald, B. "Networks of threats and vulnerability: lessons from environmental security research," *ECSP Report,* Issue 10, 2004, pp.36-42.

However, absent from much of the academic literature on environment and security are practical recommendations for how environmental protection and natural resource management could help prevent and resolve conflict. According to Simon Dalby, the assumption that the environment is separate from humanity and economic systems lies at the heart of the policy difficulties facing sustainable development and security thinking.[9] Whatever the reason, the result is that much of the academic research has yet to articulate concrete tools for policy-makers.

## Some observations on the links between environment and security

Experience shows us that conflict can be driven by natural resource degradation and scarcity, and by competition for control where resources are abundant. Ask an ecologist and a political security analyst to name countries of gravest concern to them, and though their points of departure are different, their final lists would look remarkably similar: Afghanistan, Bangladesh, Haiti, Indonesia, Iraq, the Great Lakes region, the Solomon Islands and Somalia, among others.[10] Indeed, the award of the Nobel Peace Prize to a Kenyan environmentalist in 2004 underlines the relevance of environmental issues to global security.[11]

The connections between environmental change and human security are many and complex. On the one hand, our environment affects our security by undermining livelihoods, or by leading to conflict over scarce or abundant resources. On the other hand, insecurity can have a negative impact on our environment through, for example, the ecological impacts of large refugee movements or warfare itself. However, environmental concerns can also present opportunities for dialogue; non-military mechanisms for communication; and greater mutual understanding.

All too often the environment and security literature seems to focus on the developing world as the both the victim and the villain of environmental insecurity. However, the developed countries' habit of unsustainable consumption is at the heart of many conflicts over both scarce and abundant resources in the developing world. Throughout much of the 1990s, for example, war over diamonds in Sierra Leone continued, at least in part, because diamond markets in the North were blind to the provenance of those diamonds.

It should be mentioned that there is, as yet, no robust empirical link between environmental stress and the start of violent conflict. Environmental factors are rarely, if ever, the sole cause of conflict; ideology, ethnicity and power politics are all important factors. However, it is clear that environmental stress increases the severity and duration of conflict. That said, efforts to develop robust empirical forecasts of violent conflict on the basis of environmental information have had a poor record of success, due to the complex interaction of social, political and economic factors involved.

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[9] Dalby, S. "Security and Ecology in the age of globalisation," ECSP Report, Issue 8, Environmental Change and Security Project, Woodrow Wilson Foundation for International Scholars, 2002, p. 100.
[10] Diamond, J. "Disasters Waiting to Happen," *The Guardian,* U.K., 6 January 2005.
[11] Norwegian Nobel Committee. "Press Release: The Nobel Peace Prize 2004," 8 October 2004.
http://nobelprize.org/peace/laureates/2004/press.html

# Tackling the problems of environmental change and insecurity

Environmental programming can make a significant contribution to peace. There are many examples of small-scale and site-specific environmental activities that have contributed to conflict resolution. Due to its low political visibility, environment may be one of the only sectors of development cooperation open for programming in situations of weak, repressive or divisive governance.

Earlier this year, the International Institute for Sustainable Development (IISD) completed a wide-ranging study of the various program options that domestic government, donor agencies and international organizations may attempt to mitigate the negative impacts of environmental change on peace and security.[12] Our findings are summarized below:

*Preventing Resource Scarcity Conflicts*

Rising resource scarcity is most likely to generate violence at the local level by intensifying inter-group competition. Scarcity of natural resources is a product of limited or declining supply, of rising demand and of unequal distribution. The poor are most dependent on several key resources for their livelihoods: forests, land, freshwater and fisheries, and the least able to adapt to a rapid decline in their availability.

*Programming options include: restoring these critical resources and "commons" spaces (e.g., undeveloped forests, pastures); enhancing livelihoods productivity and diversity; and reinforcing traditional and modern mechanisms for dispute resolution.*

*Preventing Resource Abundance Conflicts*

Some conflicts are enabled by access to valuable natural resources, or fuelled by competition between groups for control over them. World Bank studies indicate that countries heavily dependent for their income on the export of primary commodities are at significantly greater risk of conflict than other poor countries, particularly during periods of economic decline.[13] These commodities can affect the nature, geographical focus, duration and intensity of violent conflict, depending on certain physical and market characteristics. Minerals, oil and timber are resources of particular concern.

