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Destabilizing the environment–conflict thesis

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Abstract. The argument that environmental degradation will lead to conflict is a well established concern of international studies, and it dominates the literature on environmental security. This article critically examines theories about wars fought over scarce 'environmental' resources, 'water wars', and the argument that population growth may induce conflict. One significant research programme—the Project on Environment, Population and Security—is also discussed. The article ends with an evaluation of the theoretical merits and practical effects of the environment–conflict thesis. It argues that the environment–conflict thesis is theoretically rather than empirically driven, and is both a product and legitimation of the Northern security agenda.

Introduction

At the juncture of global environmental politics and security and conflict studies lies the concept of environmental security. The contention that environmental degradation will lead to violent conflict has always been and remains central to environmental security; few articles do not mention it, and the majority of the literature focuses exclusively on it. Further, the environment–conflict thesis informs security policy discourse, particularly in the United States.[1] This dominance, influence, and its role in the perpetuation of security discourse in the post-Cold War era all make it crucial that the literature on environment and conflict be subjected to critical examination.[2] This article does this by examining in turn theories about wars fought over scarce 'environmental' resources, 'water wars', and the argument that population growth may induce conflict. There is also a critical examination of one significant research programme—the Project on Environment, Population and Security—which sought to identify the possible connections between environmental degradation and conflict. The article ends with a critical evaluation of the theoretical merits and practical effects of this literature. It argues that the environment–conflict thesis is theoretically rather than empirically driven, and is both a product and legitimation of the North's security agenda.

[1] Jon Barnett, 'Environmental Security and US Foreign Policy', forthcoming in Paul Harris (ed.), *Environmental Issues in American Foreign Policy*. Geoff Dabelko and P. J. Simmons, 'Environment and Security: Core Ideas and US Government Initiatives', *SAIS Review*, 17 (1997), pp. 127–46.

[2] Sceptical reviews are provided by: Lorraine Elliott, 'Environmental Conflict: Reviewing the Arguments', *Journal of Environment and Development*, 5 (1996), pp. 149–67; and Nils Gleditsch, 'Armed Conflict and the Environment', *Journal of Peace Research*, 35 (1998), pp. 381–400. See also Simon Dalby, 'The Environment as Geopolitical Threat: Reading Robert Kaplan's "Coming Anarchy"', *Ecumene* (1996) 3: pp. 471–96; and Jon Barnett, *The Meaning of Environmental Security* (London and New York: Zed Books, forthcoming).

Resource wars

The causes and consequences of 'resource wars' are traditional concerns of International Relations, and these powerfully inform the environment–conflict thesis. For example, for Gleick 'a strong argument can be made linking certain resource and environmental problems with prospects for war or peace. There is a long history suggesting that access to resources is a proximate cause of war'.[3] This supply of resources problem is fundamental to neo-Malthusian theories and is commonly (but arguably mistakenly) thought to have been the central environmental problem advanced in *The Limits to Growth*.[4] The question of armed struggles for access to land, oil, minerals and other factors of production is peripheral to this article; however, what is of concern is the way in which these longstanding resource issues are reinterpreted under the label 'environment'.

A pervasive difficulty with this literature is the conflation of *resources* with *environment*. With respect to the question of resource scarcity and war, the literature is by and large concerned with *resources of economic value*, rather than environmental issues *per se*.[5] For example, Francisco Magno argues that tensions in the South China Sea fit 'well within the framework of environmental security … The expansion of economic activity, mixed with the depletion of natural resources in the region, has intensified the scramble for resources'.[6] Magno reflects traditional concerns with war over *resources*, the environmental dimensions are not particularly evident. Robert Mandel explicitly conflates resources with environment in his chapter 'Resource/Environmental Security'; in a revealing passage he says that 'analysing the link between resource/environmental concerns and national security without a foundation in the substantial geopolitical literature would be foolhardy'.[7] Thus, for Mandel, like many others, resource and environmental issues are one and the same, they are of interest only in as much as they relate to national security, and the key to understanding them lies in the study of Realism's traditional geopolitical texts.

The confusion of resources with environment is perhaps most clear in Gleick's work.[8] Gleick identifies five 'clear connections': *resources* as strategic goals, *resources* as strategic targets; *resources* as strategic tools; *resource* inequities as roots to conflict; and environmental services and conditions as roots to conflict.[9] Of these

[3] Peter Gleick, 'Environment, Resources, and International Security and Politics', in Eric Arnett (ed.), *Science and International Security* (Washington: American Association for the Advancement of Science, 1990), pp. 501–23; p. 507.

[4] Donella Meadows, Dennis Meadows, Jorgen Randers, and William Behrens, *The Limits to Growth* (New York: Universe Books, 1972).

[5] With respect to the question of scarcity it should be noted that scarcity is a relative phenomena. The problem of scarcity is in most cases the problem that comes from the expectation of abundance which is denied for structural economic reasons rather than natural ones; see Murray Bookchin, *The Ecology of Freedom* (Palo Alto, CA: Cheshire Books, 1982), p. 71.

[6] Francisco Magno, 'Environmental Security in the South China Sea', *Security Dialogue*, 28 (1997), pp. 97–112; p. 100.

[7] Robert Mandel, *The Changing Face of National Security: A Conceptual Analysis* (Westport, Greenwood Press, 1994), p. 77.

[8] Peter Gleick, 'Environment and Security: The Clear Connections', *The Bulletin of Atomic Scientists*, 47 (1991), pp. 17–21; and Peter Gleick, 'Water and Conflict: Fresh Water Resources and International Security', *International Security*, 18 (1993), pp. 79–112.

[9] Gleick, 'The Clear Connections'.

five components, only one speaks directly to environmental issues, the first four are themes of well established resource-conflict research: *resources* as *strategic* goals, targets, tools and sources of conflict. Gleick's argument is characteristic of the archetypal Realism that has a habit of resurfacing under the rubric of 'environment'. A notable function of this conflation of resource scarcities with environmental issues is that it offers strategic rationality a beachhead on the environmental agenda, because resources and conflict are part of strategists' stock-and-trade.

