

Hans Günter Brauch, Úrsula Oswald Spring, Czeslaw Mesjasz,
John Grin, Pál Dunay, Navnita Chadha Behera,
Béchir Chourou, Patricia Kameri-Mbote, P. H. Liotta
(Editors)

Globalization and Environmental Challenges

Reconceptualizing Security in the 21st Century

With Forewords by Stavros Dimas, Commissioner for the Environment, European Union; Professor Hans van Ginkel, former Rector of the United Nations University and Under-Secretary General of the UN (1997-2007); Professor Klaus Töpfer, former Executive Director, UNEP and Under-Secretary General of the UN (1997-2006)

With Prefaces by Ambassador Jonathan Dean; Professor Úrsula Oswald Spring, former Environment Minister, Morelos, Mexico; Dr. Vandana Shiva, Alternative Nobel Prize; Dr. Narcis Serra, former Vice President of the Government and former Defence Minister of Spain

With 85 Figures

9 Security and Environment Linkages Revisited

Simon Dalby

9.1 Introduction

The debate over the linkages between security and environment has evolved since its high profile articulation as a factor in the case for sustainable development in the World Commission on Environment and Development in the 1980's (WCED 1987). Sceptics and advocates have tangled repeatedly on conceptual, methodological, and political grounds while simultaneously the context for the discussion has evolved both as geopolitical events occurred and as science, and particularly research on climate change, has progressed (Brauch 2002, 2003). This chapter focuses on the innovations in thinking in the early years of the 21st century, suggesting that the linkages between security and environment are now understood in a number of ways, all of which show that matters are much more complicated than early assumptions in the 1980's about scarcity leading to violence (Hagmann 2005).

The suggestions in recent literature also make it clear that relationships of environment and security need to be understood in much broader conceptualizations than were usually included in the narrow empirical studies of the relationships of violence and scarcity which dominated much of the discussion in the 1990's. It is now clear that the links between violence and environment in the case of conflict over resources are often matters of political struggles over the control of relatively abundant resources in poor economies. In so far as humanity does face a common future, it is one in which global climate disruptions may well cause much more damage to poor peoples than any locally caused environmental disturbances. In addition, it is now understood that development, and the rapid incorporation of the remaining rural areas into the circuits of the global economy, is also frequently a violent process involving environmental change.

It is important to note that the linkages between security and environment continue to be formulated

as the basis for advocacy and for policy initiatives, apparently in ignorance of some of the most trenchant critiques frequently directed at such thinking (Deudney 1999; Nucleous 2000). Much of the early literature, at least, took security for granted without troubling to trace its intellectual lineage to the emergence of modernity where it was closely linked to private property and the protection of the social order that promoted property's extension (Rothschild 1995). As a result much of the initial thinking assumed that its task was to perpetuate a social order that was in fact, as later thinking made abundantly clear, causing many of the disruptions in the first place (Dalby 2002; 2000a). Even so, when it comes to reconsidering the role of the American military in particular, these conceptual difficulties remain in the literature despite repeated critiques (Foster 2001, 2005).

The focus of the discussion about environment and its links to security has shifted as a result of criticism, but also as research has made its findings public and as new perspectives have been added into the discussion. This chapter emphasizes the recent discussions, and the importance of how both the terms of discussion and the research findings are placed in appropriate contexts. Overall it suggests that political economy and political ecology insights about connections between peoples and places are usefully connecting with analyses of global environmental change so that human vulnerabilities and the causes thereof now get a more appropriate emphasis than in the earlier literature. Policy recommendations too now focus more on human security and vulnerability, and on the multiple implications of resource wars, rather than on the potential of environmental degradation for causing overt largescale violence.

9.2 The Early Stages of the Environment-Security Debate

In the early stages of the discussion the contention that environmental degradation would cause misery, and probably conflict, in many situations, was frequently taken as axiomatic. What was far from clear, however, was precisely how insecurity would manifest itself and who would be the victims. Much of this discussion was shaped from within a Northern security studies perspective which assumed a perspective that surveyed the whole world as though from afar. The important points that follow from noting this important point about who asked these questions in the 1990's is that the knowledges that are constructed, especially the knowledges that look to universal explanations of the relationships between environment and conflict, are usually urban and modern knowledges, ones that take an imperial view of matters for granted (Barnett 2000, 2001). Combined with satellite imagery and modes of monitoring statistics compiled by states and international agencies, and the assumptions of the inevitability of economic development in terms of the expansion of carboniferous capitalism, these formulations of the resource and environment problematique inevitably downplayed the rural, the contextual, and the disruptions inflicted on traditional peoples by expanding modernity. They did so also within a state cartography, one that draws lines between places, ensuring that civil wars "over there" are not usually a matter of responsibility "in here" in the metropolises (Dalby 2002a).

Thomas Homer-Dixon's initial work questioned the early premises and posed the question of where and in what circumstances conflict was likely as a result of environmental degradation. Homer-Dixon's early work, which included canvassing the contributions of many scholars in a variety of disciplines, suggested clearly that what violence was in some way related to environmental matters was likely to be diffuse and subnational rather than taking the form of inter-state warfare (Homer-Dixon 1994). This work suggested that while conflict might happen in specific circumstances, many of the more alarmist suggestions that war between North and South over specific resources or over largescale phenomena such as climate change and ozone depletion, were unlikely. None of the more recent literature has seriously challenged this finding. His subsequent detailed case studies tried to specify the conditions and circumstances in which violence was likely (Homer-Dixon/Blitt 1998). When the overall framework for analysis

is studied carefully, it is clear that one can posit connections between scarcity and violence, but the intervening conditions which lead to violence are usually key determinants of where and when violence occurs (Homer-Dixon 1999).

Critics charged that this empirical work did not proceed on appropriate methodological lines and that the causes of war were not well explored by assuming that environment did in fact cause conflict (Levy 1995; Gleditsch 1998; Diehl/Gleditsch 2001). But the calls for comparative quantitative studies and the insistence of the importance of null hypotheses frequently overlooked the earlier careful evaluation of various scholarly evidence that had dismissed much of the alarmist thinking about proclivities to warfare among marginal peoples suffering environmental stress. The focus on war or the implications for the national security of Northern states frequently obscured the important point that the insecurity under discussion was a matter of poor and marginal people in the South, whose insecurity needed attention as a research issue in its own right, separate from the discussions of the causes of inter-state wars.

The initial assumptions about scarcity causing conflict quickly came to be understood as highly constrained by numerous political, economic, and social factors. The supposed causal link between environmental scarcity and political conflict is exemplified in the debate over water. It is especially important when linked to concerns about global climate change and disruptions of rainfall patterns and evaporation rates. Supposedly in the face of scarcities and disruptions, states vying for control over specific rivers will fight to secure access to supplies of fresh water. But empirical research into the matter suggests that, 'water wars' have been very rare and are generally unlikely (Toset/Wollebæk/Gleditsch/Hegre 2000). Few states are so tied to the waters of a river that the extreme dynamics of interstate warfare unfold when water shortages happen. The pitfalls of conflict that might destroy shared infrastructure essential to both sides are much greater than any possible benefits of going to war. The water wars debate has made it clear that vulnerabilities are a complex matter, but also that environmental change presents numerous possibilities for cooperation (Lonergan 2002).

