

*Stephan Libiszewski*

## **What is an *Environmental Conflict*?<sup>1</sup>**

Researchers should not already know what they want to find, when they start with an investigation. This would distort the results. But, as *research* means *to search* for something they should know what they are searching for; and, often not less important, they should know what they *are not* searching for. And as researchers always make assumptions and have goals regarding the object of their studies - and these play inevitably an important role during investigation - they should become aware of them and make them public.

In this sense the present article wants to reflect some of the main concepts and analytical tools of a topic that recently reached the peace and conflict research agenda. In the last years there has been a "greening" in this research field, environmental issues becoming on the one hand part of a widened concept of security and being on the other hand assumed to play a rapidly increasing role as *causes of violent conflicts*.<sup>2</sup> But, referring to this

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<sup>1</sup> This article is the revised version of a paper presented at the first coordination meeting of the *Environment and Conflicts Project* (ENCOP) in Berne/Zürich, April 30 - May 1, 1992

<sup>2</sup> The article will focus on this second aspect of the debate. See among others Earthscan (ed.): *Environment and Conflict. Links between Ecological Decay, Environmental Bankruptcy and Political and Military Instability*, Earthscan Briefing Document No. 40, London 1984; Brown, Neville: *Climate, Ecology, and International Security*, in: *Survival*, Vol. 31 (1989), No. 6, pp. 519-532; Gleick, Peter H.: *Environment, Resources, and International Security and Politics*, in: Arnett E.H. (ed.): *Science and International Security: Responding to a Changing World*, Washington D.C. 1990, pp. 501-523; Pirages, Dennis Clark: *The Greening of Peace Research*, in: *Journal of Peace Research*, Vol. 28, No. 2 (1991), pp. 129-133; Brock, Lothar: *Peace through Parks: The Environment on the Peace Resource Agenda*, in: *Journal of Peace Research*, Vol. 28, No. 4, (1991) pp. 407-422; Molvær, Reidulf K.: *Environmentally Induced Conflicts? A Discussion Based on Studies from the Horn of Africa*, in: *Bulletin of Peace Proposals*, Vol. 22, No. 2 (1991), pp. 135-142; Renner, Michael/Pianta, Mario/ Franchi, Cinzia: *International Conflict and Environmental Degradation*, in: Väyrynen, Raimo (ed.): *New Directions in Conflict Theory, Conflict Resolution and Conflict Transformation*, London 1991, pp. 108-128; Homer-Dixon, Thomas: *On the Threshold: Environmental Changes and Acute Conflict*, in: *International Security*, Vol. 16, No. 2 (1991), pp. 76-116.

For the German-speaking debate on the topic see: Bächler, Günther: *Ökologische Sicherheit und Konflikt*, Arbeitspapiere der Schweizerischen Friedensstiftung Nr. 5, Bern 1990; Müller, Harald: *Umwelt und gewaltsamer Konflikt*, in: *antimilitarismus information*, Nr. 12/1986, pp. III-170-III-175; and by the same author: *Internationale Ressourcen- und Umweltproblematik*, in: Knapp, Manfred/ Krell, Gert: *Einführung in die internationale Politik*, Studienbuch, München 1990, pp. 350-382; Breitmeier, Helmut/ Zürn, Michael: *Gewalt oder Kooperation. Zur Austragungsform*

second aspect, most literature is limited to mention empirical examples such as struggles over water resources, conflicts in connection with 'environmental refugees' or the contentions about the responsibilities for the global climate change. These are supposed to illustrate the causal linkage between environment and conflict and assumed to prove it just by the evidence of facts. Very seldom the attempt has been made to clarify *theoretically* what *environmental* causes of conflict are and what they are not; and how the *causal link* between physical processes in nature and the rise in violent conflicts within or between societies should be seen.<sup>3</sup> The present article wants to contribute to close this gap and outlines an analytical framework for comparative case studies on the topic.<sup>4</sup>

The problem will be treated in the way of a mosaic by dividing the main question into three minor ones and by trying to answer each of them separately:

- 1) What is *environmental* in environmental conflicts?
- 2) What do we mean by *conflict*?
- 3) What is a *cause*? Or in other words: *How* do environmental problems lead to violent conflicts?