It is important, then, to make the distinction between resource scarcity and environmental disturbance clearer to provide a membrane (albeit at times porous) against the inappropriate colonization of environmental issues by the resource/strategy agenda. To begin, it is worth restating Julian Simon's basic argument that economic processes can account for scarcity through price mechanisms and substitution.[10] To be sure, Simon's argument is not valid in all circumstances; one important caveat is that there are circumstances where technology and the market are not induced to find substitutes, such as in the case of localized depletions of clean water or fuelwood in industrializing countries. Nevertheless, these rarely qualify as 'security' problems in the international relations frame of reference. This is not to say, however, that there are no environmental security problems of merit. The point of revisiting Simon's theory is to say that resource scarcity is not the most pressing environmental problem, and to suggest that there is some substantive difference between resource and environmental problems, therefore their conflation is misleading.

The most complex, uncertain, and potentially disruptive problems lie not in the realm of environmental sources but in silent, apolitical and pervasive processes which are overloading the planetary 'sinks'.[11] Accordingly, a rule of thumb is that in most of the cited instances of 'environmental' resource scarcities where the scarce resource can be costed, its price altered according to the balance of supply and demand, and if necessary substituted, then the problem is more *economic* than it is *environmental*. Environmental problems are those effects or externalities that cannot be costed or reasonably substituted such as increasing rates of pollutant-induced cancer, biodiversity losses, and the effects of climate change. These issues are already discernible in declining human security, felt mostly by the already insecure. These are the essence of environmental *in*security.[12] Water and soils are two basic resources that defy this classification, having both economic and ecological functions, however, as argued below, arguments that there will be 'water wars' are also unconvincing, and the issue of land degradation has yet to be seriously considered as a cause of conflict.

The prospect of war over resources is dubious even without considering environmental factors. Lipschutz and Holdren advance the liberal argument that military action to secure access to resources is unlikely given the interdependence among states in the global economy. They suggest that war is less cost-effective than pursuing the same goal through trade; that technological advances have increased the substitutability of materials; and that raw materials are now less important to

[10] Julian Simon, *The Ultimate Resource* (Princeton, NJ: Princeton University Press, 1981).

[11] A clear discussion of this can be found on p. 47 of Anthony McMichael, *Planetary Overload: Global Environmental Change and the Health of the Human Species* (Cambridge: Cambridge University Press, 1993).

[12] On environmental *in*security see Barnett, 'The Meaning of Environmental Security'.

economic success.[13] However, at the same time as dismissing the possibility of war over economic resources, Lipschutz and Holdren argue that environmental problems now pose 'the greatest threats to international stability'.[14] They posit that there is a real possibility of environmentally induced conflicts, particularly given North-South inequities. However, if the oppressed and exploited in the South have not resorted to force thus far as a means to free themselves from the underdevelopment imposed by the North, it seems questionable to assume that they will in the future on the basis of additional environmental pressures. In short, if the argument that interdependence is peace-promoting holds for resource-based conflicts, then it arguably holds equally for environmentally-based conflicts. Even in more reasoned works such as Lipschutz and Holdren's, the ontological priority is still given to conflict over cooperation, and there are still nuances of the determinism that attaches itself to environmental problems.

The environment–conflict literature is almost entirely premised on the ethnocentric assumption that people in the South will resort to violence in times of resource scarcity. Rarely, if ever, is the same argument applied to people in the industrialized North. There is continued scripting of people from the South as barbaric, strongly implying that those in the North are more civilized. Nevertheless, the former Yugoslavia excepted, there may indeed be a degree of institutional/social resilience in industrialized societies that hedges against large scale violence most of the time, and this, at least, offers hope as a meaningful research agenda for environmental security.

There are at least three possible reasons for the resilience of industrialized societies. First, as the industrialized economies partake of the global division of labour they effect a global division of environmental degradation as well, thereby transferring environmental degradation abroad. Given this, practising environmental security seems to be the practice of securing the ecological health of the nation by transferring environmental externalities. Second, the levels of wealth in the industrialized world—wealth gained through the exploitation of cheap labour and materials abroad—allows for institutions that provide stability and resilience to environmental change. The market, well financed government, the insurance industry, transport and communications infrastructure, a degree of democratic participation, and a base level of personal affluence all seem to help hedge against turmoil in the face of environmental stress. Third, trade between similarly affluent liberal democracies assists in the transfer of necessary food and technology that helps enhance resilience and decreases the likelihood of rivalry. Underwriting all this, however, is the ability to pay and to participate in the domestic and global economy without great disadvantage. This ability, of course, is limited to the few and underwritten by the exploitation of the many.

This brings us to a pervasive analytical difficulty of the literature which posits the possibility of environmentally induced conflicts. If, as Gleick suggests, 'developing countries have far fewer technical and economic resources at their disposal', and hence are less able to adapt to environmental change, then this institutional impoverishment surely applies to their ability to wage war as well.[15] The threat from

[13] Ronnie Lipschutz and John Holdren, 'Crossing Borders: Resource Flows, the Global Environment and International Stability', *Bulletin of Peace Proposals*, 21 (1990), pp. 121–33.
[14] Lipschutz and Holdren, *ibid.*, p. 126.
[15] Peter Gleick, 'Environment, Resources, and International Security and Politics': p. 518.

the South could scarcely manifest itself as large scale warfare, despite Gleick's observation that 'Third World arms capabilities are impressive and growing' and so 'the threat to peace and security becomes fully apparent'.[16] There may indeed be some possibility of low-intensity conflict driven by desperation and resentment of the policies and practices of the North, but it is important to step back and view the broader picture. The revealing question is *whose peace and security*? The absolute peace and security problem is not that in the face of intolerable oppression the oppressed may resist; the problem is the oppression and injustice itself. The task, then, is to eliminate this injustice.

The real irony of the environment–conflict literature is that it is the industrialized world which assumes that the South will threaten; the North creates its own fiction, based on little or no evidence. In this literature the Northern strategic vision projects onto the industrializing world its own violent rationality. It assumes that the 'South' will behave as the North would, that is with aggression and force. Yet this is merely *an assumption*, there may be rogue states (Iraq, Libya, North Korea), but these few are exceptions and do not represent the vast majority of industrializing states. Hence the 'threat to peace and security' which is 'fully apparent' to Gleick is by no means apparent. The peace and security being referred to is the peace and security of the industrialized states, not the positive peace and security to which the majority of the world's people are entitled. This Northern 'peace' is a negative peace, and its 'security' is a resistance to change.

