Environmental Security in Post-Dayton Bosnia and Herzegovina

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Introduction

Long-term security concerns must include the environmental health of post-conflict regions. This is often considered a secondary issue; one that will receive increased attention as political and economic development proceeds. However, there are several reasons why the ecological condition of a post-conflict area is, on the contrary, of principal concern, including the limitations presented by damaged ecosystems, the health threats posed by environmental harm, and the prospect that co-operation towards environmental policymaking can act as a platform for further conciliatory efforts. At the same time, however, we must be realistic in our assessment of such situations: the Bosnian case indicates that conflict resolution can often hamper future environmental policy development.

This paper will begin with a discussion of the analytic concept of environmental security. I will then offer a brief overview of related concerns in both the Balkans and Bosnia-Herzegovina in particular, followed by a discussion of present and future concerns. We will find that the war had a mixed impact on the ecology of the region: while it caused much damage, and left a corresponding legacy, it also allowed a brief respite from the harm that was being inflicted by a rapidly deregulated, in many respects deteriorating, industrial infrastructure which had little merit in terms of environmental impact assessment. Indeed the more serious threat to environmental security in the Balkans as a whole is the recovery of the industrial economy, and future projects, such as hydropower developments, that may proceed without adequate environmental impact assessment unless this is demanded by both the international community and Bosnian civil society groups themselves. At the same time, rehabilitation and development efforts are encouraging cross-ethnic co-operation, as is the prospect of EU accession. Ultimately however it is far too early to arrive at an optimist forecast for the region and Bosnia in particular, since the normative context for environmental concern remains at a low ebb,

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perhaps the lowest in Europe, and security concerns are so pervasively linked to ethnicity.

The Great Undefined: Security in the Post Cold War Era

There is little need to rehash the quickly tiring debate over the meaning of environmental security at length here, and a fast overview will suffice. By the post-Viet Nam era, the older security agenda – ensconced in geopolitical thought – could no longer ignore the role played by natural resources and the environment, though one could argue such concerns have always permeated *strategic studies*, where we find the most immediate and non-controversial connection between the environment and security: one cannot conceive of a defensive or offensive military campaign without taking the environment seriously, as an obstacle or possible weapon (ecocide). However, the debate would extend far beyond this rudimentary linkage.[2]

In the 1970s, it became obvious that the definition of security needed to be expanded to include threats to natural resources (such as water supplies) posed by human activity, and not just military attack.[3] This was exacerbated in the 1980s with the recognition of truly global threats to the atmosphere, and coincided with broader efforts, from critical international political economy, political geography, sociology, and other fields, to move the common focus of security studies away from military pre-occupations and, for some, away from the state itself. The arguments for this, roughly, suggested that the dominant stress on military matters not only limited analytic focus and thus risked missing other threats to humanity, but that there was self-fulfilling prophecy in the act of fretting over military attack, and the subsequent reflexive policy prescription of war preparation/militarism.[4] Meanwhile those concerned with human rights on the one hand, and those who pursued global models of political order on the other, both demanded a discontinuation of state-centricity within the IR discipline as a whole.[5] Later, of course, non-traditional security concepts would be embraced by states such as Canada, and supra-national entities such as the EU, interested in re-inventing post Cold War policy.[6] But in its initial stages the challenge to the legitimacy of the state was an integral aspect

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[2] See A. Westing, ed., *Global Resources and International Conflict: Environmental Factors in Strategic Policy and Action* (Oxford: Oxford University Press, 1986). A transitional text in this regard was D. Pirages, *Global Ecopolitics: The New Context for international Relations* (Massachusetts: Duxbury, 1978).

[3] Though most of the academic literature in the mainstream emerged in the 1980s. In particular, see R. Ullman, "Redefining Security", *International Security* 8:1 (1983), 129-53; R. Barrett, ed., *International Dimensions of the Environmental Crisis* (Boulder: Westview, 1982); N. Myers, "Environment and Security", *Foreign Policy* 74 (1989), 23-41; J. Tuchman Mathews, "Redefining Security", *Foreign Affairs*, 68:2 (1989), 162-177.

[4] This line of thinking is developed in M. Gurtov, *Global Politics in the Human Interest* (Boulder: Lynne Rienner, 1988). An earlier example is R. Falk's *This Endangered Planet: Prospects and Proposals for Human Survival* (New York: Random House, 1971).

[5] For a standard read see B. Buzan, *People, States and Fear: An Agenda for International Security Studies in the post-Cold War Era, 2nd edition* (Boulder: Lynne Rienner, 1991). See also S. Dalby, "Security, Modernity, Ecology: The Dilemmas of Post-Cold War Security Discourse", *Alternatives* 17 (1992), 95-134.

[6] See A. Cooper, *Canadian Foreign Policy: Old Habits and New Directions* (Scarborough: Prentice Hall Allyn and Bacon, 1997), esp. 110-141.

of the movement to redefine security. Subsequently, however, the *disintegration* of states such as Yugoslavia would raise their own sets of related concerns, and the environmental policy-building process would be seen as a possible route toward state-building as well.