### **What do we mean by *Environmental*?**

To illustrate possible misunderstandings on this first point I would like to quote from a list of important wars involving environmental factors compiled by Arthur Westing. He begins with the First and Second World War, then follows the Algerian War and several other decolonization, territorial, civil, and secession wars of the last decades.<sup>5</sup> The common denominator of all these wars is that natural resources such as minerals, fuels, fish stocks, products of the land and the land itself played an important role. Westing's list ends with the Falkland War but could be prolonged nearly indefinitely both to the past and the present. Since access to and distribution of natural resources have been the object of contention and violent conflict between social groups and states during the whole history of humanity.

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internationaler Umweltkonflikte, in: antimilitarismus information, Nr. 12/1990, pp. 14-23; Bastian, Till: Naturzerstörung: Die Quelle der künftigen Kriege, IPPNW Wissenschaftliche Reihe Bd. 1, Heidesheim 1991.

<sup>3</sup> A notable exception is the article by Thomas Homer-Dixon: "On the Threshold ...", Some of his main arguments are going to be presented in the latter part of this text.

<sup>4</sup> In the framework of the *Environment and Conflict Project* (ENCOP) regional studies on Bangladesh, Nigeria, Sudan, and the Middle East are planned. In addition, a global 'geography of environmental conflicts' will be done.

<sup>5</sup> See Westing, Arthur H.: *Environmental Factors in Strategic Policy and Action: an Overview*, in: the same (ed.): *Global Resource and International Conflict. Environmental Factors in Strategic Policy and Action*, Oxford 1986, pp. 3-20; and his Appendix 2 in the same book: *Wars and Skirmishes Involving Natural Resources*, pp. 204-210

There is a general tendency among scholars to interpret the linkage between environment and conflicts as a question of struggle for scarce natural resources.<sup>6</sup> I am going to show that in fact environmental conflicts *can* manifest themselves as conflicts over resources and that they often do so. But most scholars would probably agree on the fact that the multitude of wars mentioned above are not really typical examples of what we connect spontaneously with the term *environmental*. So, the involvement of natural resources is evidently not the 'differentia specifica' we mean when we speak about an *environmental* cause of conflict to distinguish it from other causes.

For the definition of *environmental* in our context the concepts of *ecosystem* and *environmental change* are fundamental, rather than the concept of resource. Ecology was defined in the last century by the founder of the discipline, Ernst Haeckel, as the doctrine of the interrelations between living beings and their environment. By *ecosystem* we understand a circular feedback control system encompassing the living beings and their biotic and abiotic environment in a certain space (biotope). Both definitions stress the idea of complex interrelations within the system and its self-regulating capacity. In general, ecosystems show a tendency to find and maintain a condition in which the single components control and delimit each others extension by feedbacks. We can therefore speak about a dynamic equilibrium that oscillates around an ideal average.<sup>7</sup>

Considering this background a human-made *environmental change* does not simply mean any interaction between human beings and their environment. Environmental change means a *destabilizing interference in the ecosystem's equilibrium*. The ecosystem is then forced to search for a new equilibrium on an *changed* level, modifying the supporting conditions it offers to human life and human activities.

The carbondioxide pollution of the atmosphere by the combustion of fossil fuels, for example, overtaxes the ecosystem's absorption capability and causes the so-called greenhouse effect. This climate warming, in turn, changes, among other things, the balance between ice sheets and liquid water on the earth's surface, causing a rise of the sea level. In a similar way, the process of desertification can be explained as a consequence of the de-vegetation and overuse of the soil which - by changing the equilibrium between vegetation and microclimate - causes a decline of precipitation and favours soil erosion. And as water supply is, beside solar energy, the prerequisite of nearly every ecosystem's functioning, serious manipulations in river flows are another

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<sup>6</sup> See for example Brock: "Peace through Parks ...", pp. 408-409; also Molvær: "Environmentally Induced Conflicts ..." who alludes to the Gulf War to prove the evidence of the linkage; pp. 175-176.