Water wars

A consistent concern of the environmental security literature is the likelihood of conflict over water.[17] According to Joyce Starr, for example, 'water security will soon rank with military security in the war rooms of defence ministries'; and for Barry Buzan 'it is not difficult to imagine the issue of allocations of water along rivers such as the Nile, the Mekong and the Indus becoming causes for the use of military force'.[18] The literature makes much of the observation that 214 major river systems are shared by two or more countries.[19] Naff exemplifies the reasoning that underlies the water wars thesis:

> In sum, the strategic reality of water is that under circumstances of scarcity, it becomes a highly symbolic, contagious, aggregated, intense, salient, complicated, zero-sum, power- and prestige-packed issue, highly prone to conflict and extremely difficult to resolve.[20]

[16] Gleick, *ibid.*, p. 519.

[17] A selection includes: John Cooley, 'The War Over Water', *Foreign Policy*, 54 (1984), pp. 3–26; Peter Gleick, 'Water and Conflict'; Norman Myers, *Ultimate Security: The Environmental Basis of Political Stability* (Washington: Island Press, 1996); Joyce Starr, 'Water Wars', *Foreign Policy*, 82 (1991), pp. 17–36.

[18] Starr, 'Water Wars', p. 19; Barry Buzan, *People, States and Fear: An Agenda for International Security Studies in the Post-Cold War Era* (Hertfordshire: Harvester Wheatsheaf, 1991), p. 132.

[19] Michael Renner, *Fighting for Survival: Environmental Decline, Social Conflict and the New Age of Insecurity* (London: Earthscan, 1997), p. 60.

[20] Thomas Naff, 'Water Scarcity, Resource Management, and Conflict in the Middle East', in Elizabeth Kirk (ed.), *Environmental Dimensions of Security: Proceedings From a AAAS Annual Meeting Symposium* (Washington: American Association for the Advancement of Science, 1992), pp. 25–30 at p. 25.

There is a typical pattern to this literature: the geographical misfit between water and national boundaries is explored, then a healthy dose of 'practical geopolitical reasoning' is applied, then, having made much of the prospect of water wars, there is usually a brief discussion of remedial measures, which tends to read like an afterthought or an addendum to the substantive issue of warfare.[21] The usual case is the Middle East, a region already rife with religious, ethnic and political tensions. For many authors water scarcity will be the proverbial spark that starts the metaphorical Middle East bonfire, which in turn is seen to threaten international security.[22]

The most striking difficulty of the water wars thesis is the impossibility of clearly distinguishing among the many factors which contribute to warfare. When one sifts through the hyperbole, it seems that few wars have been induced solely by water shortages. As Lipschutz has observed, examples offered as evidence of wars over water tend to be about something else.[23] It seems that the broader political context is more relevant than the specific instance of water scarcity.[24] Nevertheless, there appears to be sufficient evidence, particularly that provided by Homer-Dixon's research, that water is an important variable in violent conflict within, if not always between, states.[25] Further, with respect to the case of conflict in the Middle East, pronouncements by the region's politicians (see below) suggest that in as much as politicians identify water as a cause of violence, the prospect of water wars should be taken seriously. However, it is my contention that the argument about water wars is overstated, is a particular product of strategic rationality, and undervalues the historical and contemporary evidence that water is as likely to 'cement peace' as it is to induce violence.[26]

Authors concerned about water wars have made much of (then Egyptian Foreign Minister) Boutrous-Ghali's observation that 'the next war in our region will be over the waters of the Nile, not politics'.[27] However, if Clausewitz's dictum that 'war is the continuation of politics by other means' is still relevant, then war over the waters of the Nile is still a war about *politics*. Put another way, if there is conflict over water, then that conflict is the result of a *failure of politics* to negotiate a settlement over the shared use of water. The idea that a war over water, or any other resource, is not a war about politics is dubious. Politicians and military leaders might wish to present war in Darwinian or Malthusian terms as a fight over subsistence needs, but this 'state of nature' rhetoric is a pragmatic device that denies responsibility for peaceful action, and justifies violence in lieu of meaningful dialogue.

[21] On 'practical geopolitical reasoning' see Geraoid O'Tuathail and John Agnew, 'Geopolitics and Discourse: Practical Geopolitical Reasoning in American Foreign Policy', *Political Geography*, 11 (1992), pp. 190–204.

[22] Peter Gleick is a notable proponent of this view. See also James Winnefeld and Mary Morris, *Where Environmental Concerns and Security Strategies Meet: Green Conflict in Asia and the Middle East* (Santa Monica, CA: RAND, 1994). An exemplar is John Bulloch and Adel Darwish, *Water Wars: Coming Conflicts in the Middle East* (London: Victor Gollancz, 1993).

[23] Ronnie Lipschutz, 'What Resource will Matter? Environmental Degradation as a Security Issue', in Elizabeth Kirk (ed.), *Environmental Dimensions of Security: Proceedings From a AAAS Annual Meeting Symposium* (Washington: American Association for the Advancement of Science, 1992), pp. 1–8.

[24] Miriam Lowi, 'Water Disputes in the Middle East', in P. J. Simmons (ed.), *Environmental Change and Security Project Report 2* (Washington: Woodrow Wilson Center, 1996), pp. 5–8.

[25] For a summary see Thomas Homer-Dixon and Valerie Percival, *Environmental Scarcity and Violent Conflict: Briefing Book* (Toronto: American Association for the Advancement of Science, 1996).

[26] Cooley, 'The War over Water', p. 3.

[27] Cited on p. 20 of Peter Gleick, 'Environment and Security: The Clear Connections', *The Bulletin of Atomic Scientists*, 47 (1991), pp. 17–21.

That much of the water wars literature focuses on the Middle East is instructive.[28] It suggests that the issue is important not because of an *a priori* concern for those people who may suffer from warfare (if it was we might see more discussion of the everyday problems of water scarcity as well), but because of the problems war in the Middle East might create for Northern interests in the region. The Middle East is certainly vulnerable to water shortages, but Central and Southern Africa have similar, if not worse water scarcities and hydrological perturbations. There are also equally longstanding political and social tensions. Yet there is no superpower presence in Africa, no religion-infused threats to world order, and perhaps most importantly, there is no media interest. With respect to the Middle East, detailed geographic analyses of the issue of water scarcity from Beaumont and Lonergan find that there is indeed no reason to expect conflict over water in the near future.[29] Thus, on reflection, the sensationalist discourse on water wars in the Middle East is motivated by Northern interests in the region rather than a concern for the people or the environment of the region.