9.3 Environment-Security Linkages and Development

Meanwhile other research in the 1990's, in particular the large number of case studies encompassed in the ENCOP project directed by Günther Bächler (1998), emphasized the likelihood of violence in the context of marginal peoples in the face of rapid change tied into strategies of development and the spread of commercial economies into subsistence based societies. Maldevelopment and the disruptions caused by modern states and economies were understood to be the sources of many insecurities in developing states. ENCOP studies suggested that environmental conflict was most likely to occur where poverty ridden marginal lands in mountainous areas, and remote parts on the margins of major ecological areas in Africa, were being integrated into the global economy. But there were other dimensions to the relation of environment and conflict too, not least the damage done to specific environments and local peoples by the dislocations of major development projects. The struggles by indigenous peoples to protect rainforests and other lands from oil wells and mining corporations are part of this larger pattern (Gedicks 2001).

This research links to the literature in "political ecology", drawing from anthropology, development studies, geography and political economy, which focuses much more on the political economy of resources and in particular the complexity of local resources intersecting with the global commercial economy (Peluso/Watts 2001). Showing how local power structures, gendered access to farm land, traditional modes of subsistence agriculture and fishing were overlain with new modes of resource extraction, this literature challenges the arguments about scarcity in the neo-Malthusian formulations, while not denying that some environments were indeed violent. This critical literature has made very clear that the complexities of the global economy have to be factored into local vulnerabilities, and that this has to be done with considerable care to ensure that the specifics of local circumstances are appropriately incorporated into the analysis. In explaining local vulnerabilities, both global environmental change and economic change matter.

Another theme that quickly emerged in the early literature on environmental security was the importance of recognizing that in a global sense resource prices of most commodities were in long-term decline. A combination of improved technologies and expanding global trade has ensured that the supplies

of most essential minerals are not an issue for the future of the global economy. In some cases technological innovation has produced spectacular decreases in the use of metals; copper has been rendered much less important than previously by the introduction of satellite communications, fibre optic cables and the increasingly ubiquitous use of cell phones. But while the materials needed to make these items are not in short supply, they are nonetheless valuable enough to be worth fighting for in poor parts of the world economy where other economic options are not available. Petroleum appears to be an exception to this generalization, one that may yet involve the world in yet further geopolitical conflicts (Klare 2004).

This discussion parallels a fifth literature which in the late 1990's suggested that resource shortages were rarely correlated with conflict (Berdal/Malone 2000). The converse, it was suggested, was the case. The "new wars" of the 1990's in the South were tied into the struggle to control the rents from resource streams that were being exported to the global economy. Controlling resources, whether timber, diamonds or oil, was the way to get rich quick, rather than follow the painful and slow routes of economic development (de Soysa 2002). Elite rivalries and the promise of wealth are, so the argument goes, powerful incentives to initiate hostilities, especially where tribal or other sectoral loyalties can be mobilized (Bannon/Collier 2003). But these wars were not largely about either subsistence lands or the politics of agriculture (Ross 2004). The extraction of diamonds, oil, and other minerals frequently has environmental consequences, but apart from tropical timber, most of these are not technically "renewable resources". Nonetheless, their inclusion within a discussion of "environmental security" is a useful addition to the debate because it emphasizes the importance of globalization's resource extractions as a factor in contemporary violence and insecurity, although it is important to remember that the geographies and the material qualities of resources do not make it easy to draw lessons from one that may be directly applicable to others (Williams 2003).

9.4 Global Environmental Change and Vulnerability

Some of these themes link to the approach in the Global Environmental Change and Human Security (GECHS) literature which in many ways offers a syn-

thesis of the lessons learned in the other approaches. Vulnerabilities of populations to changing environments, and specifically concerns with the impact of global change, is the driving force in many of these studies (Renner 1996). The welfare and survival of people and their environments is the key focus of research in contrast to the earlier focus on states and potential wars (Mathew 2001, 2002). This overlaps in part with the ENCOP concerns with human development and its focus on the juxtaposition of violence with the parts of the world that have the worst scores on the UN human development indices (Bächler 1998). It emphasizes the importance of understanding the complexity of both environmental and social processes in specific contexts, and the obvious point that the poor in rural areas are frequently most vulnerable to both environmental change and the disruptions caused by political violence.

In parallel with the focus on the complex sources of vulnerability for poor and marginal peoples, the early years of the twenty-first century have returned matters to consideration of the largest scale disruptions of the biosphere, principally as a consequence of climate disruptions driven by fossil fuel consumption. Early in 2004 American media attention was drawn to a scenario exercise prepared on the part of Global Business Associates (GBA) (Schwartz/Randall 2003) for the U.S. Department of Defence that focused attention on the importance of abrupt climate change as a possible security threat. Subsequent discussion on these themes focused on the 2004 Hollywood disaster movie "The Day After Tomorrow" in which rapid climate change caused instant disaster, flooding, and flash freezing across much of North America. The science on this theme is inconclusive in terms of what precise scenario is most likely, but there is growing reason for concern (Alley 2004, Schneider 2004). The GBA scenario however reproduced the assumptions in the earlier literature that scarcity would induce conflict rather than trading, and disruptions would thus present a security threat. In doing so it ignored other research into matters of future scenarios and the potential for warfare in the face of climate change which in summary has once again suggested that the potential for inter-state warfare is low: "In this assessment, *no militarily relevant security threat* presently exists resulting from environmental stress but there are severe short- and long-term *non-military challenges* confronting many countries that have been victims of natural disasters that may put at risk both the *governability* of several states and the *survivability* of regions" (Brauch 2002:

103). Nonetheless, the GBA scenario exercise did represent an interesting extension of the discussions of security in Washington in that it explicitly dealt with climate change as a threat in a context in which this was not congruent with the administration's priorities.

Even the 2002 National Security Strategy of the United States of America document, which set out the priorities for American policy in the aftermath of the 11 September 2001 attacks, does include a brief discussion of the importance of limiting greenhouse gas emissions from the American economy, despite the rejection of the Kyoto protocol by the Bush administration. However, closer inspection of this document suggests that it is unlikely to lead to reductions of emissions. Specifically the Security Strategy states that (NSS 2002): "Economic growth should be accompanied by global efforts to stabilize greenhouse gas concentrations associated with this growth, containing them at a level that prevents dangerous human interference with the global climate. Our overall objective is to reduce America's greenhouse gas emissions relative to the size of our economy, cutting such emissions per unit of economic activity by 18 percent over the next 10 years, by the year 2012." But given the enthusiasm for economic growth expressed in the rest of the document it is clear that its authors expect the economy to grow by more than 18% over this period, hence ensuring that the overall emissions will continue to grow. Hence the great distance between rhetoric and policy outcomes that might address the real needs to reduce greenhouse gases only emphasize the need for an ecological understanding of security that focuses on the throughputs of materials rather than more abstract notions of environmental scarcity. This is especially important because climate change may well be most dangerous for poor vulnerable populations in the global South, precisely those who have done the least to cause the phenomenon in the first place (Barnett 2003).