*Programming options include: shifting incentives in support of sustainable resource use; enhancing natural resource governance and revenue transparency; strengthening international environmental legal frameworks and enforcement activities; strengthening community resource rights and participation in decision-making; and enhancing livelihoods productivity and diversity.*

*Conflict-Sensitizing Protected Areas Management*

Protected areas (PAs) can be both a victim of conflict, and a source of tensions. Protected areas, by their nature, limit local communities' access to resources and this can lead to tensions and grievances.

*More can be done to help conservationists integrate conflict sensitivity and contingency planning into their operations, and to ensure that their activities "do no harm."*

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[12] Switzer, J. and Crawford, A. of IISD, "*Managing the environment to prevent conflict and build peace: a review of research and development agency experience,*" OECD/ IISD, February 2005.
[13] Collier, P. et al. Breaking the Conflict Trap: Civil War and Development Policy. World Bank, 2003.

*Mitigating Environmental Tensions from Humanitarian Assistance*

Environmental degradation linked to large refugee movements and long-term encampments can exacerbate tensions over resource access which may spill over into violence.

*Efforts to prevent this include impact assessment and mitigation activities; community-level resource conservation training/education; and ecological restoration/ agroforestry. In these contexts, donor technical assistance and funds can have an enhanced impact in alleviating environmental obstacles to development that pre-date or result from violence. A strong rationale exists to include environment-related factors in assessing post-conflict needs and in elaborating poverty-reduction strategies. Finally, environmental decision-making that involves both the refugee community and the local host community is key to reducing tension.*

*Integrating Environmental Priorities into Post-Conflict Reconstruction*

There is a unique "policy space" in countries emerging from conflict where donors can work to strengthen environmental management and to promote sustainable development.

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*Environment and Confidence-Building*

Environmental peacemaking, as it is termed in academic literature, seeks to bring together parties in conflict—across borders or within them—to collaborate on environmental issues to reduce tensions. There is the potential for a new generation of international relations based around cooperation of shared resources and based on principles of mutual trust and cooperation rather than legacies of distrust and dispute. For example, the Indus Water Treaty between Pakistan and India remained one of the few areas of sustained cooperation between the two countries throughout decades of fractious relations and sabre rattling.

*Initiatives can focus on: building confidence through dialogue on a non-contentious environmental issue (e.g., renewable energy); co-management of mutually-critical shared resources such as water in arid regions; or establishing "Peace Parks" to resolve border disputes.*

# References

**Berdal, M. & Malone, D.** (eds.) *Greed and Grievance: Economic Agendas in Civil War.* IPA, 2000.

**Collier, P. & Bannon, I.** (eds.) *Natural Resources and Violent Conflict: Options and Actions.* World Bank, June 2003.

**Dalby, S.** "Security and Ecology in the age of globalisation" in *ECSP Report*, Issue 8, Environmental Change and Security Project, Woodrow Wilson Foundation for International Scholars, 2002.

**Kaplan, Robert, D.** "The Coming Anarchy – how scarcity, crime, overpopulation, tribalism and disease are rapidly destroying the social fabric of our planet," *The Atlantic Monthly,* February 1994, pp. 44-76

**Matthew, R & McDonald, B.** "Networks of threats and vulnerability: lessons from environmental security research," *ECSP Report,* Issue 10, 2004, pp.36-42.

**Matthew, R.** "In defence of environment and security research" in ECSP Report, Issue 8, Environmental Change and Security Project, Woodrow Wilson Foundation for International Scholars, 2002, pp.109-118.

**Najam, A.** *"The Human Dimension of Environmental Insecurity; some insights from South Asia,"* 2002.

**Switzer, J & Crawford, A.** *"Managing the environment to prevent conflict and build peace: a review of research and development agency experience,"* OECD/ IISD, 2005.