Should there be examination of water issues in Southern Africa, a picture which confounds the water wars thesis might emerge. The Okavango River, for example, is a little studied but exemplary case of the way in which water scarcity can lead to cooperation rather than war. The Okavango River is shared by Angola, Botswana and Namibia, and has important health, economic and ecological functions. As a result of impending tensions over scarce water resources, a commission was established by these three states in 1994. Since then, the commission has effectively and peacefully co-managed the river, demonstrating that water can form a common basis for peace.[30]

In sum, the selection of cases to prove the water wars thesis is suspect. What is truly notable is the failure to examine successful and peaceful water management regimes, such as those in Western Europe and North America.[31] This omission might be explained by an absence of scarcity, or the relative balance of military powers (although this is not the case with US–Mexico cooperation over the waters of the Colorado River), but the failure to examine positive cases might also be a function of the way in which warfare appeals to our sensationalist and militaristic culture. The water wars thesis can be read as a case of 'civilized' Europeans constructing a barbaric Other. It suggests that there is really a pervasive disinterest in peace, and that warfare is more interesting. The focus on conflict rather than peace creates the justification for strategic interventions in key regions, in this respect 'environment' is part of the discursive repackaging of the Northern security agenda.

[28] It is interesting to note that predictions of water wars come mostly from Northern commentators.

[29] Peter Beaumont, 'Water and Armed Conflict in the Middle East—Fantasy or Reality?', in Nils Gleditsch (ed.), *Conflict and the Environment* (Dordrecht: Kluwer Academic Publishers, 1997), pp. 355–74. Steve Lonergan, 'Water Resources and Conflict: Examples from the Middle East', in Nils Gleditsch (ed.), *Conflict and the Environment* (Dordrecht: Kluwer Academic Publishers, 1997), pp. 375–84.

[30] I recognise that this is peaceful in so far as there has not been conflict between states. Certain development projects, like all modernization projects, may involve displacement of people or disruption of livelihoods, and these could be said to be violent. There is minimal literature on this subject, but see the Okavango River Basin Commission's website: http://www.iwwn.com.na/namibianet/okacom/main.html

[31] Two important exceptions are: Francisco Correia and Joaquim da Silva, 'Transboundary Issues in Water Resources', in Nils Gleditsch (ed.), *Conflict and the Environment* (Dordrecht: Kluwer Academic Publishers, 1997), pp. 315–34; and Manuel-Ramon Llamas, 'Transboundary Water Resources in the Iberian Peninsula', in Nils Gleditsch (ed.), *Conflict and the Environment*, pp. 335–54.

A counter-argument to the prospect of water wars has come from Deudney, who argues that cooperation and co-management of water resources may be the more likely outcome of water scarcity.[32] Empirical evidence for this is offered by Libiszewski who has argued that water has served as a focus for dialogue and confidence building in the Middle East, an important if unpopular counterweight to the prophecies on water wars.[33] This suggestion is supported by strategic considerations as well, namely that exploitation of water resources requires expensive and vulnerable engineering systems, creating a mutual hostage situation thereby reducing the incentives for states to employ violence to resolve conflict.[34] So water is not likely to be a source of conflict because it is difficult to securely enclose.

Up until the advent of industrialization, water was for the most part peacefully co-managed, refuting the deterministic assumption of violent defence of resources which underlies the water-wars thesis. Indeed, water rights have always been a key mechanism for coping with water scarcity.[35] This is also true in the case of the Middle East, where there has been a complex system of water rights, and where water has been an integral part of traditional customs. Prior to the modern state, water was a basis for negotiation and cooperation, which suggests that despite the impediments imposed by the state-system, the peaceful management of water scarcity is still (culturally) possible.[36]

Population, environment and conflict

Considerable attention has been paid to the links between population, the environment and conflict. The standard argument is that population growth will overextend the natural resources of the immediate environs, leading to deprivation which, it is assumed, will lead to conflict and instability either directly through competition for scarce resources, or indirectly through the generation of 'environmental refugees'. For example, according to Myers: 'so great are the stresses generated by too many people making too many demands on their natural-resource stocks and their institutional support systems, that the pressures often create first-rate breeding grounds for conflict'.[37]

The ways in which population growth leads to environmental degradation are reasonably well known. However, the particular ways in which this leads to conflict

[32] Daniel Deudney, 'Environment and Security: Muddled Thinking', *The Bulletin of Atomic Scientists*, 47 (1991), pp. 23–8.

[33] Stephan Libiszewski, 'Integrating Political and Technical Approaches: Lessons from the Israeli–Jordanian Water Negotiations', in Nils Gleditsch (ed.), *Conflict and the Environment*, pp. 385–402.

[34] Deudney, 'Environment and Security: Muddled Thinking', p. 26. This view is supported by Beaumont in 'Water and Armed Conflict in the Middle East', who has argued that the costs of a conflict over water far outweigh the benefits of potential victory.

[35] John Bennett and Kenneth Dahlberg, 'Institutions, Social Organisations, and Cultural Values', in Brian Turner (ed.), *The Earth as Transformed by Human Action: Global and Regional Changes in the Biosphere over the Past 300 Years* (Cambridge: Cambridge University Press, 1990), pp. 69–86.

[36] On history and culture as it applies to the management of environmental problems see Stephen Boyden, *Western Civilization in Biohistorical Perspective: Patterns in Biohistory* (Oxford: Oxford University Press, 1987).

[37] Norman Myers, 'Population, Environment, and Conflict', *Environmental Conservation*, 7 (1987), pp. 15–22: p. 16.

are difficult to prove. In the absence of proof there is a negative style of argumentation, and there are blanket assertions and abrogations; for example: 'the relationship is rarely causative in a direct fashion', but 'we may surmise that conflict would not arise so readily, nor would it prove so acute, if the associated factor of population growth were occurring at a more manageable rate'.[38] It is possible though, that rather than inducing warfare, overpopulation and famine reduce the capacity of a people to wage war. Indeed, it is less the case that famines in Africa in recent decades have produced 'first rate breeding grounds for conflict'; the more important, pressing, and avoidable product is widespread malnutrition and large loss of life.