9.5 Ecological Footprints and Environmental Peacemaking

This perspective, using an ecological viewpoint of what constitutes security, is taken furthest by the ongoing research at the Wuppertal Institute in Germany where researchers have been tracking the material dimensions of production and transportation in the global system. The overall ecological footprint of developed states includes accounting for the import of

materials and the use of sinks beyond their borders to absorb the waste products of metropolitan life. Specific activities can be described by looking at their “ecological rucksacks”, the term used to describe the ecological impact of a particular process or product, and which includes material waste and erosion caused by the production and shipping of a resource or commodity. Frequently resources are extracted from poorer parts of the global economy and much of the rucksack resides there, while the benefits are gained by investors and consumers elsewhere (Schütz/Moll/Bringezu 2004). Individual products also require specific materials, mineral and agricultural, to be imported from specific places, effectively carrying an ecological rucksack made up of damage done at a great distance.¹

Connected directly to the discussion of resource wars it becomes clear that consumption in the metropolises of the global economy has direct environmental impacts in numerous parts of the periphery, as well as indirectly through such things as ozone depletion and climate change. These categories make it possible to calculate very roughly the overall impact of various modes of economic activity, the overarching result is, when viewed in global terms, the unavoidable conclusion that it is the wealthy of this world who have the largest footprints and are thus causing the largest disruptions of environmental systems (WWF 2004). Hence globalization is now increasingly understood in terms of environmental change (Pirages/DeGeest 2004). But the assumptions that scarcity in the periphery are the problem is now overtaken by discussions of the importance of the consequences of consumption. But this too emphasizes the importance of thinking about security in terms of distant consequences and interconnections that might be amenable to cooperative action rather than necessarily a cause of conflict. It also requires further attention to matters of global forests, a topic in need of further study in relation to both conflict and ecological integrity (Klubnikin/Causey 2002).

In parallel with the focus on human security as a necessity in the face of both natural and artificial forms of vulnerability, recent literature has emphasized the opportunities that environmental management presents for political cooperation between states and other political actors, on both largescale infrastructure projects as well as more traditional matters of wildlife and new concerns with biodiversity preservation (Matthew/Halle/Switzer 2002). Simultaneously, the discussion on water wars, and in particular the key finding the shared resources frequently stimulate cooperation rather than conflict, shifted focus from conflict to the possibilities of environmental action as a mode of peacemaking. Both at the international level in terms of environmental diplomacy and institution building, there is considerable evidence of cooperative action on the part of many states (Conca/Dabelko 2002). Case studies from many parts of the world suggest that cooperation and diplomatic arrangements can facilitate peaceful responses to the environmental difficulties in contrast to the pessimism of the 1990’s where the focus was on the potential for conflicts. One recent example of the attempts to resolve difficulties in the case of Lake Victoria suggests a dramatic alternative to the resource war scenarios. The need to curtail over-fishing in the lake and the importance of remediation has encouraged cooperation; scarcities leading to conflict arguments have not been common in the region, and they have not influenced policy prescriptions (Canter/Ndegwa 2002). Many conflicts over the allocations of water use rights continue around the world but most of them are within states and international disputes simply do not have a history of leading to wars.

Some of these efforts on building cooperative mechanisms are directly related to efforts to enhance conservation efforts in conflict regions as a deliberate strategy to facilitate conflict resolution. Some such projects fall under the auspices of the International Union Conservation of Nature and their collaborative volume *Conserving the Peace* (Mathews/Halle/Switzer 2002) suggests clearly the diversity of geographical and cultural contexts within which such efforts might be applicable. It is worth noting that this particular project is also supported by the “environmental security team” of the Foreign and Commonwealth Office of the United Kingdom government which is involved in environmental aid projects in Asia and Africa, suggesting very clearly that conservation and peacemaking are now understood as matters of environmental security.

1 “The *ecological footprint* refers to land use, to the space that a country’s citizens need for erecting houses, growing/raising food on fields and pastures, building traffic links, etc. The *ecological rucksack* describes the ecological impact of an individual product or process ... They are mostly “filled” in developing countries, and can be calculated to express the environmental impacts of individual products, economies, or human beings. See <http://www.wupperinst.org/FactorFour/FactorFour_FAQ.html>.

Both international diplomacy and conservation efforts are involved in the establishment of so called "Peace Parks" on the borders of a number of Southern African states. But it is important to note that these are also tied into matters of economic development connected to tourist industry strategies to provide "eco-tourism" experiences to international clients. Here the local population is not always rendered more secure in their daily livelihoods which may not be enhanced by such modes of "development" (Singh/van Houtum 2002). But the intention behind these initiatives is to simultaneously build trust and cooperation in areas where international tension might otherwise occur, although the complicated agendas and conflicting state priorities suggest caution in assuming these are going to be much of a panacea (van Amerom 2002). Using environmental initiatives to gain both ecological and political benefits is at the heart of other similar initiatives, such as the United Nations Environmental Programme's efforts to improve understanding of environment and conflict and to investigate the policy options to meet the United Nations Millennium Development Goals (UNDP 2004).

In some ways the discussion has come back to where it started in the 1980's, focusing on the vulnerable populations in the South and their need for a broadly understood human security. But what has changed is that simple assumptions of environmental degradation or resource scarcity leading to conflict are no longer accepted. Vulnerability is now understood as a complex problem; cooperation is understood as more likely than violent conflict in the face of environmental change. The importance of understanding the specific circumstances of human vulnerability in different places is also now part of the discussion; environment, development and human security are understood as parts of the same issue. But while it is clear that solutions have to be tailored to fit local circumstances, it is also now understood that neither global change nor globalization can be ignored. Environmental changes are not strictly "local" phenomena triggering "local" social responses. Human insecurity is context dependent, but context is not simply a matter of local phenomena.

9.6 Environment, Development and Resource Wars

More generally the historical pattern of development and the appropriation of resources is one connected

to the rapid urbanization of humanity; modernity and industrialization have accelerated the imperial pattern of appropriation of resources from distant places to feed the metropolises; globalization studies linking environmental stresses to these processes are now increasingly common (Sachs/Loske/Linz 1998). The twentieth century, whatever designations it might be given in terms of the nuclear age or the growth of the number of post-colonial nation states, was notable for the huge expansion of population and its movement into urban areas. We are now an urban species and have wired and paved the planet to move food, timber, oil, electricity, minerals and all sorts of commodities from the rural areas into these burgeoning cities (Dalby, 2003a; 2003b).

In a way loosely analogous to earlier imperial arrangements the flow of commodities inevitably disrupts traditional forms of economic life. Just as wheat flowed from Africa to Rome so now does oil flow from the Mid East to other parts of the new imperium (Dalby 2003c; 2003d; 2004). Materials policy is a matter of improving sustainability by reducing ecological throughputs and increasing recycling; it is also a matter of industrial innovation which works ecological design into production (Geiser 2001). But to think in these terms requires a focus on consumption and a recognition that "environmental protection", understood as something "out there", is replaced by a conceptualisation that materials and energy to support consumption cultures "in here" are at the heart of ecological disruptions where producers and consumers are connected by complex commodity chains that now span the globe (Hughes/Reimer 2004).