Environmental concerns lent themselves to these reformist intellectual strains with great convenience, though to be fair one could also argue that the genuine socio-political questions raised by a deepening ecological crisis challenged orthodox conceptions of legitimacy in both domestic and international spheres, and in both capitalist and central command economies. And so two strains developed in the late 1980s and 1990s: those who thought the main problem was the lack of explicit recognition accorded to environmental problems when viewing national security concerns; and those who felt the environment was yet another factor fit to diminish the inordinate focus security studies placed on the state in the first place. The two converged on occasion with the issue-area of militarism and the environment, and especially the observation and prediction of so-called "environmental conflicts."[7] But it would become apparent that this divide would stretch further as the gap between traditional and critical security studies continued in the 1990s.

Indeed one might argue that security is a term best left undefined, so as to avoid the inevitable semantic confusion when it is employed in varying contexts, and in different times. For Americans, and especially in the post-September 11 context, national security has come to mean anything resembling potential terrorist attack. However, we still see the production of statements such as this one, by Maurice Strong, on a regular basis: "…we have never faced a security challenge as great and pervasive as that we face today through our excessive impact on the earth's environment and life systems."[8] Arguably, encouraged by empirical events, such as catastrophic oil spills, the near-extinction of popular species, and the gradual awareness of biospheric threats, environmental concerns have permeated all aspects of security studies. However, there is little published work that links security and environment in the Balkan context, and this is unfortunate. The Bosnian situation exposes a primary strain within the environmental security literature: in order to protect the natural systems in the region, it can be reasonably asserted we need strong states; it can also be asserted, however, that states have traditionally been part of the environmental problem, and only reluctantly are they made part of the solution. In the context of post-conflict state building, we are forced into the realm of national security issues as well.

Environmental Security and National Security

If national security is the key to understanding national interest, and if the former is taken to mean freedom from external threat, it is self-evident that resources are key determinants. Leaving aside the endless debate over the relative significance of economic

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[7] On this see C.T. Timura, "'Environmental Conflict' and the Social Life of Environmental Security Discourse", *Anthropological Quarterly* 74:3 (2001), 104-113; R. Matthew and T. Gaulin, "The Ecology of Peace", *Peace Review* 14:1 (2001), 33-39; G. Foster, "Environmental Security: The Search for Strategic Legitimacy", *Armed Forces and Society* 27:3 (2001), 373-395; and C. Ronnfeldt, "Three Generations of Environmental Security Research", *Journal of Peace Research* 34:4 (1997), 473-482.

[8] M. Strong. "Beyond Rio: A New Role for Canada", O.D. Skelton Memorial Lecture, Vancouver, November 10, 1992.

and military power, neither is possible without access to adequate (indeed, if such a thing is even possible) levels of natural resources. This applies not only to so-called "resource dependent" economies, but also to states dependent on natural resources elsewhere. Bosnia is well endowed in terms of many mineral and especially hydrologic resources, but the distribution of their benefits will be a major factor in the future viability of the state as well as the two entities.

Environmental insecurity is caused by resource scarcity. In a milestone essay published almost a decade ago, Thomas Homer-Dixon identified three ways humans cause a scarcity of renewable resources. The combination of these three comprises environmental scarcity. The first is decreased quality and quantity of renewable resources at higher rates than they are naturally renewed (supply-induced scarcity). The second is increased population growth or per capita consumption (demand-induced scarcity) and unequal resource access (structural scarcity). The impact of resource scarcity can be felt as a result of decreased agricultural production, decreased economic productivity, population displacement and disrupted institutions and social relations. Given the relationship between conflict and resource scarcity, it is clear that environmental security is an important feature of current social, economic and political trends.[9] Both the distribution of benefits and disputes over ownership and access will be central questions as Bosnia gradually becomes an investment magnet for resource extraction and utilization.

In an alarming article, Robert Kaplan argued that the environment is the national security issue of the early 21st century, pointing to the political and strategic impact of surging populations, spreading disease, deforestation and soil erosion, water depletion, air pollution, and, possibly, rising sea levels which will lead to mass migrations and increasing group conflicts. Water, he argues, will be in dangerously short supply in areas like Saudi Arabia, Central Asia, and the southwestern United States. Wars could potentially erupt over access to fresh water and over damming of different parts of rivers. People living in low-lying areas -- more than one billion people or 20% of the world's population -- will be forced to move if waters rise as a consequence of global warming (this could have an impact of Croatia's Adriatic Coast, for example). The natural environment could therefore be considered one of the causes of violent conflict in the southern hemisphere and elsewhere, and should be examined for its potential to cause conflict in other parts of the world.[10]

Environmental security can be understood in different ways. For example, it can refer to environmental degradation as a source of conflict and thus a threat to the security

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[9] T. Homer-Dixon, T. F. 1994 "Environmental Scarcities and Violent Conflict: Evidence from Cases". *International Security* 19:2 (1994), 4-40. But see D. Deudney, "The Mirage of Eco-war: The Weak Relationship Among Global Environmental Change, National Security, and Interstate Violence", in I. Rowlands and M. Greene, ed., *Global Environmental Change and International Relations* (London: Macmillan, 1992), 169-191; and M. Renner, "Environmental Security: the Policy Agenda", *Conflict, Security & Development* 4:3 (2004), 313-334.