<sup>7</sup> See Klötzli, Frank A.: Ökosysteme, Stuttgart 1989, pp. 1ff. and 89ff. For a discussion of the historical and anthropological roots of the concept of ecology see Nennen, Heinz-Ulrich: Ökologie im Diskurs. Zu Grundfragen der Anthropologie und Ökologie und zur Ethik der Wissenschaften, Opladen 1991.

example of human interference which often affects the ecological equilibrium in the concerned regions.

But it is only about these affected life-supporting conditions, or let me say: the negative impact on human beings and society, that we can speak about *environmental degradation*. From the perspective of an ecosystem environmental change is just a process of adaptation and regulation. Nature or the ecosystem has no consciousness by which to value them. It is only from the point of view of a subject, in our case human beings, that an environmental change can mean a loss of quality, a *degradation*.<sup>8</sup> Surely there are environmental changes whose impacts on human living conditions have been and still must be seen as positive. This valuation depends, of course, partly on the social and cultural context.<sup>9</sup>

The term *environmental degradation* understood as a human-made environmental change having a negative impact on *human society* expresses rather precisely what we mean by an *environmental* cause of conflict.<sup>10</sup> And this definition allows a distinction to the traditional resource scarcity problem.

The concept of environmental change and degradation allows or even forces a differentiation between *renewable* and *non-renewable* natural resources. The term resources encompasses in a wide sense not only material "*goods*" provided by nature. The capability of the environment to serve as a sink for wastes and products of human activities can, in its instrumental dimension, also be interpreted as a natural resource; but rather in the sense of a "*service*". The main fields we think of when we speak about environmental problems, namely fresh water, soil, forests, air, atmosphere and climate, oceans, and biodiversity, represent all *renewable* "goods" or "services". They are renewable because they are *ecologically* integrated in a feedback circle system which guarantees their replacement or the preservation of their quality.<sup>11</sup> Minerals and fossil fuels, on the other hand, which are the traditional objects of resource conflicts, are non-

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<sup>8</sup> This aspect is pointed out in: Fritsch, Bruno: *Mensch, Umwelt, Wissen: Evolutionsgeschichtliche Aspekte des Umweltproblems*, Stuttgart, Zürich 1990, p. 48.

<sup>9</sup> The drainage of marshland, for example, has been seen as positive for centuries. But with the growing environmental awareness and post-materialistic values in many countries the protection of the remaining intact natural habitats has become a value in itself apart from the economic importance of biodiversity.

<sup>10</sup> The term *ecological* would possibly be technically more precise than *environmental* as it stresses the idea of the interconnections and feedbacks in the system. Nevertheless, I prefer the term *environmental*; not only because it is more common in the public discussion, but also because only *environmental* refers to the environment of a particular *subject*.

<sup>11</sup> It is important to see in this context that not only living resources but also several non-living resources - or at least their quality - belong to the renewable ones.

renewable resources because they are not integrated in such an ecosystem.<sup>12</sup> Therefore they can be *depleted* but they cannot be *degraded*.

The extraction of oil, for example, does not mean *by itself* an environmental degradation. Even the total depletion of oil stocks would not cause any destabilization of the ecosystem; but it would, of course, represent a serious economic problem. Therefore, conflicts over the possession of or the access to oil cannot be regarded as environmental conflicts. They are originally economic or social conflicts. Only the consequences of the combustion of oil derivatives, for example the greenhouse effect, or the damages caused by its production and transport may lead to environmental degradation which we should regard as possible causes of environmental conflicts. Significantly, problems of resource degradation seem to have become more urgent than problems of resource depletion which dominated the debate until 20 years ago.

A further characteristic of renewable resources is that they can be less substituted than non-renewable ones, and in several cases not substituted at all. Food, fresh water, clean air and life-supporting climatic conditions are not just sources of wealth in an economic sense but also biological prerequisite of life. So, in addition to environment as a bank of material resources and as a sink for wastes a third dimension of environment as a *space of living* should be considered.<sup>13</sup> Surely, this last dimension is interrelated with the others, but it is not a synonym and should not be subsumed under the concept of resources. The loss of settlement areas due to the rise of the sea level, to desertification, or to industrial accidents means more than just a shortage of the resource 'land'. Furthermore it includes an *existential* dimension. In less dramatic cases of environmental degradation we should also consider an *aesthetic* dimension of environment's impoverishment.

