

Am. Acad. Arts and Sciences Conf. 5/11-12/92

Notes on Environment, Resources Depletion, and Conflict

Tad Homer-Dixon—Types of conflict from environ. change in dev'ing world

- "Acute conflict" = significant probability of violence.

Three ways the use of technology can damage or destroy a resource:

- 1) [Making possible exponentially greater] direct extraction of the resource.
- 2) Indirectly damaging or destroying the resource through extraction of a causally interdependent resource.
- 3) Producing side-effects or by-products that damage or destroy the resource.

- How a resource is used is as important as whether it is renewable or non-renewable. The way it is used can result in the extinction of a renewable resource, e.g., logging, mining, etc. [This is equally true of water resources.]

John Holdren (UC Berkeley)—Resources, the environment, and conflict

* Resources and the environment can play a role in the roots of conflict in three ways:

- They can be a proximate cause of conflict
- They can be the means of conflict
- They can be the rationalization for conflict

* Resources have tended to be more important historically as the means or the rationalization for conflict than as causes. However, resources will become

more important in the future as the roots and proximate causes of conflict, but only for renewable resources; non-renewable resources won't be very important.

- A renewable resource is one that is usable without depletion or its renewal is significantly greater than its depletion.

- A non-renewable resource is one that is used in significantly greater quantity than its renewability or it is not renewable at all; its use is thus a cumulative process.

- * Humankind is more dependent on environmental conditions than on technology.

- It is the world's poor who would be least able to respond effectively to the most likely environmental changes [wrought by global warming or any other factor] as research [and experience] presently indicate.

Michael Horowitz(Institute for Development Anthropology)—Water and Conflict, Africa

- There are presently over 35,000 high dams in the world—a high dam is one that is over 15 meters—and they are increasing by more than 100/year

- * In dealing with the problem of water allocations, especially between or among nations, institutional flexibility is essential. Policy makers need to think in terms of proportionality of water allocations rather than of specific amounts. The measurement of flows is difficult and often inaccurate; accuracy is not always possible for political reasons.

Astri Suhrke(Chr. Michelsen Institute, Norway)—Large-scale population migration and conflict

- * Based on case studies in East and South Asia and Central America, there is no clear convincing relationship between environmental degradation, large scale migration, and conflict. The main impact of the combination of degradation and migration appears to be to lock the migrating population into a downward spiral of poverty. Nor is it altogether clear precisely what causes large scale out migrations; that is, such movements are rarely caused by a single factor such as environmental or resource depletion. The usual pattern reveals a combination of related factors with one or two being dominant, e.g., deforestation, water degradation, etc.

- * It is also difficult always to distinguish between purely environmental and economically inspired migrations, except when the environmental situation

becomes extreme as in the case of floods, drought, etc., which produces environmental refugees.

* The environmental factor can be seen in some circumstances as having a magnifying effect on the causes of migration.

* Environmentally caused migrations often occur in areas of small populations, e.g., a Sahel, an island, etc.

* As regards migration and conflict, migrants who are destitute and weak lack the means for precipitating acute conflict and violence, and when such incidents do break out, they can usually be contained by governments. Hence, though migrants sometimes do respond to harsh conditions with violence, they generally tend not to except when they are empowered to a sufficient degree, and the capacity of society to absorb conflict is weak.

* Conflict is not normally the impact of migration.

* Insofar as environmental degradation produces migration, it is more likely to cause social dislocation and prolonged distress rather than conflict.

Jack Goldstone (UC Davis)—Resource depletion and the state

* Resource depletion can cause state weakness, not necessarily in the sense of military weakness, but in terms of legitimacy and stability; that is, disabling the state to provide essential services and cope with social dislocations. [Resource depletion will impact negatively on the economy and weaken the internal strength of the state].

* The relationship between population growth, environmental degradation and economic decline is non-linear and indirect; but it has a strong and robust impact on the power of the state. For example, a 20% growth of population within a generation or two could result in a growth of the poor and economically disenfranchised segment of the population by 50%, if government services and the economy are pegged to the existence of a 10% segment of poor people. If the gov't cannot deal effectively with such an increment, then the consequences could be a collapse of services which would lead to discontent, pain, the delegitimization of authority and the state which could lead to conflict.

Irving Mintzer (Center for Global Change)—Global Warming and Envir. Conflict

• The effects of global warming will in themselves not cause environmental conflict, but will be a factor in creating tensions and alter many economic and ecological activities.

- Global warming will change patterns of ocean and wind currents but the changes won't be uniform or consistent.

- * Global warming will also change the timing and distribution of precipitation; the extremes of distribution and natural variability will change. *What will make the difference in these changes will be the regional distribution, not the averages. These are the effects of global warming that will affect water supplies most.*

- * The rate of change as much as the magnitude will determine the degree of stress on the environment, on patterns of life, vulnerability, and conflict.

Vaclav Smil(University of Manitoba)

- Global warming will produce substantially greater yields in many crops and also in bacteria on which life depends. An increase in carbon dioxide will act as a global fertilizer and water use efficiency in plants will also increase.

- More carbon dioxide will result in more water being released into the air while a doubling of carbon dioxide will increase plant water use efficiency by 25%-30%.

- There is a synergetic relationship between higher global temperatures, higher carbon dioxide, and greater plant efficiency, provided that there is enough nitrogen and water.

Critique of Smil

- No guarantee of continuous availability of adequate rainfall in current distribution. Water availability is uncertain, therefore investment in insurance strategies would be the best response to global warming.

- Plants would become more vulnerable to pests and disease which would be able to function for longer seasons under conditions of global warming.

Celso Roque, Ecological Threshold, deals with the effects of diminution of productivity of renewable resources, e.g., loss of biodiversity, soil loss, etc.

Ron D. Lipschutz, When Nations Clash: Raw Materials and Ideology in Foreign Relations (UC press?)