[10] R. Kaplan, "The Coming Anarchy", *Atlantic Monthly*, February 1994, 44-76. The jury is still out on whether Kaplan's pessimism was misplaced or simply premature. However, there is little doubt that shared river resources are a source of strain. See A. Elhance, *Hydropolitics in the Third World: Conflict and Cooperation in International River Basins* (Washington: U.S. Institute of Peace Press, 1999); and R. Dimitrov, "Water, Conflict, and Security: A Conceptual Minefield", *Society and Natural Resources* 15 (2002), 677-691.

of the state. Also, environmental security can refer to impacts of military activities in preparation for war or in the conduct and aftermath of war, or what is more commonly termed *ecocide*.[11] Environmental security can also challenge how we understand the impact of environmental change on the human environment. Conflicts can arise from resource scarcity and conflicts can also cause environmental degradation leading to resource scarcity. Thus, as Thakur notes, environmental factors are catalysts to war whether or not they directly cause war. Since a country's ability to respond to environmental scarcity depends on its capacity to deal with change and ability to adapt to environmental problems, environmental security is "embedded in the broader social, political and economic context" of that country.[12] This necessitates a wider understanding of the country's capacity to cope and be flexible. Interstate conflict can also be caused or exacerbated by environmental disruption. Many refugees leave their country of origin as a result of environmental disruption that threatens their existence or seriously affects the quality of their life.[13] Examples of causes of such disruptions include earthquakes, avalanches, floods and drought. Environmental disruptions can undermine one's ability to make a living and pose risks to one's health and well-being. Conflict-oriented disruptions include problems pertaining to destroyed food crops as a war tactic and the presence of landmines in fields and forests which people depend on for their livelihoods. All of this can diminish the capacity of state survival.

Military activities also contribute to environmental insecurity. Examples of military activities and their impact on the environment include scorched earth policies, dumping of toxic chemicals, oil spills, and cutting off the flow of water to certain areas. The extent to which military personnel and facilities are allocated to monitoring environmental change and protect regions from environmental degradation is expected to increase as natural resources continue to dwindle. Protecting these resources is a job increasingly being taken up by the military. The idea of directly linking the environment to security concerns was clearly articulated by Peter Gleick, who identified what he feels are primary environmental threats to security, all relevant to resource studies. Resource acquisitions are strategic goals in themselves, often attacked as part of military strategy; resources can be utilised as military tools; and, finally, various disruptions to environmental services, such as water supply, are obvious threats to the well being of citizens, as those who survived the siege of Sarajevo are too well aware.[14] Indeed a body of literature dealing specifically with the environmental impact of warfare and related international law began to grow in the 1970s and 1980s.[15] Moving beyond this, into the realm of a critical analysis of the links between military aggression and environmental

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[11] For an extensive discussion of this term see P. Stoett, *Human and Global Security: An Exploration of Terms* (Toronto: University of Toronto Press, 1999), 51-72.

[12] R. Thakur, "The United Nations and Human Security", *Canadian Foreign Policy* Fall 7:1 (1999) 51-60, 53.

[13] See P. Stoett, "Redefining 'Environmental Refugees': Canada and the UNHCR", *Canadian Foreign Policy* 26:7 (1994), 29-45.

[14]P. Gleick, "Environment and Security: The Clear Connections" *Bulletin of the Atomic Scientists* 47:3 (1991), 16-21.

[15] See for example H. Almond, "War, Weapons and the Environment", *The Georgetown International Environmental Law* review 1:2 (1988), 167-198; B. Oxman, "Environmental Warfare", *Ocean Development and International Law* 22:4, 433-437DATE; L. Juda, "Negotiating a Treaty in Environmental Modification Warfare: the Convention on Environmental Warfare and Its Impact Upon Arms Control Negotiations", *International Organization* 32:4 (1978), 975-992 (1978).

decay, and the social dimension of both, is more easily navigated in the waters of critical security studies.

The study of environmental security from a national security viewpoint immediately encourages a research agenda familiar to those engaged in the broader field of security/strategic studies today. Analyses would be limited to issues that involve foreign and domestic policy decisions, either as initiatives or reactions to scarcity and ensuing political conflict. Typical, and standardised, problems of conflict and co-operation will form the base of methodological decision-making: game theory problems and verification dilemmas, common pool resource problems, the social construction of threats, and so on. An explicitly normative dimension, as the preceding constructivist inclusion suggests, is certainly apparent. At a bare minimum, assuming we can move safely beyond the basics of territorial integrity and economic prosperity, we need to conceptualise sustainable development as a goal of national security, as an operating principle of conflict rehabilitation efforts. Yet this is impossible to define without normative postulation. In the normative sense, then, the ultimate goal of environmental security is national sustainable development, a term open to multiple simultaneous definitions. Raymond Mikesell offers a relatively precise definition: "the maintenance of the natural resource base, including the waste absorptive capacity of the environment, for the use of future generations so that their opportunities to maintain or advance their well being are undiminished."[16] We can accept this as a bare minimum should Bosnians wish to move out from under the shadow of war and advance their condition in a post-Dayton world.