The concept of environmental degradation leads to another important differentiation concerning the concept of resource *scarcity*. Four distinct types of scarcity should be distinguished:<sup>14</sup>

- 1) *physical scarcity* means that a resource is only available in a finite amount;

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<sup>12</sup> To be precise: also fossil resources are, because of their organic origin, theoretically renewable. But the time they take to form is so long and their use by human beings is so disproportionate to their ability to be replaced that these resources are, from a human perspective, non-renewable at all.

<sup>13</sup> This subdivision is taken from: United Nations Population Fund: The State of World Population 1992, Oxford 1992, p. 23.

<sup>14</sup> The following distinction between physical, geopolitical, economic and environmental origins of resource scarcity problems is taken from Rees, Judith: Resources and the Environment. Scarcity and Sustainability, in: Bennett, Robert/ Estall, Robert (eds.): Global Change and Challenge. Geography for the 1990's, London, New York 1991.

- 2) *geopolitical scarcity* means that resources are often distributed unequally on the surface of earth so that some countries depend on deliveries from others;
- 3) *socio-economic scarcity* concerns the unequal distribution of purchasing power and of property rights to provide natural resources between or within societies;
- 4) a last type of scarcity concerning resources that have traditionally been regarded as plentiful and naturally renewable but are becoming scarce now because of the failure of human beings to adopt sustainable methods of their management. We should call this type *environmental scarcity* - scarcity caused by environmental degradation!

The four types of resource scarcity can be causally interrelated. Unequal geopolitical and socio-economic distribution are often a source of degrading behaviour; and the physical scarcity of a renewable resource can be a reason for the depletion of the resource's 'capital stock'. Nevertheless, we should regard them as distinct *dimensions* of scarcity.

This distinction allows me to formulate a sharp and precise definition regarding the *environmental origin* of environmental conflicts:

An environmental conflict is a conflict caused by the *environmental scarcity* of a resource, that means: *caused by a human-made disturbance of its normal regeneration rate*. Environmental scarcity can result from the *overuse* of a renewable resource<sup>15</sup> or from the overstrain of the ecosystem's sink capacity, that is *pollution*. Both can reach the stage of a *destruction of the space of living*.

Conflicts caused by physical, geopolitical or socio-economic resource scarcity are not environmental conflicts but traditional conflicts of resource distribution.<sup>16</sup>

This definition has two crucial implications: First, it excludes non-renewable resources from our specific interest. These resources can only be physically, geopolitically or economically scarce. Second, in the case of renewable resources the definition forces to a differentiation. As their scarcity can also have just a physical, geopolitical or economic origin the emphasis is not primarily on the characteristic to be renewable. The emphasis

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<sup>15</sup> Overuse is defined by the consumption rate being higher than the replenishment rate, or to formulate it in economic terms: a use rate depleting the resource's 'capital stock'. As non-renewable resources consist only in a capital stock the term 'overuse' makes sense only when related to renewable ones.

<sup>16</sup> In a similar way, distinguishing (traditional) "struggles over access to and control over resources" from (new) conflicts "over the rapid deterioration of their quality", argue Renner/ Pianta/ Franchi: "International Conflict and Environmental Degradation ...", p. 109. But the distinction between different dimensions of scarcity seems to me to be more precise. Since environmental conflicts often take the form of "struggles over access to and control over resources" even though or just because the problem lies in "the deterioration of their quality".

is on the specific context of an environmental degradation in which *renewable resources* become *environmentally scarce* and *relevant for a conflict*.

Conflicts over agricultural land, for example, which we defined as a renewable resource, have to be seen as *environmental* only if the land becomes an object of contention as a result of soil erosion, climate change, changes of river flows or any other environmental degradation. They are not environmental conflicts in the case of simply territorial conflicts like both World Wars and most colonial and decolonization wars. And they are neither necessarily environmental conflicts in the case of an anti-regime war with the goal of a more equal land distribution. This does not diminish the importance and the gravity of the conflict. And such a war can even be an environmental conflict, if unequal land distribution becomes for example a source of soil overuse. But it does not have to in every case.