The Roman Empire built roads to facilitate communications and so too do modern states. Indeed, it is possible to argue that such infrastructure provision is a key part both of state structures and the commercial culture of the automobile. Promotion of the privately owned automobile is a major part of the function of states (Paterson 2000). Car ownership is understood as a matter of status in numerous developing states while the pollution and congestion problems that result are ignored much of the time. The latest gas guzzlers in North America, the rather inaptly named Sports Utility Vehicles, are presented to would be buyers in tropes of conquering nature, of "civilizing nature" in Nissan corporation's advertizing slogan terms, a matter of being able to go anywhere regardless of obstacles (Paterson/Dalby 2006). But these vehicles are frequently understood as the causes of many problems of environmental degradation due

to their size and fuel consumption. Other automobiles, including hybrid vehicles that use innovative electrical systems in conjunction with gasoline engines, are explicitly marketed as part of the answer to environmental disruptions; the drivers encouraged to save fuel costs while being more environmentally responsible.

But as the literature on resource wars now makes clear, the consequences of modes of extraction in distant places is tied into violence, dispossession, and environmental destruction in many places (Watts 2004). And many of these links can be traced and acted upon politically as numerous campaigns for boycotting corporations, and ethical investment strategies have made clear in the last decade. To think in these terms is to challenge the conventional geographies of security and the geopolitical assumptions that underlie the assumptions that democracies are peaceful because they do not go to war with each other, and that they provide the appropriate vision of a sustainable and non-violent future. Putting the geography of resource extractions back explicitly into the picture changes the terms in which it is possible to construct both “resources” and “conflict” (Le Billon 2004). It also suggests the possibilities of innovation to facilitate less ecologically destructive modes of living. Above all, it challenges the taken for granted geography of danger as external to the modern spaces of prosperity (Jung 2003). In short, it requires a shift away from an understanding of environment as the external context of humanity to a recognition of life within a changing biosphere.

9.7 Environment and Human Security

In stark contrast to the early literature suggesting that environmental change would cause violence, much of the literature on human security has suggested that the sources of human insecurity are a necessary place to start for more effective understanding (Najam 2003). Although some of the literature on Human Security in the early twentyfirst century has dropped environmental security as a theme in their formulations, the logic of putting vulnerable people at the centre of analysis, rather than seeing them as a subsequent variable in an analysis focused on other matters, follows from human security thinking (O’Riordan/Stoll-Kleemann 2002; Chen et al. 2003). As the United Nations Institute for Environment and Human Security (UNU-EHS) suggests “Instead of starting with a fo-

cus on natural hazards and their quantification, the assessment and ranking of the vulnerability of affected groups should serve as the starting point in defining priorities and means of remedial interventions.”²

Putting human needs forward as the primary concern, and then thinking through the contextual dangers to their provision, reverses the managerial assumptions of state centred security thinking and suggests clearly that security is now understood as much more than either state policy or technological intervention in some external domain. Linking this directly to the science of global environmental change suggests clearly that environmental security thinking in the twenty-first century will look rather different from what preoccupied it in the latter stages of the twentieth (Brauch 2005). It will do so because both the global context for discussing security, and the ecological sensibility which takes the flows of materials within the biosphere as the starting point for thinking, make it increasingly difficult to construct arguments which focus on the poor and marginal peoples of the world as an external threat to a supposedly benign modernity.

9.8 Conclusions: Towards a Fourth Stage of Research on Environment and Security

Refocusing security thinking on the factors that render humans insecure in specific places means taking the geographical dimensions of insecurity seriously. While the local disruptions in particular places remain the focus of much analysis, in light of the discussions of resource wars and globalization now the distant consequences of both resource extractions and subsequent pollution and consequent atmospheric change also have to be included. An ecological approach is now essential in which human activities are understood as part of the biophysical processes of global change; global environmental change and economic globalization are effectively two ways of looking at the same process of change. Thus, in future environmental security research will have to conceptualize its research agenda in awareness of the potential disruptions of climate change and myriad other ecological factors in an increasingly artificial global “environment” (Dalby/Brauch/Oswald 2008).

² See <http://www.ehs.unu.edu/PDF/PresentationEHS-general.ppt>

These changes in humanity's habitat are perhaps clearest - if we understand contemporary local changes and global connections as taking place in an urbanizing planetary biosphere where insecurity of many kinds frequently appears in the rapidly growing urban slums of the new Southern megacities (Davis 2004). These are in some ways connected into the global consumer economy, as vehicle sales and the presence of internet cafes attest, and in others as informal food markets demonstrate, remain primarily connected to local food and water supply systems. The future of environment and security research will have to come to terms with the resource flows and health consequences of these burgeoning places in addition to its traditional focus on the rural regions of the South. This chapter has clearly suggested the importance of how these interconnections are conceptualized in the formulation of both international and state policy, and also in the development of practical survival strategies for the poor, struggling to provide their own security in the new increasingly urban realities of the twentyfirst century (Oswald/Brauch/Dalby 2008).

45 Environmental Security Deconstructed

Jaap H. de Wilde

45.1 Introduction

The basic logic of the environmental security discourse is that humankind is living beyond the carrying capacity of the earth's local, regional, and global ecosystems. Essence is how to evaluate environmental stress in relation to political stability: is this a matter of ordinary politics or a matter of exceptional politics, i.e. security politics? The debate is dominated by an intriguing paradox: in order to preserve the political-economic and social-cultural structures of local, national, and world societies it is necessary to change them fundamentally, given their un-sustainability. The warning reads that either the structures are changed voluntarily and in a controlled manner, or structural change will be enforced violently and randomly by environmental crises. Much of the debate boils down to the question 'who is to pay a price today to avoid that others have to pay a higher price tomorrow?'

In order to understand this debate it is necessary to distinguish its main components: a) tracing securitizations of risks (45.2); b) tracing referent objects of environmental security (45.3); and c) tracing the development of the security discourse (45.4). It will be concluded that the agenda is too comprehensive, and involves too many clashes of interest to keep a comprehensive environmental security discourse alive. Instead, the concerns have fragmented into issue-specific securitizations (45.5).

45.2 From Risk Assessment to Securitization

Security analysis begins with risk assessment. Whether a risk will be securitized depends on its perception. Risks are hard to define in abstraction (Brauch 2005; Thywissen 2006). They range from being deadly to mere nuisances, can be perceived as exciting (alpinists climbing the Matterhorn), as fact of life (pedestrians crossing crowded streets) or as unacceptable (govern-

ments facing foreign invasions). In the unacceptable cases, a risk is perceived as a threat. Threat is securitized risk. It would be too simple, however, to treat 'risk' as the objective part of the equation, and its perception as the subjective part. Risk analysis itself may focus on 'material facts', like the chance of a natural hazard, but it is embedded in a wider social context (cultivated in Ulrich Beck's (1986, 1992) *Risk Society*). The simple logic of 'Risk = Chance x Damage' has an objective ring to it. Yet, it implies a negative chance for a referent object. Referent objects and (negative) perceptions of chances are socially constructed, i.e. *intersubjective* by nature. The issue of determining referent objects will be discussed below. This section looks at the importance in distinguishing risk assessment from its securitization.