To equate famine with warfare and threat is to deny the *prima facie* issue of the responsibility of the industrialized world to those in affected regions. To focus on the conflict potential is to ignore the real causes of poverty and vulnerability, namely the economic disadvantages people in the industrializing world experience from their exposure to global capital. Ignoring global processes also leads to impoverished policy.[39] Vulnerability to famine can be lessened through substantial increases in access to employment, health care, education for women and children, and contraception. Resilience to famine can be enhanced by protecting traditional societies from the disruptive effects of modern society, by creating safe political conditions, and by permitting more autonomous governance at the local level. The consequences of famine can be lessened by making use of the efficient collection and delivery mechanisms that characterize world trade between industrialized nations to deliver necessary supplies. All these mainstream development concerns are ignored or treated as afterthoughts when the issue of population growth is understood as a probable cause of war.

This population-environment-conflict reasoning is captured in an early pronouncement by Robert MacNamara (former US Secretary of Defense and former President of the World Bank), who said in 1984 that: 'short of thermonuclear war itself, population growth is the gravest issue the world faces over the decades immediately ahead'.[40] We should be immediately suspicious when pronouncements likening population growth to nuclear war come from key figures in the Northern world order such as MacNamara; whose 'world' is MacNamara referring to? If MacNamara the philanthropist is talking here about the plight of those who are adversely affected by rapid population growth and famine, then the 'world' in question may be that of the Southern people at the receiving end of the exploitative, poverty-making global economy. This 'world' is at risk from those very institutions with which MacNamara is so familiar—the World Bank, the Pentagon, and Ford motor company. More probably, MacNamara the former US defence secretary is referring to the world of US interests and the possibility that the growth in the number of Others might undermine the stability of (Northern) world order. In environmental security discourse, claims to the 'global' often mask the pursuit of the industrialized world's interests.[41] So it seems that the 'world' view of

[38] Myers, *ibid*., p. 16.
[39] Stephen Dovers, 'Sustainability: Demands on Policy', *Journal of Public Policy* 16, pp. 303–18.
[40] Cited in Myers 'Population, Environment, and Conflict', p. 15.
[41] Simon Dalby, 'The Threat From the South: Geopolitics, Equity and Environmental Security', in Dan Deudney and Richard Matthew (eds.), *Contested Grounds: Security and Conflict in the New Environmental Politics* (Albany: State University of New York Press, forthcoming).

MacNamara is the view that comes with a position of power; the view that comes from directing aircraft carriers and satellites, and from granting billion dollar loans and shaping national economies to fit the global economy. The 'world' in question is the world of the wealthy and powerful.

There are three principal features of the population-environment-conflict literature. First, by scripting population growth in industrializing countries as a threat to the interests of the industrialized countries, it presents population growth as an issue which requires management by the industrial powers. However, this is rarely seen to involve the relinquishment or adjustment of economic power. Second, it assumes that the number of people is absolutely indicative of ecological impact. This totally ignores the question of what kinds of lifestyle these people lead. Overall environmental impact is not merely a function of numbers, but also a function of the resources people use and the wastes they generate. So *lifestyle* is as important as the *number* of lives. In this respect the most overpopulated country in the world is the United States, which has 4.7 per cent of the world's population, consumes 25 per cent of all processed minerals, and produces 24 per cent of the world's greenhouse gases. In contrast, an 'overpopulated' country like India has 16 per cent of the world's population, but consumes only 3 per cent of all minerals and produces around 4 per cent of greenhouse gases.[42] Hence overemphasizing population turns a blind eye to the complicity of industrialized nations.

Finally, by viewing population as a threat, by indicating this threat through impersonal demographic statistics, and by seeing this from a global perspective and in Malthusian terms, this literature ignores the social and biological aspects of birth.[43] For the population doomsayers another birth is an negative incremental addition to the problem. Further, the life that comes from birth is seen to be miserable and burdensome. Yet high population growth in the industrializing world is generated in part by the realization on the part of parents that prospects for survival are increased by having children. To be sure, other factors such as the exclusion of women from public life, inadequate maternal and post-natal medical care, unavailability of birth control devices and religious and cultural factors all play a part as well. However, what is surely of some significance is that having children is both socially rewarding and is basic biological behaviour. Having children is one thing that people have always done. Giving birth and raising children points to non-instrumental modes of reason and ethics which involve a respect for life and community, nurturing, love, responsibility and a long term focus on the future. These positive aspects of population growth are wholly ignored by the population-environment–conflict literature.

The project on environment, population and security

Of all the literature that addresses the links between environmental degradation, population and conflict, the work by the Project on Environment, Population and

[42] These figures are derived from The United Nations Development Programme, *Human Development Report 1996* (New York: Oxford University Press, 1996); and from George Miller, *Living in the Environment* (8th edn.) (Belmont: Wadsworth, 1994).

[43] For a discussion of the way Malthusian principles underwrite much of the environmental security literature, see Dalby, 'The Environment as Geopolitical Threat'.

Security at the University of Toronto is the most engaging and thoughtful. The project began in 1994 and aimed to answer three questions, namely: what is known about the links among population growth, renewable resource scarcities, migration and conflict? what can be known about these links? and what are the critical methodological issues affecting research on these links? These questions can be understood as seeking to substantiate what I have thus far called the *assumption* that environmental disturbances will induce conflicts.

The project was based on an early paper by Homer-Dixon,[44] the key premise of which was that industrializing countries are more vulnerable to environmental change than rich ones, and so are more prone to environmentally induced conflicts. Homer-Dixon identified four causally interrelated effects of environmental degradation: reduced agricultural production, economic decline, population displacement, and disruption of regular and legitimized social relations; all of which may contribute to various forms of (usually violent) conflict. The Project on Environment, Population and Security is premised on Homer-Dixon's essentially positivist logic. Flow charts are used to explain the processes whereby environmental degradation will induce conflict.[45] These are models which depict a hypothetical 'reality'.

There are methodological difficulties when (ostensibly) political scientists such as Homer-Dixon engage in simplified, linear and positivist interpretations of the complex and uncertain interface between social and ecological systems. Vaclav Smil has called this rough-and-ready approach a form of 'environmental determinism', which does indeed seem an appropriate label.[46] The popularity of this research no doubt stems from this pseudo-scientific approach. Nevertheless, the problems of interdisciplinarity flow both ways, positivist and linear styles of analysis are also characteristics of Gleick and Myers' work, both of whom are biophysical scientists engaging in political commentary, and both of whom evince a crude Realist outlook.[47] The errors of this latter pair are perhaps less excusable. Their role should be less about dramatizing the prospect of environmentally induced conflicts, and more about providing credible and qualified scientific advice with reserved, not sensationalized comments on the political ramifications of environmental change.