Bosnian Environmental Security

We will not revisit the events leading to the often-violent disintegration of the former Yugoslavia, nor the civil war in Bosnia, in any detail here; this is well covered in numerous other publications.[17] It is important to stress, however, that there is no consensus in the scholarly community as to who, or what, is clearly to blame. We can, with some certainty, eliminate the idea that conflict of scarce natural resources was at the heart of the matter. This is significant, from the viewpoint of environmental security studies. However, we shall soon return to this theme, since resource scarcity, in particular water resources, could play a much larger role in the future of the Balkans in general and Bosnia in particular. While many have argued that the structural adjustments made necessary by Yugoslavia's debt crisis of the 1980s led to internal strife between ethnic groups, it cannot be reasonably argued that this was ht impact of natural resource exports or a concerted policy by the west to fracture Yugoslavia in order to attain them.[18] It

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[16] R. Mikesell, Economic *Development and the Environment: A Comparison of Sustainable Development with Conventional Development Economics* (London: Mansell, 1992), 6. See also H. Daly, *Beyond Growth: The Economics of Sustainable Development* (Boston: Beacon, 1996).

[17] See T. Gallagher, *The Balkans After the Cold War: From Tyranny to Tragedy* (London: Routledge, 2003); B. Denich, "The Spectre of Super-fluity: Genesis of Schism in the Dismantling of Yugoslavia", in R. Ferguson, ed., *The State, Identity and Violence: Political Disintegration in the Post-Cold War World* (London: Routledge, 2003), 177-198

[18] On the IMF-induced austerity measures see S. Woodward, *Balkan Tragedy* (Washington: Brookings Institution, 1995), 47-57.

could be argued, however, that such emphasis on rapid industrialization, which was of course a common theme in the Soviet bloc but a more controlled process in Tito's Yugoslavia, cemented a legacy of inadequate environmental protection standards in all the Republics.

Bosnia and Herzegovina's borders contain 51,209 km^2 of some of the most beautiful land in Europe, rough mountainous and forested territory in the north and flat fertile plains in the south. The Sava is the main river, and its tributaries, including the Bosna, Una, Drina and the Vrbas all flow to the north, dividing the land in sections that are often reflected in political demarcations as well. Indeed, Bosnia lies in the Sava valley while Herzegovina is in the Neretva river basin and the upper reaches of the Drina. Forests and woodlands comprise some 40% of the country; only five percent is devoted to permanent crops. Mineral deposits include bauxite, salt (in the Tuzla region), manganese, silver, lead, zinc, copper, iron ore, chromium, and coal.[19] There are 110 discovered coal deposits; the Sase mine near Srebrenica has an annual production of 6,500 tons of lead, 4,000 tons of zinc, and 8 tons of silver; its production affects the Drina River as well as local water sources.[20]

As with other states in the region, the war had mixed results. It certainly caused significant destruction, in both rural and urban areas. "During the war about 45% of its industrial plants, including about 75% of its oil refineries, were destroyed, damaged, or plundered. The transport infrastructure suffered similar destruction and approximately 35% of the main roads and 40% of the bridges were damaged or destroyed."[21] As of the fall of 2004, no effective national railroad was operative. In some cases wartime damage allowed embattled ecosystems significant recovery stages; for example, the Zenecka River was highly polluted in the prewar stage, but is a relatively clean river, postwar. Similarly, air quality has improved in many areas, most noticeably Zenica, Tuzla, Kakanj, Doboj, and Jayce.

Nonetheless, Bosnia has actually experienced a net loss in population since the peak of 4,377,033 in 1991; according to the Agency for Statistics it stood at 3,798,000 in 2001 (an accurate census has not been carried out since the war, and would be difficult to achieve). Of course, over 200,000 were killed in the war, but many others fled the country. There are still some 350,000 internally displaced persons, according to the UN High Commissioner for Refugees. Many Bosnians suffer from war-related injuries, including physical challenges and post-traumatic stress disorder, which has been linked back to physical problems as well.[22] This is perhaps most alarming with regard to the

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[19] Most of this information is taken from what is probably the most comprehensive report on Bosnia's environment available today: the Economic Commission for Europe's Committee of Environmental Policy's *Environmental Performance Reviews: Bosnia and Herzegovina* (New York, Geneva: United Nations, 2004), herein after cited as ECE, 2004.

[20] Center for Environmentally Sustainable Development, et. al., *Regional Action Plan for Mine Water Pollution Control*, Sarajevo, 2003. The Action Plan is funded primarily by Germany.

[21] ECE, op. cit., 2004, p5.

