

## **Natural Resources and Conflict: The Need for Confidence-building and Crisis Management**

### **Environment and Conflict: New Principles for Environmental Conduct**

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#### **Introduction: Environment and Conflict**

The crucial connections between environment and conflict among nations continue to escape political scrutiny. The international community as yet pays little attention to such connections, thereby missing the opportunity for both preventive measures and effective responses to managing the consequences after the outbreak of war. Such acute international myopia serves neither global welfare nor efforts to design a better world for the twenty-first century. This article addresses some crucial connections. However compelling they may be, facts alone are seldom enough. Facts must be interpreted and decisions based on coherent analysis; only then can we consider the merits of alternative policy options—and choose among the best.

By definition, conflict damages natural environments; ecological costs are always incurred; degradation leads to more degradation and invariably to environmental damage—and the vicious cycle can go on and on. Environmental damage in the Middle East following the Gulf war is among the most compelling cases to date.

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### **Environment in the Gulf War**

By some accident of history, the Gulf war erupted one year before the international Conference on Environment and Development. It is nearly impossible for the industrial States and the international coalition against Iraq to ignore that event or to expect that the Conference, in turn, will ignore one of the most environmentally threatening multinational confrontations since World War II.

Three kinds of environmental damage are already interacting to produce a dangerous ecological situation, which may have serious political consequences. First is the environmental degradation in the Gulf and in the Middle East related to "normal" development—industrialization and other things we need and take for granted and which have nothing to do with war. This degradation is already extensive; by some counts the region's ecological budget already runs a large deficit. Second are the effects of the large-scale military presence in the Gulf—the pre-war preparations before the conduct of Desert Storm. And third are the ecological consequences of military engagement. The oil spill early on overshadowed the subsequent dangers of blazing oilfields.

The problem is this: any one of these sources of ecological damage alone poses remarkable problems—for which a bill must be paid—but taken together, the challenges for environmental management could well be daunting. At issue is less the dollar cost of clean-up—since no one has any idea what that could possibly be—than two other pressing difficulties. The first is to ascertain the scale and scope of these combined environmental effects, the second is to make sure that environmental damage does not turn into a wild card that could play havoc with post-war strategies for security, reconstruction, and development in the region. Untangling which damages are due to which causes and who is responsible for which part of the damage is a difficult job, perhaps even an impossible one.

The fact is that industrial countries and the international coalition will not be able to ignore the environmental costs of the Gulf war forever. A tentative strategy for management, however incomplete in scale and scope, is surely better than no strategy at all. Encountering ecological dislocation without assuming some responsibility for ecological repair is no longer sound politics. It sells nowhere, not even in the Middle East. Thus, for the crude *realpolitik* of self-interest, a strategy for managing the environmental costs of the Gulf war is a necessity, not a luxury.

The causes of damage—the normal causes and those tied to war preparation and the aftermath of war—are all distinct, and each has a unique ecological profile. Environmental degradation in the region carries a varied and multifaceted portfolio, and that portfolio looks roughly as follows:

#### **Normal Development**

Under normal conditions the Gulf and the Mediterranean are among the most thoroughly polluted regions in the world. Even a rough accounting of the types of pollution shows the range of dislocations. Business as usual, especially that designed as successful economic growth, has already had high environmental costs. Nearly one fourth of the world's oil flows through the Mediterranean. The region is normally vulnerable; spills are a part of the standard procedures for loading and unloading operations in this industry. Oil is particularly tricky to deal with because of accidents and the tankers that rid themselves of ballast waters at sea to avoid paying for access to facilities which allow oily ballast to be off-loaded. Moreover, we have no substitutes for oil. (Intentional, strategic spills are treated below.)

Unrelated to oil is a wide inventory of industrial pollutants. There are domestic wastes, 90 per cent of which

are untreated. There are metal breakages tied to industrial output, which seep into rivers and even into the atmosphere, as in the case of chromium and mercury. Then there are organic pollutants, such as chemicals like polychlorinated biphenyls (PCBs), or mineral oils from industrial processing or pesticides from agricultural practices—all of which are slow to decay. Also critical are the set of pollutants that turn into poison (e.g., sewage contaminating seafood), reminding us that not all pollution is created equal nor remains equal in its effects.

Beyond these facts there is good news and bad news. The good news is that the countries of this region have recognized the problem. The Med Plan of 1976 was a salient political issue. The bad news is that there never has been an environmental movement of any kind in the Gulf, nor have there been any serious restraints of an environmental nature on oil operations.