Security is the absence of threat. In a security discourse, however, the word 'security' is used for exactly the opposite purpose: it points at the *presence* of a threat. A risk is securitized, i.e. turned into a *security* issue, rather than merely a political issue. Securitization theory has been launched by Ole Wæver (1993) and further developed in Buzan, Wæver and De Wilde (1998). The approach originates in social constructivist theories, and focuses on the social-political functions of labelling something a security issue. Using the word security dramatizes the risk, and presents it as a threat of supreme urgency. "In theory, any public issue can be located on the spectrum ranging from non-politicized (meaning the state does not deal with it and it is not in any other way made an issue of public debate and decision) through politicized (meaning the issue is part of public policy, requiring government decision and resource allocations or, more rarely, some other form of communal governance) to securitized (meaning the issue is presented as an existential threat, requiring emergency measures and justifying actions outside the normal bounds of political procedure)" (Buzan/Wæver/De Wilde 1998: 23-24). If an issue becomes a security issue, dealing with it legitimates extra-ordinary measures. This makes it a

stronger form of politicization. Politicization merely means that a specific issue enters the political agenda – securitization gives it top priority on that agenda; it defines ‘high politics’ for the actors involved.

This political or even supra-political nature of securitization implies that the ‘securitizing actor’ (someone who pulls attention to specific risk assessments) also presents a *security policy* to answer the threat. Risks that are beyond grasp can hardly be securitized: there is simply nothing one can do. For understanding the fluctuations in the securitization of environmental issues this is quite crucial: Alarming reports about climate change will lose political relevance (and attraction) when they show that action to reverse the trend comes too late anyway. In that case only securitization of its effects makes sense. Securitization therefore triggers two debates: one about the underlying risk assessment, one about the strategic answer to it. These security policies may range from a plea for collective praying to the build-up of a standing army or from putting farmers and fishermen out of their traditional business to the drafting of international treaties. Their societal impact is enormous: state building and nation building – i.e. processes of organizing collective action and identity – is strongly focused on shared threat perceptions. So far, securitization of environmental risks has resulted in a fragmented community only, consisting of green parties, environmental social movements, and NGOs, academic environmentalists and ecologists, and civil servants in environmental organizations (ministries, IGOs).

If a security discourse persists it will result in community-building and institutionalization, often involving enmity/amity patterns with dissenting or competing groups and organizations. A paradox of security discourses is that, in time, they come to dominate politics and social life so strongly that they develop into ordinary politics. Communities and societies are built on security discourses. To add to the complexity: Non-governmental institutionalization intensifies the security discourse as long as they are not hospitalized by elitist pliability, whereas governmental and intergovernmental institutionalization moves ‘the environment’ into the realm of ordinary politics – a process of desecuritization.

Security discourse begins with a securitizing actor. Other participants in the discourse are irrelevant for detecting the discourse even though they are crucial for understanding its proceedings and political consequences. Securitizing actors can be found anywhere, but it is useful to follow the classic divide into public actors (state governments, their departments and rep-

resentatives, intergovernmental organizations, and local level governments) and private actors (political parties, national and transnational NGOs, movements, firms and corporations, scientists, the media, and unorganized individual activists).

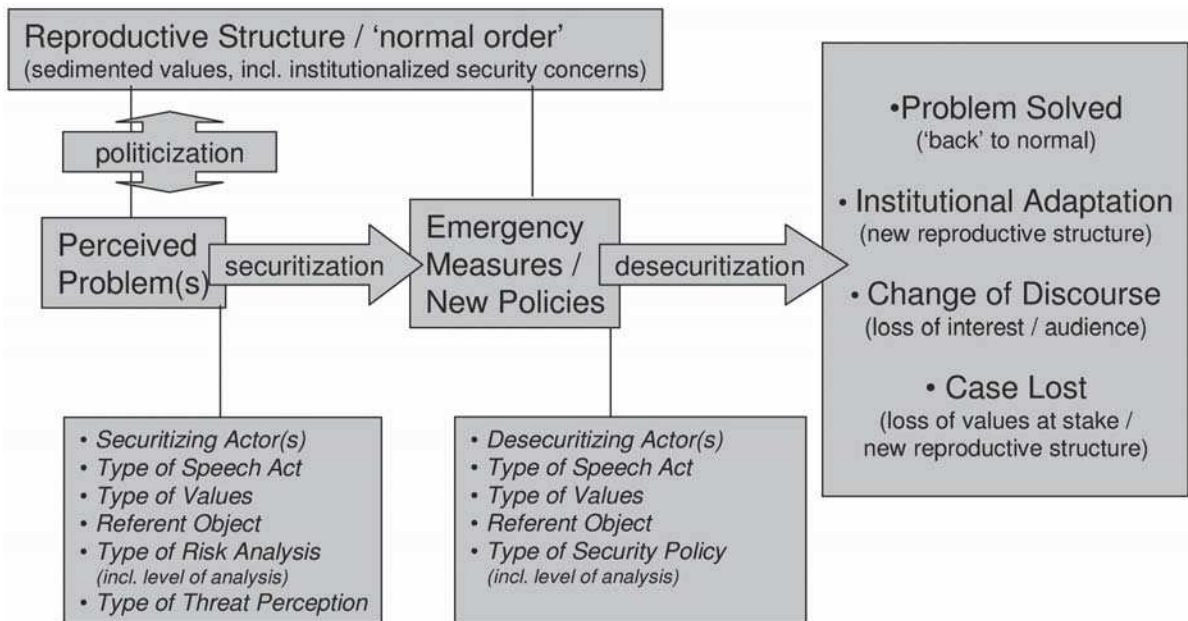
Securitizing moves (i.e. attempts to turn something into a security issue) by private actors differ from those by public actors. The actions by private actors are attempts to pull public attention to the perceived threats – which generally requires media attention. The aim is to change societal and governmental priorities. Securitizing moves by public actors are either legitimizing extra-ordinary measures, for example to cope with specific crises such as droughts or floods, or they are setting priorities among competing issues on the agenda, for example debates about the ‘national interest’ (Deudney 1990).

Public actors have an advantage over private ones – even if the latter profit from transnational mobility. Taxation and societal dominance allow them to set the political agenda and to determine ‘emergency situations’. Public actors can be dominant securitizing actors (e.g., the US government in the early 21st century in its ‘war against terror’), but in general they simply, reflect, and reproduce institutionalized security discourses: the national interest begins and ends in military security, law, and order. ‘Sustainability’ in environmental terms at best functions as a national interest in developing countries to secure foreign funding. In the absence of a public legacy, environmental concerns have to fight for their prominence against vested economic and cultural practices.

Given the lack of direct access for private actors to governmental resources and policy-making, securitizing environmental issues can be a strategy to achieve politicization. The actions by Greenpeace are a good example of getting issues, like whaling, politicized in public discourse. These securitizing moves of activists are directed against Japanese and Norwegian fishing industries, defined by Greenpeace as an existential threat to the future of a species. Whether it is really the whales or the underlying economic and cultural logic that is at stake is not clear from the securitizing move as such. The search for real and symbolic referent objects requires separate attention.

