

boundaries call into question the current concept of national sovereignty. As currently understood, countries have the sovereign "right" to pursue their national interests, including environmental resource usage and protection. However, as part of a larger whole, it is possible that the pursuit of what a country considers its national interest is a national security threat to other countries. Such an event could occur with respect to upstream air or water pollution. In a multilateral context, it also raises the possibility of "free riders" to international environmental agreements (IEAs). While some or most countries may agree to a course of action to reduce environmental degradation, other countries may consider it in their interest not to accept international practices. If such non-compliance were to pose a global environmental threat, countries could contemplate the use of violence as a last resort to force compliance.²²

4.5 Empirical Evidence of Causation

Because of the multidimensional nature of the linkage and data limitations, empirical analysis of how environmental stress works through the conceptual framework and how the myriad variables interact is not rigorous. This is true for both causal links.²³ In regard to the first, Thomas Homer-Dixon has observed that environmental-social systems analyses are difficult because "they are characterized by multiple causes and effects and by a host of intervening variables, often linked by interactive, synergistic, and nonlinear casual relations. Empirical data about these variables and relations are rarely abundant. Although the underlying influence of environmental factors on conflict may be great, the complex and indirect causation in these systems means that the scanty evidence available is always open to many interpretations."²⁴ As for the second casual link, he notes: "At present, we can bring only limited empirical evidence to bear on this question. This may be partly because environmental and population pressures have not yet passed a critical threshold of severity in many developing countries: also, there has been little case-study research on environment-conflict linkages."²⁵ Reflecting this, much work is anecdotal in

²²With respect to resource scarcities, international conflict could also arise over access to resources, such as how natural resources in Antarctica are to be distributed.

²³That is, environmental stress effects (i.e., physical effects) to social effects, and social effects to violent conflict.

²⁴Thomas F. Homer-Dixon, "On the Threshold: Environmental Changes as Causes of Acute Conflict", International Security, Fall 1991, Vol. 16, No.2., p. 84.

²⁵ibid. p. 104.