[22] See N. Mehic-Basara and B. Mehic, "Comorbidity of the Stress Reaction and Lung Disease on the Clinical Material During and After the War in Bosnia and Herzegovina", *International Congress Series* 1241 (2002), 279-289. Bosnia has provided fertile ground for psychologists interested in PTS (post-traumatic stress); see for example S. Dahl, A. Mutapcic, and B. Schei, "Traumatic Events and Predictive Factors for Posttraumatic Symptoms in Displaced Bosnian Women in a War Zone", *Journal of Traumatic Stress* 11:1 (1998), 137-145;

impact of the war on children who are already assuming leadership roles in many areas of governance and security provision today.[23]

However, the environmental impact was limited by the nature of warfare in the region, which tended to consist of fairly precise bombardments as opposed to large-scale ecocide. People in besieged areas, most famously Sarajevo, resorted to exploiting local wildlife and fauna for livelihood; trees were destroyed for heating fuel, for example. Temporary refugee camps resulted in similar waves of natural destruction, though the type on onslaught witnessed in Zaire after the Rwandan genocide was avoided. Landmines, however, caused substantial damage to fields, buildings, and public service utilities. Some eight percent of Bosnia and Herzegovina remains mined as late as 2005, not only endangering human life and preventing the full redeployment of the agricultural workforce but also retarding the growth of eco-tourism.[24] Ironically, a serious hazardous waste problem emerged because of relief efforts, as some "1000 tons of expired pharmaceuticals left over from wartime donations are a particular waste problem."[25]

Munitions have littered many of the battlefields, but one of the more alarming cases was that of depleted uranium. In both Serbia and Iraq, use of depleted uranium by United States forces is often considered a serious health threat. This became a concern to Bosnians since depleted uranium was used in the shelling of certain Serb targets towards the end of the war: some 11 sites were attacked by A-10 planes using 30mm depleted uranium ammunition in 1994-1995. In particular, uranium contamination has been found at three sites: the Hadzici tank repair facility, the Hadzici ammunition storage area, and the Han Pijesak barracks. An extensive UNEP survey found the first-ever recorded instance of depleted uranium contamination of groundwater. However, the findings of the UNEP Balkans Task Force suggest that contamination is minimal, though precaution and greater public awareness are both strongly encouraged, and the Task Force's findings have been contested by some local politicians and doctors linking high cancer rates with the shelling.[26] Studies have also been conducted on the exposure to uranium of peacekeepers in the region.[27]

One might argue that the real threat to environmental security comes not from war damage, but from the lack of regulatory law and process in the post-war period. Indeed, if one word could be used to describe Bosnia's current environmental predicament, that word would have to be "waste." This term applies in numerous senses. Valuable agricultural land is wasted because of mine infestation. There is a crisis with regard to solid and hazardous waste disposal, and this affects both ecosystemic and human health,

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[23] See for example, P. Smith, et. al., "War Exposure Among Children from Bosnia-Hercegovina: Psychological Adjustment in a Community Sample", *Journal of Traumatic Stress*, 15:2 (2002), 147-156.

[24] According to the ECE 2004 report, there are 10,000 minefields, with over 650,000 mines, in the country (70% in the Federation, 30% in the Republika Srpska). This includes some 1,500 minefields around Sarajevo. The percentage of civilian victims rose from 21% during the war to 78% after it. See pp 155-157.

[25] Ibid, 8.

[26] UNEP, Depleted Uranium in Bosnia and Herzegovina (revised edition), May 2003; accessed at: http://postconflict.unep.ch/publications/BiH_DU_report.pdf. For another view see Ekrem Tinjak, Faruk Boric and Hugh Griffiths, "Bosnians Say NATO Bombs Brought 'Angel of Death'", IWPR'S *Balkan Crisis Report*, No. 526, November 15, 2004.

[27] See M. May, et. al., "Military Deployment Human Exposure Assessment: Urine Total and Isotopic Uranium Sampling Results", *Journal of Toxicology and Environmental Health*, 67:8-10 (2004), 697-714

and usurps valuable policy development time.[28] For example, much of the discussion at a recent high-level meeting of ministers centred on waste management contracts.[29] But there is also waste due to inefficiency; it is estimated that leakage wastes up to an astounding 70% of the total running water. Much of this is due to infrastructure damage caused by the war, but wasteful practises are also responsible. This is similarly the case with air pollution, since standards remain abysmal in many urban areas such as Banja Luka and Gacko. There have been little if any studies of pollution caused by transportation, but a quick visit to the country will convince the most casual observer that fuel efficiency and pollution control is not a priority.[30]

Unfortunately, the Dayton Agreement contains no provisions for environmental policy. It endorses the State Constitution, adopted on Dec. 1 1995, and there is nothing in the Constitution that directly involves environmental policy, so it is generally assumed to fall within the jurisdiction of the entities. This puts the environmental question in a curious context: since it is impossible to effectively monitor ecological conditions on an entity level, the Dayton arrangement discourages the pursuit of environmental security in post-war Bosnia.

Despite this omission, however, there has been considerable progress made at the inter-entity and state level. The Inter-Entity Steering Committee for the Environment set up in 1998; and the National Steering Committee for Environment and Sustainable Development was created in 2002. Both entities have drafted (with financial assistance from CARDS) sets of environmental laws, which are fairly consistent with each other and with EU directives, adopted in Republika Srpska in 2002 and the Federation in 2003.[31] The state-level Poverty Reduction Strategy Paper, which was adopted in February of 2004, identifies most of the priorities found in the preceding National Environmental Action Plan, including water resource management and waste-water treatment, rural development, protection of biodiversity, demining, and others. However, "according to some observers, there are differences of opinion between the two entities on the role of the State in environmental protection [this is along predictable lines], and the Paper does not provide sufficient arguments in favour of environmental protection and sustainable development."[32] Beyond these differences, the capacity for effectively monitoring law and policy simply does not exist. Few general laws have been translated into enforceable bylaws, and there is a dearth of environmental inspectorates at the state and entity levels. This assumes heightened importance because of Bosnia's membership in several global environmental treaties, such as the Convention on International Trade in Endangered Species, the Convention on Biological Diversity, and the UN Framework Convention on