### **What do we mean by *Conflict*?**

It is not my intention, in this framework, to formulate profound theoretical thoughts about the nature of conflicts. There are several definitions of the concept, some stressing the *structural* roots of antagonistic interests, others arguing from the point of view of incompatible goals *perceived* as such by the actors. This latter perspective, which corresponds more or less with the meaning of the word in the everyday language, should at the moment be sufficient for our purposes.

In this chapter I concentrate on a phenomenological level. The concept of conflict as I just defined it, encompasses a broad spectrum of empirical phenomena ranging from disputes between individuals to wars between states. The quarrels between radical environmentalists and industry could be called as well 'environmental conflicts' as wars over fresh water stocks. But would we examine all these stages of conflict we would have to write a treatise nearly as voluminous as the history of resource wars. So, at what level should our interest of recognition begin?

The point we should keep in mind is war and the danger of war, including both international and civil wars<sup>17</sup>. But, as we are interested in early recognition of possible future

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<sup>17</sup> I understand war, following a definition by Klaus Jürgen Gantzel, as a massive violent conflict with three constitutive qualitative criteria. 1) It must be a massive conflict with a minimum of continuity. 2) There have to be central organisations on both sides. 3) At least one of the war parties has to be a government with regular or at least government associated troops. The definition pretends to be applicable to all types of war. See Gantzel, Klaus Jürgen: *Tolstoi statt Clausewitz? Überlegungen zum Verhältnis von Staat und Krieg seit 1816 mittels statistischer Beobachtungen*, in: Steinweg, Reiner (Red.): *Kriegsursachenforschung, Friedensanalysen* 21, Frankfurt/M 1987, p. 33.

wars caused by environmental degradation and in strategies for war prevention and peaceful conflict resolution, our analysis should begin at an earlier stage than just already ongoing or imminent wars. It is, of course, not easy to name precise criteria to assess the probability of a future armed conflict. I can only try to give some indications by proposing a scale of conflict intensity and pointing out at what stage our interest should begin.



Figure 1<sup>18</sup>

<b>cleavage</b> (potential conflict) (perceived + formulated)	<b>(manifest) conflict</b> (incompatible goals are	<b>crisis</b>	<b>grave crisis</b> (including military threats/skirmishes)	<b>war</b>
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If we assume a course of conflict stages like in figure 1, beginning just with an existing cleavage between social groups or states and ending in war, our attention should in every case begin at the stage of crisis. A situation of crisis is characterized by conflict parties using means such as political and economic sanctions or grave verbal attacks which precede military threats.

But it could also be necessary to give attention to just manifest and in certain cases even potential conflicts in the context of serious environmental degradation. The conflict stage at which our interest should begin depends on the remaining political and historical conditions. In cases in which the relations between the parties are strained because of other issues or there are recent precedents of armed confrontation the attention should begin earlier than in cases in which regimes of peaceful conflict resolution are successfully installed. Nevertheless, examples of political crises caused by environmental degradation which have been or are being managed peacefully by working institutions can serve as patterns for conflict resolution proposals.

### ***How does environmental degradation lead to violent conflicts?***

This is perhaps the most important and difficult of my three questions. It concerns the problem of the linkage across levels of analysis and disciplines usually regarded as independent: chemical and biological processes on the one hand and social phenomena on the other.

The idea of struggle over increasingly scarce resources which is often used to characterize the linkage between environment and conflict is not totally wrong, but it does not explain very much. The simple, density-dependent model of resource competition commonly used by biologists to study animal populations cannot be applied directly to human societies. Surely the scarcity of a resource represents an important challenge for every society. But if this will lead to conflicts and how these will develop always depends on a multitude of other factors which are socially and historically conditioned. "Social facts, such as conflicts, cannot be explained by natural facts, such as

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<sup>18</sup> The figure is a modified model taken from Pfetsch, Frank R.: Internationale und nationale Konflikte nach dem Zweiten Weltkrieg, in: Politische Vierteljahresschrift No. 2/1991, pp. 262-265. The figure should just serve to illustrate the problem. It does not pretend to have a high explanatory value.

environment, but only by other social facts".<sup>19</sup> Thus, a more complex model of analysis is needed which takes into account the 'culturally mediated' nature of human behaviour.