The Toronto Project carried out numerous case studies to answer its three principal research questions (listed above).[48] These case studies are, to varying degrees, well researched background briefings on the difficulties experienced in particular regions; although they are more like development case studies than cases of relevance for security studies. What they demonstrate is that inequitable distributions of renewable resources are exacerbated in times of scarcity, and in such

[44] Thomas Homer-Dixon, 'On the Threshold: Environmental Changes as Causes of Acute Conflict', *International Security* 16 (1991), pp. 76–116.

[45] See also: Thomas Homer Dixon, 'Population Growth and Conflict', in Elizabeth Kirk (ed.), *Environmental Dimensions of Security: Proceedings From a AAAS Annual Meeting Symposium* (Washington: American Association for the Advancement of Science, 1992), pp. 9–16; and Thomas Homer-Dixon, *Strategies for Studying Causation in Complex Ecological-Political Systems* (Toronto: American Association for the Advancement of Science in conjunction with University College, University of Toronto, 1995).

[46] Vaclav Smil, 'China's Environment and Security: Simple Myths and Complex Realities', *SAIS Review*, (1997) 17, pp. 107–26: at 109.

[47] Myers is less consistent here, his *Ultimate Security* is remarkable for its diverse and at times contradictory theoretical positions.

[48] A list of these case studies can be found in the back of Homer-Dixon and Percival, 'Briefing Book'.

times elites may try to capture resources to secure their interests.[49] This in turn leads to population displacement, often forcing people into more environmentally fragile areas, where the cycle may begin anew. The initial problem of environmental scarcity thus creates a cycle of enclosure, capture and displacement, and in such a cycle the potential for violent episodes increases. In Homer-Dixon's view, environmental disruptions are not immediate causes of conflict, but can at times be contributing factors. Other key findings are that societies adapt by either using their environmental resources more efficiently, or by reducing their dependence on the scarce environmental resources, and that 'in either case, the capacity to adapt depends on the level of social and technical ingenuity available in the society'.[50] It is also argued that failure to adapt results in impoverishment, migration, and weakening of the state, and that this may 'sharpen distinctions among groups and enhances their opportunities to participate in violent collective action'.[51] Finally, and contrary to the allegations of others, the project found that 'environmental scarcity rarely contributes directly to interstate conflict'.[52]

In terms of the broader literature it is important to note that this research has shifted attention away from global and regional issues to local issues. It offers a scale of analysis which was previously ignored by environment and security scholarship, but which is surely equally valid. It is also significant in that it dismisses the suggestion that environmental degradation will lead to conflict between states. To stress the key point however, this research has not conclusively shown that conflict inevitably flows from environmental degradation, nor even that environmental degradation is a principle cause of violence. What it has shown, however, is that environmental problems are contributing to social disturbances, which may involve violence, or less sensationally but no less importantly, more structural forms of disadvantage.

One of the 'debates' about environmental security concerns Marc Levy's criticism of Homer-Dixon's research.[53] Levy is generally dismissive of all the environment and security literature, although his review of it is far from comprehensive.[54] He is particularly ungenerous in his regard for Homer-Dixon's work, arguing that it is 'bland' and offers nothing substantially new to security studies—although we should note that Homer-Dixon for the most part was not talking about 'security' *per se*, focusing instead on violence.[55] Levy is also overly concerned with the implications of Homer-Dixon's research for 'contemporary US security policy', another aspect that Homer-Dixon did not purport to address.[56]

Levy argues that the cases Homer-Dixon selected for study are all instances where there have been violent episodes, claiming that cases were selected to prove the initial

[49] This analysis has largely avoided the aforementioned confusion over resources by talking about *renewable environmental resources*.
[50] Homer-Dixon and Percival, 'Briefing Book', p. 7.
[51] Ibid., p. 8–9.
[52] Ibid., p. 9.
[53] The core of this debate can be seen in the 1996 *Environmental Change and Security Project Report*, ed. P. J. Simmons (Washington: The Woodrow Wilson Centre, 1996).
[54] Levy makes his argument in two places: in Marc Levy, 'Is the Environment a National Security Issue?', *International Security*, 20 (1995), pp. 35–62; and Marc Levy, 'Time for a Third Wave of Environment and Security Scholarship?', in P. J. Simmons (ed.), *Environmental Change and Security Project Report* 2 (Washington: The Woodrow Wilson Centre, 1995), pp. 44–46.
[55] 'Conflict' actually seems to be the preferred word.
[56] Levy 'Is the Environment a Security Issue?', p. 55.

assumption that environmental degradation may induce conflict. He suggests that an approach which compares different violent outcomes in similar circumstances would have been more appropriate. However, it seems questionable to assume that two similar cases can be found given different ecological, cultural, and political contexts. What is most interesting is Levy's implicit suggestion that a case is not worth studying unless there is *some* element of violent conflict. The issue for Levy, then, is the need to examine the factors that explain different levels of violent conflict, and not the need to examine those factors which *might explain the absence of conflict* altogether. It is my contention that the more revealing strategy would be to examine cases without a violent outcome. This would shift the emphasis away from reaction to adaptation, and would be more likely to lead to positive and long-term responses.

With respect to the core methodological issues debated by Levy and Homer-Dixon, the crux of the debate seems to hinge on the attempt by both to speak in positivist vernacular about an issue which cannot be explained by positivist research strategies. This aspect of the debate is most useful as a demonstration of the frustrations associated with a strict adherence to positivist social science dictums. Finally, at the risk of overstating the claim, it must again be noted that all this attention (both from Homer-Dixon but even more so from Levy) given to violent conflict is misplaced. The issues that should be of more concern (at least in my view) are the day-to-day insecurities associated with the erosion of individual and group welfare and resilience.