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[28] In 2000, microbiological analyses of 10,496 samples were conducted in public health laboratories; 2,212 (21.1%) did not pass basic health standards; chemical analysis conducted on 7,421 revealed a similar failure rate due to high levels of potassium permanganate, nitrites, nitrates and iron. Note however that these rates are actually lower than those found in 1999 and 1998. Source: Public Health Institute of Federation of Bosnia and Herzegovina and Public Health Institute of Republika Srpska, 2003.

[29] Semi-annual Meeting, Environmental Steering Committee for Bosnia-Herzegovina, Banja Luka, Sept. 21, 2004, attended by the author.

[30] Note however that, according to the ECE Report of 2004, "the most significant indoor air pollutant is tobacco smoke (75-80% of the population over 18 smokes)." Page 151.

[31] The relevant agency in the Federation is the Ministry of Physical Planning and Environment; in Republika Srpska it is the Ministry of Physical Planning, Civil Engineering and Ecology.

[32] ECE, 2004, op. cit., 18.

Climate Change. One of the Regional Environmental Center for Central and Eastern Europe's more interesting projects is the Balkan Environmental Regulatory Compliance and Enforcement Network, but officials there concede it is much easier to make inroads in the former east bloc states than it is in Bosnia, Serbia and Montenegro, or Albania.[33]

Finally, since Bosnia borders both Croatia and Serbia and Montenegro, it would be short-sighted to neglect the broader implications of regional environmental security in the Balkans for Bosnia.[34] The rivers and streams that run into and out of Bosnia are but one reason for this; others include the transportation of nuclear and other hazardous waste, the numerous transborder areas with sensitive wildlife, shared agricultural dilemmas, and similar policy infrastructure dilemmas. Various riparian disasters have inspired efforts to develop greater regional co-ordination.[35] From a political viewpoint, however, the most important factor is the inextricably linked nature of the post-Yugoslav Balkans is that co-operation amongst the former Republics is vital and promises to assert greater stability in the region as a whole if is successfully integrated into post-war development efforts. It can also help attract funding from institutions interested in regional initiatives, such as the REC and the Global Environment Facility (GEF) of the World Bank. Failure in this sector, which is as likely, would threaten stability.

Discussion

Several comments may be made at this point regarding the complex linkages between the environment and security in Bosnia. First of all, it is fair to acknowledge that, given the many other threats to personal security Bosnians face, and the surprisingly positive assessment of environmental conditions despite years of civil war and perhaps because of deindustrialization, it is a difficult task to put ecology at the forefront of policy or even civil society concerns. There is certainly a dedicated corps of environmentalists with a holistic vision of ecological health, from Zagreb to Sarajevo to Belgrade, but they will not have a significant impact on popular thought until there is more conceptual room, amongst both Balkan people and foreign investors, for such ideas.

Resources will be the key linkage point, since the area is certainly not invaluably perceived both locally and internationally. Water will be essential, for a number of reasons. The rivers play an important role in geopolitical territorialism at the micro level, a theme to which I return below. The cross-border river systems are natural conduits for drug, arms, and people smuggling. Many local communities derive their livelihood from rivers, either through fishing activities or tourism. Perhaps most importantly, however, there is great hydroelectric power potential in Bosnia, which has only begun to be realized. A Kyoto-based EU energy policy will encourage both investments in non-greenhouse gas electricity production (through Joint Implementation and the Clean

[33] The REC, which has emerged as the most important foreign donor agency for the environment in Bosnia, is in Szentendre, Hungary; it is funded chiefly by the European Commission. Interviews were conducted there with Robert Nemeskeri, Stephen Stec, and Mira Mileva in October 2004.
[34] Bosnia also has a 13km coastline along the Adriatic Sea near the town of Neum.
[35] See for example S. Stec, A. Antypas, T. Jansen, and E. Gulacsy, "Transboundary Environmental Governance and the Baia Marc Cyanide Spill", *Review of Central and East European Law* 27:4 (2001), 1-50.

Development Mechanism) as well as the possible import of hydroelectric power. (One model for Bosnia might be Laos, which derives most of its foreign exchange through power exports to Thailand). Already there are several highly controversial hydro dam projects in the works, giving rise to new tensions amongst local inhabitants, foreign and local investors, state and entity governments, and environmental groups. Beyond this friction, there is the broader concern that Bosnia may in effect become a resource basin for Europe, without a truly Bosnian identity based on economic self-sufficiency. The Inter-entity Commission for Water, which is supposed to assume responsibility for cooperation on all water management issues, will be one of the more challenging places to work in post-Dayton Bosnia.