The analytical framework I am going to propose for this purpose is represented in the following figure. The figure itself and several of my main arguments in this context are taken from a recent article by Thomas Homer-Dixon.<sup>20</sup>

The figure suggests that the total effect of human activity on the environment in a particular region or at a global level is mainly a function of two variables: first, the product of the total population *and* the economic activities consumption per capita; and second, the vulnerability of the ecosystem to those particular activities. Population pressure is an important variable in the figure. But human-made environmental degradation is not alone a variable of population number as it would be in the case of animals. It is just as much a variable of the intensity of the polluting and damaging habits.

But the crucial point in the figure is the distinction of three levels of analysis: Environmental Effects, Social Effects, and Conflict. The category of *social effects* is

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<sup>19</sup> Molvær: "Environmentally Induced Conflicts ...", p. 175

<sup>20</sup> Homer-Dixon: "On the Threshold: ...", The figure is taken from p. 86. Thomas Homer-Dixon is coordinator of the Peace and Conflict Studies Program at the University of Toronto and is co-director of an international research project on "Environmental Change and Acute Conflict".

interposed between the two variables environment and conflict, serving as an 'analytical filter'. It is on this level of analysis that the two groups of disciplines represented in the topic, namely natural sciences and social sciences, join and are mediated.

It is assumed that environmental effects do not lead directly to conflicts. They produce and will increasingly produce several causally interrelated social effects. Only these, in turn, *may cause* specific types of violent conflicts. The *how*-question (how does an environmental degradation lead to violent conflicts?) breaks up into two independent questions. "First, what are the important social effects of environmental change? Second, what types of acute conflict, if any, are most likely to result from these social effects?"<sup>21</sup>

Both analytical steps stand in a narrow interrelation with the socio-economic, political, and cultural framework in which an environmental change may lead to a conflict. In the figure this is shown by the arrows linking social effects and conflict with the socio-political context on the top. This context includes a broad spectrum of factors ranging from beliefs, family and community structure, adherence to ethnic and religious groups, to socio-economic indicators and to the stability and legitimacy of political institutions. Both the social impact of environmental change and the (possibly violent) reaction to this impact cannot be explained without an understanding of these intervening factors. They largely determine the vulnerability and adaptability of a society when faced with environmental stresses.

Since analysis must be so specific in each case I cannot, at least at this preliminary stage, formulate any exhaustive theory of the linkage between environment and conflict. It will be the task of regional studies to examine the two parts of the *how*-question in their specific social context. We should then try to formulate generalizations, pointing out why certain societies respond to environmental problems differently than others and which prerequisites and strategies could prevent violent conflicts and war.

Nevertheless, to come back to my initial questions, I would like to mention the main social effects and conflicts caused by environmental degradation regarded to be the most probable. Thomas Homer-Dixon lists four principal social effects: 1) decrease in agricultural production, 2) general economic decline, 3) population displacements, and 4) disruption of institutions and social relations; the latter two partly as a result of the first two. As principal "ideal types" of possible conflicts resulting from these social impacts he mentions:

- "Simple scarcity conflicts": conflicts over scarce renewable resources between states. They are particularly likely to break out over resources that are essential for human survival and can be physically seized or controlled like river water, fisheries and agriculturally productive land;

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<sup>21</sup> Homer-Dixon: "On the Threshold ...", p. 87

- "Group-identity conflicts": hostilities between ethnic or cultural groups provoked by circumstances of deprivation and stress. They are likely to occur within multi-ethnic or multi-cultural societies or between states as a result of environmentally caused migrations;
- "Relative-deprivation conflicts": the deepening of class cleavages or of general social discontent within a society resulting from the economic impacts of environmental degradation. They are likely to occur in polarized societies with weakly legitimated political institutions.<sup>22</sup>

Other social effects of environmental degradation possibly could be added and surely the resulting conflicts could also be typified differently.<sup>23</sup> What seems to be significant to me is the fact that the types of conflicts listed above nearly cover the whole spectrum of violent conflicts we already know from the past: wars over resources, ethnic and religious conflicts, class struggle and so on. Evidently, environmental causes of conflict are not only interrelated with other causes in most cases, but they usually do not explicitly manifest their environmental origin either.