The securitizing actors are also called *lead actors*, since they trigger the discourse. *Lead actors* take the initiative to put environmental issues on the policy agendas of governments, international organizations, the media, and firms. In addition, other actors who are socially linked to the issues at stake construct the security discourse. These are *functional actors*, i.e. ac-

Figure 45.1: Securitization Theory. **Source:** based on Buzan/Wæver/De Wilde (1998) and Wæver/Buzan/De Wilde (forthcoming).



tors whose behaviour is involved in the issues raised by the securitizing actors. If they directly oppose them, they contribute to the environmental security discourse by adding to its polemic nature: attracting media attention, which intensifies the salience of the issues. Often they cannot escape this role: they have their own existential worries. If they (can afford to) acquiesce in, evade, circumvent or indirectly oppose securitizing moves they are *desecurizing actors*. Emphasizing competing threats can also be a strategy to counter securitizing moves. In case of a lasting stalemate among securitizing moves a second paradox in security discourses appears: the battle about extraordinary measures becomes ordinary politics. Manifest crises may help to tilt the balance, but in the case of long-term disaster scenarios environmentalists have a hard time to show the urgency of their concerns. And when they are proven right, it is too late (figure 45.1).

If successful, securitization leads to security policies (e.g., emergency measures). Security policies aim to eliminate threats by reducing risks or managing their effects. An existential threat can be defined as an event that would create an emergency situation for or even destroy the referent object of the securitization. Securitization spells out the emergency situation; the subsequent security policy aims at *desecuritization*. This can be defined as an attempt to preserve the status quo or to go back to normal (restore the status quo ante) as soon as possible. Note, however, that

desecuritization can occur also independent of a security policy, due to shifts in the security discourse: even when risk assessments remain unchanged, priorities may change. This seems to be the case in the environmental security discourse.

Institutionalization of security discourses makes these discourses subjects of ordinary politics. Governments and societies develop rules that allocate the means allowed to master emergency situations. Fire brigades, ambulances, police forces, intelligence services, and armies are standard examples of institutions with specific extra-ordinary rights to prevent threats to various referent objects or to limit their effects. But as long as the sirens do not howl, the debates about their place in society (about budgets, personnel, working hours, etc.) are part of ordinary politics. Hence, security organizations and security policies function mainly in the realm of politicization rather than securitization – even though their reports and budgetary claims will be cast in securitizing words.

45.3 Referent Objects of Environmental Security

Whose security and what kind of threats are we talking about? Environmental security is a catchall for a wide variety of issues. In the literature several overlapping key issues reappear.¹ The reason to talk about en-

vironmental security is that the process of human civilization involves a manipulation of the rest of nature that in several respects has achieved self-defeating proportions. This is mainly the result of two developments: the explosive growth of the world population and the explosive growth of economic activity, both in the second half of the twentieth century. It is not a problem of humankind's struggle with nature, but a problem of humankind's struggle with the dynamics of its own culture(s) – a civilizational issue, which expresses itself mainly in economic and demographic dimensions, and potentially affects the level of anarchy in world politics.

The basic logic of environmental security is that, in a global perspective, humankind is living beyond the carrying capacity of the earth. The exact meaning of this is disputed, but carrying capacity can be defined as the total patterns of consumption that the earth's natural systems can support without undergoing degradation (Ehrlich 1994). These patterns of consumption involve several variables, such as total population, production modes, and gross per capita consumption levels. In short, *carrying capacity* depends on *numbers*, *technology*, and *lifestyle*. Compare the famous IPAT equation (environmental Impact = Population x Affluence x type of Technology) designed by Paul Ehrlich and John Holdren (1971), which, despite the criticism about its operational value, still catches the three main elements of the environmental security agenda (Chertow 2000). One billion Westerners is enough to tilt the system; some five billion people in low-income economies will do the same. This culminates in the following widest formulation of the environmental agenda:

- *Disruption of ecosystems*. This includes climate change; loss of biodiversity; deforestation, desertification, and other forms of erosion; depletion of the ozone layer; and various forms of pollution.
- *Energy-related problems*. These include the depletion of natural resources, especially fuel wood; various forms of pollution, including management disasters (related in particular to nuclear energy,

oil transportation, and chemical industries); scarcities and uneven distribution.

- *Population-related problems*. These include: population growth and consumption beyond the earth's carrying capacity; epidemics and poor health conditions in general; and social-political uncontrollable migrations, including unmanageable urbanization.
- *Food-related problems*. These include poverty, famines, over-consumption, and diseases related to these extremes; loss of fertile soils and water resources; epidemics and poor health conditions in general; and scarcities and uneven distribution.
- *Economic problems*. These include the protection of unsustainable production modes, societal instability inherent in the growth imperative (which leads to cyclical and hegemonic breakdowns), structural asymmetries and inequity.
- *Violent conflict-related problems*. This includes war-related environmental damage on the one hand and violence related to environmental degradation on the other.

A first feature of this list is that it shows a distinction between threats *to* the environment, leading to securitization of the environment itself, and threats *from* the environment, leading to securitization of the people and societies that depend on it (see for a similar distinction the "Survival hexagon of six resources and social factors" in Brauch 2005: 15). In all cases the environment as such is the explicit referent object in 'environmental security', but in a large part of the debate also another concern figures prominently: the preservation of existing levels of civilization.

Useful in this respect is Barry Buzan's definition, saying that "environmental security concerns the maintenance of the local and the planetary biosphere as the essential support system on which all other human enterprises depend" (Buzan 1991: 19–20). Implicitly, this concern forms also the deeper motive behind many of the 'purely' environmental debates – be it not behind all of them. In particular debates about endangered species, like whales and rhinos, or the protection of the natural beauty, as well as some of the Gaia-ideologies are purely inspired by concern about the environment. Hence, strictly speaking, there are two different referent objects: environment and civilization. But in general, both are mixed-up, with an emphasis on the latter.

The emphasis on 'human enterprise' as the referent object of environmental security is of crucial importance: those of us able to perceive and be concerned about threats (for many a luxury) want to

1 See, e.g., the agenda presented in MacNeill/Winsemius/Yakushiji (1991: 131), Böge (1992); Brauch (2005: 64), and on websites of organizations like *Earth System Science Partnership*, <<http://www.essp.org>>; Global Environmental Change, <<http://www.gecko.ac.uk>>; and the *Worldwatch Institute*, <<http://www.worldwatch.org>>

continue and improve life as we know it. Despite its appearance, most environmental security debates are *not* about threats to nature, as such - and with good reason so. From a geological point of view there is not even a problem: the earth has been in its place for billions of years, and what is happening on its crust since, say the Industrial Revolution, is rather unimportant. Also for the crust itself a nuclear winter, global warming, a hole in the ozone layer, the disappearance of dinosaurs or the future marginalization of human beings are relatively meaningless events. The ultimate referent object of environmental security is the risk of losing achieved levels of civilization - a return to 'raw anarchy' and forms of societal barbarism - while being able (or having the illusion so) to prevent this.

This focus implies a paradox for primarily the 'West', but also for the 'less developed' world. The paradox is that in order to guarantee future reproduction of the present levels of civilization in terms of wealth, power, and culture, it is necessary to fundamentally change much of the present global structures, in terms of world economy, international system, and cosmopolitan values. How much change and how to achieve it, is at the centre of the politicization and securitization of environmental issues.

At first sight, this debate involves a powerful agenda for the South against the West, and many studies treat it as such.² But on closer look it is far from clear how the poverty-affluence dichotomy can be broken in such a way that this will help to solve environmental problems. Despite all the rhetoric about sustainability much of the debate is still about giving 'developing' countries the chance to copy the 'developed' ones. Third World elites show the way. Making the poor more affluent in the Western sense of the word (by promoting industrialization, oversupply and over-consumption) will merely aggravate the environmental problems caused by affluence. In a world consisting of only the present affluent people (roughly twenty per cent of the world population), most of the ongoing and expected ecological problems would remain the same, both in nature and in scale (Amalric/Banuri 1994).