Despite a sensitivity to complexity, and despite the shift of focus away from the international to the local scale, The Toronto Project still said little about the fundamental question of *what makes people resort to violence*? The discussion of pressures, scarcities and conflict depicts the circumstances and the conducive factors, but there is a leap of analysis from these to the decision to resort to force. In effect the key question (why fight?) cannot be wholly explained by compiling a litany of pressures. Were this wholly sufficient to explain the likelihood of violence, Gandhi would have preached bloody revolution and Mandela would have made recourse to militant retribution. Perhaps the more telling question to be examined then, is *why do people <u>not</u> resort to violence*? Hence, to repeat, a more productive research agenda would be to examine cases where, in the face of similar pressures, violence was not the end product (not cases where there were lesser degrees of violence as Levy suggests).

Homer-Dixon's research 'provides additional support for a range of policies—from selective debt relief to enhancement of indigenous technical capacity—that many development experts have long recognized as valuable'.[57] This is important despite Levy's suggestion that it is 'banal advice' which does not identify 'key intervention points' (a profoundly dismissive attitude towards conventional wisdom about redressing environment and development problems).[58] Although not the emphasis of Homer-Dixon's work, the point is that strategies for peace, justice, development and sustainability are necessary for there to be security. The implication is that there is little connection between environmental degradation and security when security is understood as a national concern. Instead, the problems of environmental insecurity are seen as problems of inadequate development. This is the subversive intent of Homer-Dixon's work. It adds impetus to the argument that

[57] Homer-Dixon and Percival, 'Briefing Book', p. 4.
[58] Levy, 'Is the Environment a Security Issue?', p. 57.

environmental problems only have meaning for security if security is understood in *human* terms.

Theoretical deficiencies

The argument that environmental degradation will induce violent conflict over scarce resources recasts ecological problems in mainstream international relations terms; it scripts the 'South' as primeval Other, and as a consequence suggests the imposition of the North to maintain order. The water wars thesis is no less ethnocentric in outlook, and it is here that we see most clearly the deployment of environment in the rewriting of security to justify longstanding interventions in regions of strategic importance, particularly the Middle East. That it is unconvincing in its assertion that there will be large scale violent conflict over water further highlights this article's claim that the environment–conflict thesis is a poor theoretical justification for security business-as-usual. The selective interpretation continues in the argument that when population growth exceeds ecological limits, conflict will ensue. Here, the most immediate development and human security issues are peripheral to strategic concerns about civil conflicts and refugees. Again, the interpretation is of the South, by the North.

As a body of theory, the environment–conflict literature reflects the intermingling of neorealist and liberal theories in North American security discourse, a confluence which excludes alternative critical perspectives and which, ironically in the case of environmental security, serves to marginalize the insights of a Green theory. At this point some further critical observations about environment–conflict theory are warranted.

History

There is a consistent lack of historical perspective in the environment–conflict literature. There is no clear appreciation of the long history leading up to contemporary environmental insecurities. This a fundamental failing given that it is the broader social and ecological degradation wrought by modernity which is the overriding context for any discussion of security and social tension. Thus Smil writes that 'any thoughtful historian, and especially those fascinated by the complex relationships between civilizations and their environment, must be astonished by the utter neglect of long term historical perspectives'.[59] There is also a lack of historical contextualization to the specific cases where environmental degradation is thought to have been a factor in violent conflict. Even a recent history of these places would more than likely reveal the vitally important factors of unequal terms of trade, Structural Adjustment Programmes, colonial and post-colonial imperialism, and the corruption of traditional cultures with Northern values and aspirations. However, all these and other factors are rarely acknowledged.

[59] Smil, 'China's Environment and Security', p. 107.

The most important thing about the use of history in this environment–conflict literature is the way many authors pick and choose historical evidence in a way that highlights the negative instances whilst ignoring the positive. Various historical examples are offered as evidence for the tendency of humans to go to war over resources. My point is less to dispute the assertion that there were environmental dimensions to past conflicts, although this is questioned given the difficulty of proving this in even contemporary times. Rather, my point is more that history is a biased record that tells us far more about violence than it does about peace.[60] As a body of evidence to support an argument about the preponderance of violent behaviour, history is thus suspect. A more balanced and productive use of history would include discussion of those cultures that have lived sustainably and in peace. The overarching message of history is that humans as individuals and as a species continually adapt and survive, and are therefore able to adapt to environmental pressures. This historical perspective stands as perhaps the greatest counterfactual to declarations of 'the coming anarchy'.[61]

The nature of nature

Underlying the environment–conflict literature is a set of essentialized readings of human (internal) and external nature. It has already been suggested that there is a form of environmental determinism involved. This arises for the most part from the involvement of biophysical scientists (such as Gleick and Myers) commenting on matters of political science informed by a Malthusian 'laws of nature' cosmology; and political scientists such as Homer-Dixon and Levy commenting on issues pertaining to biological science.[62] The assumption made of human nature is at its core a political Realist one—humans are expected to resort to force and coercion to achieve their goals. There is thus a latent conflation of nature internal with nature external; both are seen to be anarchic and brutal. With this, nature itself can be seen in threatening terms by people such as Kaplan.[63] The scientific cosmology that denies order in the Other, and which has always underwritten modernity, resurfaces in this environment and conflict literature. The discourse, then, is one of barbaric Southern Others residing in decaying natural environs (over there). It is not surprising, but nevertheless not encouraging, that this has intuitive resonance in the heartlands of modernity.

The environment–conflict literature perpetuates a dualistic understanding of the relationship between humans and the natural world. The relationship is depicted as one in which humans are threatened by nature, or in some texts, humans are threatening nature. The relationship is always seen to be antagonistic, that is the exchanges are *threatening*. This recourse to dualisms ignores the dialectical under-

[60] Mahatma Gandhi, 1951, *Satyagraha* (Ahmedabad: Navajivan, 1951).
[61] Kaplan's term. Robert Kaplan, 'The Coming Anarchy', *Atlantic Monthly*, 271 (1994), pp. 44–76.
[62] This is not to say that this is a bad thing. Interdisciplinary work *is* required. It is to say, however, that integrative approaches require taking each discipline seriously. In this respect the political scientists for the most part have made the transition better. The biological scientists tend to rush into political analysis without any care for metatheory.
[63] Kaplan, 'The Coming Anarchy'.

standing of humans as nature rendered self-conscious, which casts environmental security in terms of human health and welfare rather than conflict.[64]

Conflict, instability and security

The environment–conflict literature talks of conflict in a particular way. Conflict is almost always equated with direct violence. It is used to denote a fundamental 'bad' which harkens to images of tribal warfare and guerilla insurgence (both themes of the literature). The unexplained use of 'conflict' masks the critical assumption that in any conflict violence is the natural outcome, and peaceful resolution the aberration.