This fact is a challenge for me to formulate a further thesis:

Environmental conflicts manifest themselves as political, social, economic, ethnic, religious, ideological or territorial conflicts, or conflicts over resources or national interests, or any other type of conflict. They are traditional conflicts *induced* by an environmental degradation!

What is provocative in this thesis is the fact that it contests that environmentally caused conflicts represent a really distinct own type of conflict. Environmental processes often seem to be causes of conflict, but in most cases they do not appear as the object of a contention. There might be cases in which they do. The conflicts over a climate convention or over the protection of biodiversity in the framework of UNCED are such cases. But will there be wars over this global commons? Involving which parties and over which object of contention?

Wars normally are fought between specific actors and over specific issues: divisible resources, distribution of power, so-called national interests, or at least an apparently irrational hatred between ethnic or cultural groups. I leave it open if the environment *as such* can become the basic object of violent conflicts and what forms such conflicts would take. Only these would be genuine *environmental conflicts* in a narrow sense of the term, representing in fact something completely new.<sup>24</sup> Normally environmental

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<sup>22</sup> Homer-Dixon: "On the Threshold ...", pp. 104-111

<sup>23</sup> A more detailed classification is made by Volker Böge in the analytical framework following this article.

<sup>24</sup> The quarrels involving radical environmentalist groups mentioned above possibly could be called *environmental* in this sense of the

change has to be 'translated' into some kind of social phenomenon before it produces a violent conflict.

In this context even the value of natural goods as *resources* must be seen as a social fact varying over space and time depending on the cultural and socio-economic context. "Resources are not, they become."<sup>25</sup> As mentioned above there are, of course, several renewable resources which are of biological importance for human existence and as such ahistorical. But even in these cases the needed *amount* mostly depends not only on the number of people but as much on the level of their economic activities and their cultural habits.

I introduced the term *induced* to point out that the object of our studies are not only evidently environmentally caused conflicts in which the environment is the manifest object of contention.<sup>26</sup> We will have to examine more cases in which environmental factors play just an indirect role as causes of conflict.

This leads to one last consideration on the concept of *cause*. A cause is in social sciences not the same as in natural sciences. It is not a stimulus which *will lead* to a certain response. In social sciences and particularly in conflict research we should understand causes in the sense of *reasons*, facts whose existence *may lead* to other facts but do not have to.

This wide concept of cause is what makes our field broad and complex. In this article I tried to build three bridgeheads into it from which we should be able to see at least the borders of the field. The following article by Volker Böge proposing a set of questions to grasp environmental conflicts should be seen as complementary to this rather theoretical design. It operationalizes the arguments developed here and will be a practical help for the empirical work.

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term. Their concern is the protection of nature as a value in itself. But this conflicts are not assumed to lead to wars.

<sup>25</sup> The formulation is taken from Grima, Lino A.P./ Berkes, Fikret: Natural Resources: Access, Rights-to-Use and Management; in: Berkes, Fikret (ed.): Common Property Resources. Ecology and Community-based Sustainable Development, London 1989, p. 34. The cultural conditioning of resources' value is also pointed out by Rees: "Resources and the Environment ...", pp. 6-7.

<sup>26</sup> The term is used, without explaining it theoretically, by Molvær: "Environmentally Induced Conflicts ...",

## **Appendix:**

### ***Environment and Conflicts Project (ENCOP)***

#### **What is an *Environmental Conflict*?**

*Definition based on the discussion at the coordination meeting in Zürich May 1, 1992*

"Environmental Conflicts manifest themselves as political, social, economic, ethnic, religious or territorial conflicts, or conflicts over resources or national interests, or any other type of conflict. They are traditional conflicts *induced by an environmental degradation*.

Environmental conflicts are characterized by the principal importance of degradation in one or more of the following fields:

- *overuse of renewable resources;*
- *overstrain of the environment's sink capacity (pollution);*
- *impoverishment of the space of living.*

The focus of the research program lies on *violent conflicts*, actual and potential, low and high intensity. The approach has to happen from two sides: analyzing actual conflicts if environmental factors are relevant for them; analyzing regions with serious environmental degradations if social effects resulting from them are leading or could lead in future to violent conflicts."

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