The economic growth of China is indicative of the environmental problems that result from successful economic development. In the 1990's, the Worldwatch Institute has warned against the enthusiasm over China's economic growth (L. Brown 1995; Smil

1993: 190-194). Rising incomes generally lead to changes in the diet, meaning more consumption of meat, milk and eggs, meaning that more grain is used for animal feed. Meanwhile China's food production capacity is eroding (due to soil exhaustion and land clearance for industrial purposes) and its population is growing (up to 1.6 billion in 2030). Even if new types of 'super rice', leading to a harvest increase of some 20 per cent, are introduced successfully this demand will put tremendous pressure on the international grain and rice markets. Additionally, it is expected that Africa's need for importing grain will rise from 25 million tons now to 250 million tons in 2030. "It will probably not be in the devastation of Somalia, Haiti or Rwanda, but in the booming economy of China that we will see the inevitable collision between expanding human demand for food and the limits of some of Earth's basic systems," Brown concludes. This might be too pessimistic; in many parts of Africa grain production is not yet profitable due to low world market prices. Nevertheless, looking at environmental costs, one line of reasoning argues that "the poor are not the problem, they are the solution" (Adams 1990: 201, quoting R. Chambers).

Yet, making the affluent more poor is, within the existing economic parameters, meaningless too. Its immediate effect would be an even faster deterioration of conditions in the Third World, enhancing the likelihood of negative spill over to political and military conflicts: politically weak states will grow even weaker, and the number of failed states will grow. The causes of population growth will go unsolved, and more people may get trapped in them. The necessity of reducing Western consumption patterns to sustainable proportions is evident according to virtually all specialists, but this involves adjustments of production, supply and demand structures, rather than an impoverishment of lifestyles.

In concepts like sustainable development (WCED 1987) part of this dilemma has been politicized: structural change of both affluent and poor lifestyles is advocated. But what this means is treated rather superficially. Also the report of the Club of Rome by Wouter van Dieren (1995, 1995a) triggers the proper debate without solving it: how to redefine GDP calculations in such a way that environmental degradation is not mistaken for economic growth? 'Human security' is the latest buzz word repeating the same diagnosis without offering the cure (De Wilde 2008). In absence of answers this means that, as long as the North-South polarity in the world economy is in place, concepts like 'global burden sharing', 'common

2 See: WCED 1987; Adams 1990; MacNeill/Winsemius/Yakushiji 1991; Myers 1993, 1993a, 1993b; Williams 1993; Smith/Okoye/de Wilde/Deshingkar 1994; Najam 2003.

security', 'global challenges', and 'human security' are hollow rhetoric in the worst case, and idle attempts to bridge asymmetrical interdependence in the best case.

Environmental problems will bear unevenly across the world: some regions are affected more directly and severely than others. Environmental disaster scenarios boil down to quite different priorities, depending on the geopolitical and social conditions one is in. This is aggravated by the fact that the distribution of 'causes' follows a different pattern than that of the 'effects'. The controversies about the Kyoto protocol, e.g. show the discrepancy between those who will suffer from global warming and those who will suffer from preventive policies. Ultimately the whole international system and the entire world economy may be disrupted, but in the short run the long list of environmental problems is more likely to sharpen the structural cleavage between haves and have-nots, both on a regional basis and within societies, with structural conflict at its territorial and its societal edges.

This shows the importance of paying central attention to the various referent objects in environmental security. The securitizing moves point at an entity that is threatened (referent object 1) but also at an entity that is causing the threat (referent object 2). To preserve the quality of referent object 1, referent object 2 is requested to pay a price. This results in conflict. The environmental security discourse therefore always implies a struggle between groups in society.

This is even so in the case of natural hazards, when it seems to be humankind against nature. Many societies are structurally exposed to recurring extreme natural events, like earthquakes, volcano outbursts, cyclones, floods, droughts, and epidemics. They are vulnerable to them, and much of their history is about this continuous struggle with nature. The risks involved are often explicitly securitized. In the Netherlands 'protection against the sea' is a high-ranking national interest; the same goes for protection against earthquakes and tsunamis in Japan. But, as soon as some form of securitization occurs - when some measure of human responsibility replaces 'fate' or the 'hand of God' - even this group of conflicts tends to develop a human versus human character: following the river floods in the Low Countries in 1995, the debate was about political responsibilities for the dykes: who's to blame, and what to do? In Japan, following the Kobe earthquake early 1995, designers of seismological early warning systems, house building construction techniques, and contingency plans were under fire. In 2005, the flooding of New Orleans stirred opposition against the failing environmental policies

in the Mississippi delta. Moreover, the distinction between natural and man-made hazards is getting blurred.

Therefore, except for cases where people undergo natural hazards without questioning, the logic that environmental security is about 'threats without enemies' (Prins 1993) is misleading. Though it is not about good versus bad guys (as in the cartoon series Captain Planet) the political debate does ultimately focus on specific groups (humans in certain professions and industries) who have to change their behaviour. Not everyone in every society is expected to pay the same price, and enforcement of specific measures is clearly needed. This explains why environmentalists count few captains of industry among their members (retired ones excluded, of course).

The contradiction within environmental security is that in order to secure civilization from environmental threats, much of civilization has to be reformed drastically or even be pulled down. Environmental protection goes far beyond the technological challenge of finding the right solution and implementing it in time; but one can hardly blame specific interest groups for desperately hanging onto the hopes of a techno-fix: their jobs and lives are involved.³

45.4 Development of the Discourse

There are two ways in which the environmental security agenda is being constructed. Roughly speaking they resemble the divide between a traditional natural science approach and a social science approach. The first agenda is a natural science one. The academic discourse is about risk assessments and scenarios (see, e.g. the first two volumes of Munn 2002). The reports are at the basis of the political discourse. Hence there is a tendency to treat scientific facts as material facts rather social ones. It is important to point this out, since other security discourses, most notably the military security discourse, show a reverse order: there is political anxiety about perceived threats, and the academic world responds to this by investigating the grounds for this perception. In the environmental realm alarming reports often preceded the actual hazards. Partly this is the result of the time dimension involved in environmental threats: hazards can occur immediately, but their causes will be located way in the

3 About the fallacy of the techno-fix see: Porter/Brown (1991: 28-29); Myers (1993: 227, 245); Williams (1993: 15); Okoye/Smith (1994: 5-6) and Homer-Dixon (1999).

past. The academic agenda offers a list of environmental problems which already or potentially hamper the evolution of present civilizations and societies.