Conflict, however, is not necessarily 'bad', nor does it necessarily involve violence of either a direct or a structural kind. Many struggles over resources can be seen to be situations of 'conflict', however the vast majority of these are resolved without recourse to violence. Conflict involves struggle between individuals or groups within a society. Many forms of overt struggle, such as that between political parties, between sporting teams, or between academics, do not involve violence. Indeed, discrepancy, disagreement and struggle are inevitable given social diversity. The peaceful resolution of these differences is a basic function of politics. The failure to peacefully resolve these overt struggles may lead to direct violence occasionally, and to structural injustices more frequently, but violence is not the inevitable outcome of conflict. Indeed, depending on the lens one uses, violence is rarely the outcome of conflict, rather, peaceful conflict is a necessary dialectical process that drives historical change.

This literature uses the word 'instability' in a way very similar to its use of conflict—that is to denote a undesirable state of affairs. Instability in this context means sudden upheaval and radical change. It equates to a threat to the existing state of affairs which, by implication, is the desired state. So, the environment–conflict literature holds to a typically negative conception of security. What is to be secured is the modern world order from the threat of change. However, to make the point again, instability, not unlike conflict, does not necessarily imply change for the worse. Indeed, given that the areas where instability is anticipated are all areas where there are numerous and pervasive injustices and deprivations, change and instability are to be welcomed. If, as it is currently written, environmental security means resisting, avoiding and suppressing change, then it is a vehicle for the continued defence of injustice. Furthermore, given that social changes are inevitable, just as evolution is seemingly natural, suppression of change is ultimately futile. Instead, change should be welcomed and negotiated to ensure that it is non-violent.

Environmental security for whom?

The theory that environmental degradation will induce violent conflict may affect a change in social 'reality' consistent with its image. Elliott suggests that predictions

[64] Most clearly explicated in Bookchin, 'The Ecology of Freedom'.

which 'posit more conflict as environmental decline increases will become self-fulfilling prophecies'.[65] In short, in describing a world of 'coming anarchy', the environment–conflict literature prepares for the reification of this possible world. In this respect the environment–conflict thesis is notable both for the way it justifies the defence of Northern interests, and for the way it obscures Northern complicity in the generation of the very environmental problems scripted as threats.

An examination of US environmental security policy reveals that the US interprets environmental security largely in terms of environmentally induced conflicts. This includes an awareness of the potential need to deploy forces in conflicts of a (supposed) environmental nature, and the need to—in some ambiguous way—defend the United States against externally originated environmental 'threats' likened to drug trafficking, weapons of mass destruction and terrorism.[66] Thus the 1997 National Security strategy states that:

> Natural resource scarcities often trigger and exacerbate conflict. Environmental threats such as climate change, ozone depletion and the transnational movement of dangerous chemicals directly threaten the health of US citizens … our national security planning is incorporating environmental analyses as never before.[67]

This occurs in the context of a strategy to 'retain our superior diplomatic, technological, industrial and military capabilities'.[68] This discourse evades the most salient point about security and environmental degradation, which is that as the world's largest economy with the world's largest military and more greenhouse gas emissions than any other country, the country most complicit in 'global' environmental degradation is the United States itself. Thus the scripting of environmental problems as externally originated security threats to the state is a discursive tactic that excludes from consideration the role of Northern businesses, consumers and governments in generating environmental problems. Further, a familiar construction of Us and Other is evident.

So conceived, environmental security as environment–conflict displays the usual suite of geopolitical disjunctures necessary to preserve the security of the select few at the expense of the insecurity of the many. In environmental security terms, the most environmentally insecure are not the states of the North, but the people of the underdeveloped South whose lives are jeopardized by a suite of environmental changes including exacerbated climatic uncertainties causing more storm surges, floods and droughts, and 25,000 daily deaths from water-borne diseases.[69]

It is desirable, then, to adopt a fuller and more holistic perspective on environmental insecurity. Some of the salient features of this would include appreciation of: *cause*—global economic and political processes and the changes wrought by modernity; *context*—the history behind any particular case, the effects of culture and cultural mixing in any particular case, the biophysical setting, and the ways in which people adapt in ways that do not lead to violence and which may be effective in the short and long term; and *effects*—declining health and welfare, natural

[65] Elliott, 'Environmental Conflict', p. 165.
[66] Barnett, *The Meaning of Environmental Security*.
[67] William Clinton. *A National Security Strategy for a New Century* (Washington: The White House, 1997), p. 24. Available at <<http://www.whitehouse.gov/WH/EOP/NSC/Strategy/>>
[68] Clinton, *ibid.*, p. 8.
[69] United Nations Environment Programme, *Global Environmental Outlook–1: Global State of the Environment Report* 1997, <http://www.unep.org/unep/eia/geol/exsum/ex3.htm>

disasters, slow cumulative changes, accidents, and conflict. In this more holistic perspective, conflict is only one of numerous effects of environmental degradation. Overemphasizing conflict therefore precludes recognition of these other effects. Further, when conflict does occur it should be seen as a particular and specific instance, not as proof of 'the coming anarchy'. Finally, a holistic approach implies that environmental security necessitates fundamental reform of the global political economy, and reform of the socially and ecologically degrading features of modernity.

Conclusions

In the final analysis, the more telling question about the linkages between environment and conflict is not—*is environmental degradation likely to lead to violence?*—nor even *how might environmental degradation lead to violence?*—but rather *why are we interested in the linkages between environmental degradation and violence?* In short, *why this literature*? This article has argued that the thesis that environmental degradation will lead to violence is generally unconvincing and is more a reflection of Northern theoretical and strategic interests than the reality of environmental degradation. This is to say, then, that the first two questions are by and large irrelevant. The answer given to the latter question is that the environment–conflict literature is the discursive primer to legitimate defence of the *status quo*. Thus the obsession with only one of the possible effects of environmental degradation (conflict) at the expense of other effects and at the expense of taking seriously the root causes of the degradation. The net effect of the environment–conflict thesis, then, is the justification of a state response that maintains the legitimacy of the security and military elite, and the justification for impending military and economic defence of Northern lifestyles.