#### Preparations for War

Preparations for war brought a large-scale military presence to that subregion; it brought with it a wide range of novel sources of dislocation. A simple accounting looks like this. North and north-east Saudi Arabia, where most of the troops were massed, was thinly populated, having few permanent settlers. With war preparations, it suddenly had to host about half a million soldiers, together with thousands of tons of equipment and an arms arsenal. All of this amounted to a full-blown instant population boom—of the most ecologically damaging kind. A population of this size generates extensive wastes (both sewage and solids). Even if the estimates of the Environmental Protection Agency (EPA) for per capita sewage in the United States were cut by half, the sewage produced by the military force would be estimated at a minimum of 10-12 million gallons per day. There was also garbage, in terms of plastic water bottles and so forth, that needed to be

disposed of. No analysis of the problem of waste was made nor was a strategy for waste disposal in the desert devised. The military had some sort of collection system in place, but follow-up is unclear. Liquid sewage migrated and continues to migrate through sandy soil. It could contaminate Saudi aquifers—and water remains a scarce resource in Saudi Arabia.

While in the United States there are rules and regulations on hazardous wastes and waste disposal, they were not enforced in the Gulf. The troops in the Gulf were using a wide array of toxic paints and solvents; the decontaminating substance for chemical weapons in itself may be highly toxic. The troops themselves may have been at risk. All this may become clear later on. Further, the “live fire” exercises in the desert were not neutral in terms of their environmental effects. These, too, may have longer-term effects.

#### War Damage

Then there is the war damage—to the environment and to populations whose dislocation would in turn put stress on neighbouring environments. Among the environmental consequences of the Gulf war, five have become particularly salient:

- 1 Intentional damage to pipelines, terminals or related facilities created oil spills, ripple effects, and potential damage to ecosystems. This damage has also threatened crucial life-supporting facilities, such as the desalination plants in Saudi Arabia;
- 2 The setting on fire of Kuwaiti oilfields created unprecedented damage, far greater in scale and scope than in any fields elsewhere in the world, at any time; the ecological consequences are difficult to estimate;
- 3 Blazing on this scale produces black rain, a combination of soot and smoke, which could affect agriculture and growing seasons;

4 Water pollution occurred, owing to damage to oilfields and oil platforms;

5 Extensive damage to refineries was also environmentally deleterious.

The possibility of chemical warfare was never ruled out at any stage of the war, nor can that prospect be ruled out in the future. The potential use of chemicals and their dispersion depend on temperature and prevailing winds; the contamination of rivers and reservoirs can seldom be avoided. Of uncertain dimensions is the problem of unexploded ordnance. About one half a million mines in Kuwait, plus bombs in Iraq and shells in both countries, punctuate an already damaged landscape. Along with these other factors, unexploded ordnance continues to create an environmental management problem of almost unimaginable proportions. And the list goes on. While these impacts are largely regional in scope, over the longer run there is some probability that they could be global as well, since it is difficult to prevent the effects from spreading.

Relatively little attention has been paid to environmental degradation due to population dislocations. Refugees, however unfortunate, seldom have a benign effect on the natural environment, thereby compounding human misfortune.

The combination of normal sources of environmental degradation, damage due to military presence, and damage resulting from war creates environmental costs whose scale cannot remain hidden for long. Environmental factors will not be marginal to the task of reconstruction. Environmental damage must be confronted, and a diplomatic strategy must be shaped.

#### Next Steps

By any count, the region's development has been built on the basis of highly toxic, highly polluting, and highly

inefficient technologies and production processes. Inefficiencies are legendary, and we are running out of ideas about how to fix them. What is even more to the point is that we do not know where to begin fixing what it is that must be fixed. Tragic though it is, the destruction of the physical infrastructure through war may provide an opportunity for reconstruction on a less toxic or ecologically damaging basis. There are no principles to guide investments in "non-toxic development". It would be best to rethink the development process—hardly a priority at this point in time. The reconstruction of Kuwait (and eventually Iraq) could include not only environmental restoration, but also the re-engineering of the oil and gas processing facilities and the materials manufacturing facilities to reduce the toxicities inherent in industrial development.

At least an outline of some new principles for responsible reconstruction should be drawn up. We know that there must be both robust economics and solid diplomacy to improve prospects for success. The challenges on the economic and technical sides are rather clear. These include (a) valuating environmental assets; (b) valuating environmental by-products of investments; (c) creating financial incentives for new technologies (solar cells for household use); (d) legitimizing a conception of size and scale that does not reward size alone but stresses efficiency; (e) placing some responsibility for environmental audits of investment on the side of the suppliers; (f) creating new financial instruments and arrangements to encourage responsible reconstruction, such as debt for nature; environment for development; etc.; and (g) establishing equity participation by the private sector in environmental "bonds".

There is more, of course, but this is the type of new thinking needed.

The politics involved in addressing this reconstruction dilemma are also stark, and difficult questions are sure

to arise. For example, who is responsible for which piece of the damage? Are there statutes of limitation on accountability for ecological dislocations? What about structural damage resulting from proximity to the war zone rather than from direct hits? What about errors of strategy, or intent or performance? What about accidents owing to failure, that is, damage that would not occur if equipment was "operating properly"?

The prospects are legion—truly a boon to the legal profession and an ecologist's nightmare. Now the economists are called upon to give us new tools and better means of evaluation, and to help us "get it right" this time. And then there are the diplomatic imperatives. The imperative of managing environmental damage—politically—in the Gulf is already apparent.