The second agenda is a political one. At stake here is not whether specific threats to the environment (and thus to the people who depend on it) are real or imaginary, but whether their presumed urgency is a political issue or not. It shows the development of the *cognitive dimension* of environmental security. This dimension is about 'internalizing externalities'; a process of social learning. The political agenda is about: a) the awareness of the issues on the scientific agenda; b) the acceptance of responsibility for dealing with these issues; and c) the political management questions related to them: problems of international cooperation and institutionalization, the effectiveness of unilateral initiatives, distribution of costs and benefits, free-rider dilemmas, and problems of enforcement.⁴

45.4.1 Fatalistic Utopian Literature

Environmental concerns are age-old, but the environmental security discourse as we know it today originated in the late 1950's, in the scientific agenda. Much of the early literature on environmental security misses awareness of the political clashes of interests between the victims of "business as usual" and the victims of structural change (see previous part). This makes them idealistic in political terms: they are based on the presumption that harmful practices are mainly the result of a lack of knowledge; an information gap. These early studies can be labelled the 'global challenges' literature: publications that deal with the problems humanity has in common. They bear holistic overtones, and emphasize the overarching nature of global problems. The message is that these problems ought to render obsolete the political, military, cultural, and economic conflicts that divide the 'members of the human race'. Book titles, like *Spaceship Earth* (Ward 1966), *This Endangered Planet* (Falk 1970), *Living on the Third Planet* (Alfvén/Alfvén 1972), *Mankind at the Turning Point* (Mesarovic/Pestel 1975), *Securing Our Planet* (Carlson/Comstock 1986), *Making Peace with the Planet* (Commoner 1990), *Healing the Planet* (Ehrlich/Ehrlich 1991), or *Ultimate Security* (Myers 1993) are illustrative. Most of the authors have their roots in natural sciences.

The essence of the global challenges literature is simple: because of the huge common challenges for humankind states have to cooperate and forget about their narrow, short-sighted, short-term egocentric interests. It is the automatic expectation of cooperation which turns this type of literature into utopianism. It would be wrong, however, to dismiss its analyses on this ground. The bulk of what the global challenge literature is about is far from utopian; it is closer to being fatalistic. 'Ecological conditions deteriorate seriously, unless ...' is the main message. It would be unfair to judge these warnings only by what is written in the 'unless ...' parts. The true purpose of this literature is to change politics, not to analyse it.

A remarkable aspect of this literature is its top-down nature. The environmental agenda was originally conceived as a global one. Its emergence is not the result of the globalization of local developments but of the discovery of global consequences of seemingly harmless individual or local practices. This contrasts with the development of other security agenda, which evolved out of the gradual globalization of problems that originally had a local character. It took military security, for example, centuries to develop on a global scale. The bulk of the literature argues that, to use the words of Hurrell and Kingsbury (1992: 2), "Humanity is now faced by a range of environmental problems that are global in the strong sense that they affect everyone and can only be effectively managed on the basis of cooperation between all, or at least a very high percentage, of the states of the world: controlling climate change and the emission of greenhouse gases, the protection of the ozone layer, safeguarding biodiversity, protecting special regions such as Antarctica or the Amazon, the management of the sea-bed, and the protection of the high seas are among the principal examples." This sounds good, but it is not true. The concern is global, but most pollution-related problems require first and foremost action by individual highly industrialized states only; protection of Antarctica, except for the hole in the ozone layer, could be left to the seven states that have legal rights there. The Amazon region would be protected best by leaving it alone, a decision that rests essentially with the Brazilian government and a few business enterprises. The global dimension is present, but not as overwhelmingly as is often suggested.

Environmental threats and vulnerabilities are issue specific and seldom universal. Global events seldom have the total character of a potential nuclear winter. Most global events, including climate change and massive migrations, can be compared to events such

4 The overlap between them is obvious: the community who draws up the scientific agenda is also a political actor, and politics and economics are clearly present in academic life.

as the two world wars and the Great Depression: Every corner of the earth is affected but not to the same degree. World War I, for instance, caused more Australian than Swiss casualties, even though Switzerland lies a few hundred kilometres from the main front. Most global environmental crises have similar uneven effects and involvements. This makes it very hard – and utopian – to unite people in face of fatal developments.

45.4.2 Limited Institutionalization

Nevertheless, the global take-off of the environmental security discourse was matched by an institutional response. Universal acceptance of the environment as a *security* concern was acknowledged at the United Nations Conference on the Human Environment (UNCHE or Stockholm Conference) in 1972. The Stockholm Conference was more than a symbolic turning point. Here, the 114 participating states adopted twenty-six broad principles on the management of the global environment, an Action Plan with 109 recommendations, and the United Nations Environmental Programme (UNEP) was initiated. Moreover, “over half of the 140 multilateral environmental treaties that have been adopted since 1921 were concluded since 1973,” Keohane, Haas, and Levy (1993: 6) report. Many countries established ministries of environmental affairs in response to UNCHE.

Close to this event was the appearance, in 1972, of *Limits to Growth*, the first report of the Club of Rome. It signalled the progressive scarcity of natural resources, and the presumed political vulnerability of the North over against the South. Publications like Rachel Carson’s *Silent Spring* (1962) formed another trace that made a public impact. Carson made a strong case against uncontrolled use of synthetic pesticides. Global non-governmental organizations were then also formed, such as *Friends of the Earth* (1969) and *Greenpeace* (1972).

Another trace comes from the debate on nuclear energy and nuclear weapons. The Limited Test Ban Treaty (1963) would have been unthinkable were it not for the clear disasters caused by above ground testing. Studies on a nuclear winter, and accidents in nuclear power stations made people think – including many ambitious nuclear physicists.

In this process of *politicization* and *securitization* it makes sense to distinguish *Silent Spring*-type and *Chernobyl*-type lessons – the first referring to rational risk assessments, the latter to dramatic disasters (De Wilde 1994). The dissemination of scientific insights

(*Silent Spring* lessons) and media coverage of man-made disasters (*Chernobyl* lessons) are the two main forces behind environmental awareness. There *are* *Chernobyl*’s, *Bhopal*’s and *Exxon*’s *Valdez*, and there *are* scientific studies that spell out the risks.

Nevertheless, the obvious did not happen. One would expect that the environmental security discourse would gain strength over the years, culminating in a greening of politics and structural change in economic practices. This is not the case. After the initial excitement in the 1970’s and the subsequent institutionalization of environmental concerns, public and political attention decreased. At the end of the Cold War and in the early 1990’s there was a revival of the interest, but this was mainly due to concerns in military circles about their future mission. In the late 1990’s and especially since 9/11, the military lost their interest. In the antiglobalist movements the original environmental concerns are very much alive, but mainly as an aspect of their overall aversion of the dominant power structures.

45.5 Conclusion

In theory, one explanation for the declining interest in the environmental security discourse could be successful treatment of the issues – which is the best route to *desecuritization*. But the scientific agenda has hardly changed since the 1970’s. Some of the analyses proved wrong, but even if say 20 per cent of the present disaster scenarios come true, coming generations will be born in harsh circumstances worldwide.

A better explanation is that the overall agenda simply is unmanageable. The kind and scale of change necessary to alter the economic and demographical roots of environmental risks are probably beyond the world society’s capacity – merely anarchical ‘solutions’ (catch as catch can) are to be expected. The immediate price of sophisticated action is too high to stand a chance in politics.

Instead and perhaps as a result, the environmental security discourse has fragmented into issue-specific concerns. The man-made contribution to natural hazards is discussed each time a hurricane hits the land or when an earthquake destroys the housing of millions. Accidents with oil tankers and in chemical industries lead to new *Chernobyl*-type lessons time and again. But comprehensive global programmes to deal with the risk scenarios and their structural underpinnings are unlikely to leave the drawing tables.