Early assessments are emerging on the implications of the two-entity arrangement. They range from outright condemnation of the recognition of ethnic cleansing ("the apartheid-like logic of international diplomacy's political anthropology"), to a respectful acceptance of on-the-ground realities in 1995, to calls for the addition of a Croat entity and other creative, and always contentious, suggestions.[36] Bioregionalists argue that cartographic solutions are inferior to political boundaries reflecting natural divisions and thus communities. While many of Bosnia's cantons reflect river basins and mountain ranges, there are no serious efforts to overcome the ethnic divisions found within them, and between the two entities, based on geophysical similarities. In the long-term this holds some promise, however. There is, of course, much more to security than the maintenance of formal borders. Indeed, as Ruby Gropas and others have suggested, it is the "informal borders" that provide the best vantage point for the provision of soft security and the development of security communities; Roby contrasts the efforts to create hard fixed borders with "the reality of borders that are contested, permeable, blurred, simply disregarded or uncertain."[37] The Inter-entity Steering Committee for the Environment, for example, must navigate through both formal and informal borders in its efforts to co-ordinate policies. And it is of course difficult to conceive how state officials could effectively monitor the River Drina, the natural border between Republika Srpska and Serbia, when some Serbs do not consider this a border in the first place.

There is a paradox regarding European integration and Southeast Europe, for while the EU was established and is even defined by the increasing permeability of the internal borders that signify its members, post-Yugoslavia has been defined by the contention over borders that, for security reasons (such as drug and weapon smuggling and illegal immigration) are generally perceived as in need of serious thickening. The Slovenian example aside, this will prove a difficult confluence in the future. For example, Croatia's plans for early accession will doubtlessly be derailed if the Croatian-Bosnian border security is not significantly improved. By emphasizing transborder ecological co-operation, as the Regional Environmental Centre is currently attempting to do, international donors can contribute to the border/geophysical space resolution. But it would be disingenuous to argue at this point that such approaches will result in

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[36] Quote from D. Campbell, "Apartheid Cartography: the Political Anthropology and Spatial Effects of International Diplomacy in Bosnia", *Political Geography* 18:4 (1999), 395-435. Much of the related literature is picking up on social constructivist themes. See in particular D. Kostovicova, "Republika Srpska and Its Boundaries in Bosnian Serb Geographical Narratives in the Post-Dayton Period", *Space and Polity* 8:3 (2004), 267-287.

[37] "Functional Borders, Sustainable Security, and EU-Balkan Relations", *Southeast European and Black Sea Studies*, 4:1 (2004), 49-76.

attainment of a magic elixir that can heal wounds. More generally, the relationship with the EU is of course fundamental. EU funding in Bosnia for environmental policy planning and public awareness ran at 1.7 million Euros 2003-2005 (total funding for environment and natural resources stands at 18.3million Euros, 2000-2004). This is funnelled through the CARDS programme (Community Assistance for Reconstruction, Development and Stabilisation, with an overall 4.65 billion Euro commitment between 2000 and 2006).[38]

It is essential that Bosnia ratifies and enforces international treaties that will affect regional environmental co-operation as well. These include the Convention on Environmental impact Assessment in a Transboundary Context as well as the Convention on the Protection and Use of Transboundary Watercourses and International Lakes, and the Convention on Cooperation for the Protection and Sustainable Use of the Danube River. In general, efforts to incorporate Bosnia's international commitments have been sporadic at best.[39] One of the more promising regional initiatives is the Framework Agreement for the Sava River Basin and Protocol on Navigation in the Sava River Basin of 2003, initiated by the Stability Pact and the REC.[40] Its aim is to establish a permanent International Sava River Basin Commission dealing with possibly contentious issues such as irrigation, hydro-power, navigation, flood control, fisheries, timber floating, recreation, and tourism. The Sava is 946 km long, emptying into the Danube at Belgrade. Though it runs through all the Balkan states, Bosnia captures the largest portion, some 331km. There is at present a "gentlemanly agreement" that the commission's seat will be in Zagreb, and it will foster closer ties with Danube Commission, UN/ECE, and EU.

Another area where we might expect some progress is in eco-tourism. There are several conservation parks worthy of anything Europe has to offer, such as the Hutovo Blato wetlands near the estuary of the river Neretva, or the gorgeous Una River near Bihac, and increased political stability will encourage development in the areas of lodging and river rafting, hiking, and fishing. Several eco-tourist operators interviewed by the present author exhibited a cautionary optimism in this regard, suggesting that the development of such enterprises will be counter-productive if Balkan regions are turned into large-scale campsites for vacationing Europeans without clear property rights that benefit local peoples and strict environmental impact assessment.[41] Corruption and aid dependency are both obstacles to the development of a genuinely Bosnian eco-tourist industry.[42]

Criminal activity linked to toxic waste dumping, whether in the form of importing it and dumping it in rural regions or rivers, allowing it to cross through Bosnia towards Albania or other states, will need to be monitored and disrupted if the environmental health of Bosnia is to improve. Many Bosnian citizens, on condition of anonymity, expressed their concerns with this illicit activity during my stay in Bosnia in the fall of

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[38] European Communities, *The European Union and the Western Balkans: Building the Future Together*. Brussels: EU Publications, 2004.
[39] Interview with Jasmina Čengić, lawyer with the REC, at Sarajevo, Sept. 24, 2004.
[40] Slavko Bogdanovic, "Good Governance of the Sava Basin: Legal Realities and Practical Prospects", unpublished paper, Yugoslav Association for Water Law. Also, interview with Stephen Spec, REC, Szentendre, Hungary, September 2004.
[41] One NGO member in Zagreb went so far as to say, "beware the lovers of nature, for they can destroy it."
[42] I am especially grateful to Paola Lucchesi, a tour guide in Bihac, for her many insights into ecotourism's many challenges in contemporary Bosnia.