### Daunting Diplomacy

The diplomacy required for managing environmental degradation in the aftermath of the Gulf war is daunting. Unlike Vietnam, no one will be able to walk away from ecological damage in the Gulf—either in good conscience or in political expedience. We cannot extricate ourselves from these realities, some of which are rather uncomfortable, not to mention costly. Five components make up a plausible diplomatic package—one that could actually sell on Wall Street, Madison Avenue, and in Washington, D.C.—a winning combination. These five components constitute a minimum of what must be done if the United States-led coalition is to manage the Gulf environment in the post-war era:

- 1 There must be a joint clean-up effort—under United States leadership—to reduce the most toxic damage already incurred;
- 2 The allies may find it diplomatically tactless to go to the 1992 Conference on Environment and Development

without a strategy for environmental management in the Gulf in hand;

- 3 The parties must begin to frame an international partnership with nature—and issue shares against assets—for the Gulf's environmental future;

- 4 Corporate incentives for cleaner reconstruction must be devised, obviously some creative tax benefits;

- 5 Finally, a strategy for clean-up at the grass-roots level, mobilizing people-power, would help show that democracy matters.

Why must this be done? Why should it be taken seriously?

The international coalition against Iraq has won—and it cannot ignore the reconstruction challenge or avoid confronting the environmental damage. The consequences of military action have simply been too extensive and they remain too visible to ignore.

Politically, there is also the need to retain the goodwill of the people in the region—300 million persons in the Middle East as a whole. Their goodwill is needed to ensure some political stability beyond the immediate crisis of war. In other words, a strategy for environmental reconstruction and protection is good, even necessary, politics. No one can walk away from environmental damage in the Gulf nor from the consequences of military engagement—regardless of who is responsible or how the damage was inflicted—or how the war was brought to an end.

### Environmental Management after War

The politics of environmental management are complex, raising the same questions as those raised with reference to reconstruction. The environmental reconstruction of the Middle East will not take place in a *laissez-faire* atmosphere. National Governments, international agencies and local groups will all feature prominently in both

planning and execution. If anything, it is clear that business will be constrained. The invisible hand of the competitive market may be replaced by the hand of a well-meaning but possibly misguided international community seeking to make amends for large-scale destruction.

Four steps can be taken to mitigate environmental consequences of conflict among nations, and important steps have already been made in each case. These are: (a) better data, (b) better accounting, (c) better analysis, and (d) better responses.

Already both national agencies and international institutions are beginning to consider the need for better data (on resources and on availability and access). Institutions like the World Resources Institute are developing guidelines for an improved collection of information.

Providing better accounting is undoubtedly difficult. Three sets of accounts must be improved: (a) valuation of natural assets and resources in national accounts; (b) valuation of the true resource and environmental costs incurred in preparations for conflict (i.e., military expenditures, investments, alterations, production and storage of war-related materials, such as nuclear devices, "normal" ordnance, etc.); and (c) valuation of both the resource and the environmental consequences of war (in terms of damage to humans, ecological assets, raw material bases, and natural resources).

Facts and figures are not enough; good interpretation and good analysis are needed. This can be done only in the context of interdisciplinary and international modes of investigation.

Better policy response is essential everywhere. This means that individual countries must make an effort to foster resource/security analysis within the normal governmental channels so that the crucial connections identified earlier and the elements of the vicious cycle are taken into account in security assessments and in deliberations on

national priorities—and the consequences of pursuing those priorities.

### **Principles of Environmental Conduct**

Conflict and violence are, regrettably, facts of international life, and so are resource conflicts and mounting environmental degradation. To reduce both the scale and the scope of environmental damage in war, three principles of action must be considered by the international community to guide conduct in the twenty-first century.

- 1 Managing environmental insecurities;
- 2 Establishing mechanisms for early warning;
- 3 Institutionalizing codes of conduct after war.

Implementing principle 1 would entail establishing an international forum for discussion of strategies for repairing environments following war.

Implementing principle 2 would mean establishing early warning mechanisms to alert both national authorities and the international community of the potentials for conflict owing to resource constraints (depletion or impediments to access).

Implementing principle 3 would mean adopting a code of conduct after war for ecological reconstitution and resource rebuilding. Regardless of the political merits of or demands made in a violent conflict, the international community must protect the global environment. Adoption of Principle 3 would be a step in this direction.

To the extent that we can look beyond the United Nations Conference on Environment and Development to the next century, we can provide future generations with some basic principles of environmental conduct which they must elaborate as future conditions unfold. An important step in this direction is decision 16/11, entitled "Military conflicts and the environment", adopted by the Governing Council of the United Nations Environment Programme

on 31 May 1991. It could even provide the basis for crucial precedents in the formation of a code of conduct on environment during war.

Earlier generations have given us the ideas we now believe in regarding good governance in national and international life. Among these are constitutionality, participation, representation, equity, freedom, human rights, basic needs, due process—and the list goes on. We must bequeath to future generations principles of management for reducing environmental degradation in conflict situations. This is only fair and just.