2004. Of course, this is but part of a much wider fabric of organized crime that pervades much of the Bosnian, and indeed Balkan, economy. It will take considerable reticence and courage to bring this issue to light, and though government officials are often unfairly accused of corruption ion Bosnia, it may be somewhat chimerical to anticipate a strong and steady state response to the crime. Just as likely, the impetus may come from the many non-governmental organizations presently dotting the political landscape across the Balkan states.

Indeed, NGOs have come to play key roles in promoting public awareness of environmental security concerns in the Balkan states. The war itself provided stimuli for many non-governmental organizations involved with environmental concerns. Some context may be in order here: there was so little development of civil society in the Balkans that the NGO has been a late addition, and in fact at times represents a scramble for development money as much as anything else. Some groups, however, predated the war, and actually used it to further channel their environmental concerns. An example is Zagreb's Society for the Improvement of the Quality of Life, which began operations (non-registered) in 1988. Its founder viewed the celebration of Earth Day during the war years as an indirect form of protest. Another group in BiH, Ekof, used a "trees of Sarajevo" 1997/98 campaign in 1997/98 to restore some of the thousands of trees that were chopped down for firewood during the siege to promote broader environmental values.[43] These and many other examples of civil society mobilization suggest that there is a core of ecological sensitivity amongst people in the region, but they are small and operate on a purse-string basis, highly dependent on outside funding, and considered radical fringe groups by the majority of industrialists intent on revamping the economy via resource extraction and the resumption of heavy industry.

It would be overly optimistic to even dream of Bosnia as an emerging "environmental state."[44] Indeed, it is rather premature to hope that any state, including those with relatively little internal conflict, will play that role in the near future. In the Bosnian case we are hesitant to declare we are even dealing with a "state" in the traditional sense of the word, though I believe it has evolved beyond the caricatures offered by earlier observers.[45] So much of the economic activity in Bosnia takes place in the informal sector it would be ludicrous to suggest the state or entity governments can effectively regulate it. But one can expect the international community to insist that post-Dayton Bosnia has a more concerted environmental policy infrastructure, and that efforts are made to link civil society with it. This will no doubt be the source of friction as business interests and new policy defenders clash, and friction in Bosnia is easily parlayed into ethnic animosity. The ultimate challenge, which only Bosnians can overcome, will be to avoid this.

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[43] Interviews with various NGO members, Zagreb, September 2004, and Sarajevo, October 2004.

[44] Term borrowed from S. Frickel and D. Davidson, "Building Environmental States: Legitimacy and Rationalization in Sustainability Governance", *International Sociology* 19:1 (2004), 89-110.

[45] Diana Johnstone: "the Bosnian settlement [Dayton] was the first experiment in a new model of non-sovereign statelet, run essentially by the new globalization instruments: official organizations such as the IMF (with total authority over the Bosnian economy) and the OSCE (with massive administrative powers) aided by a vast panoply of semi-governmental 'non-governmental organizations' which absorbed most of the 'donations' and constitute a permanent lobby within the Western countries from which they come for the continuation of such arrangements." Op. cit., 164.

Conclusion

It is self-evident that the civil war of 1992-1996 caused great environmental damage in Bosnia-Herzegovina, and that it also gave some respite to the damage caused by one of the most antiquated and, post-1985, unregulated industrial infrastructures in Europe. The contemporary challenge is to encourage sustainable development in a region that is hungry for foreign investment and clearly lacks the normative and administrative context for environmental policy creation and implementation.

This is not unlike other problems that post-Dayton Bosnians face today. It is fair, perhaps, to speak of two Bosnias in the contemporary sense. One is looking forward, and is dedicated to the twin tasks of making Bosnia a better place for European investment and, ultimately, membership in the European Union, while at the same time recognizing Bosnia's location in the Islamic world. It is a Bosnia that has hired thousands of young professions, many of them trained abroad, in order to implement the designs necessary to escape the clutches of internecine warfare, and it is also being driven by international agencies, members of NGOs, and educators. The other Bosnia, the one encountered by most visitors, reflects entrenched positions of wealth and quasi-feudal economic and even military relationships; it is self-cannibalistic, state capturing, and sees the future as a threat to established (and anointed by Dayton itself) ethnic cleansing and endless corruption. This is what Gropas refers to as the "parallel and particularistic state and economy."[46] No doubt the real Bosnia lies somewhere between the two.

Perhaps most importantly for the environment itself, Bosnia needs to both free itself from the second vision described above and maintain a cautious attitude about foreign investment and development projects that could cause more harm than good, exacerbating latent rivalries and making further Balkan-wide prospects dim. The international community can assist by promoting sustainable development, refraining from fuelling both conflict and irresponsible industrial development in the process.

[46] Op. cit., 62.