



**1. ENVIRONMENTALLY CAUSED VIOLENCE:  
A PHENOMENON OF DEVELOPING AND TRANSITIONAL  
SOCIETIES (HYPOTHESIS ONE)**

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ENCOP, namely the French nuclear tests in the Pacific, the worldwide protests were relatively moderate. Bloody violence and direct confrontation between the French army and protesting groups (including Greenpeace), however, occurred only in Polynesia, *i.e.*, in the immediate neighborhood of the nuclear explosions. The conflict was contained in the local arena far from the center of the globally acting player, France. Although this kind of globalized center-periphery conflict is an exception (Bhopal in India and other “accidents” did not have the same level of global response), it is indeed not inconceivable that in the near future asymmetric socioeconomic impacts of climate change, ozone layer depletion, and sea level rise will lead to similar constellations (*see appendix, A.II.7-19*) Case studies by Böge 1996II: 503-720; Claus 1996III: 269-2645; Okoh 1996II: 181-246; Schöenberg 1996III: 315-358; Schwark 1996III: 359-408; Wegemund 1996III: 285-314; König 1996III: 149-174; see also Böge 1993; Carino 1993 (manus.); Quimpo 1993 (manus.).

### 1.3 Internal Migration Conflicts (Type III)

Internal migration conflicts are triggered by either voluntary migration or forced displacement of inhabitants from one region to another within one country. The geographic origin of migrants or displaced persons is the primary criterion for conflicting social and political relationships between the actors. Migration is induced by structural changes such as persistent drought, flood, and soil erosion (desertification). Its direction leads from depressed areas to more favorable zones such as fertile rural or (peri-) urban areas. Although both push and pull factors work together, the push factors are stronger. Forced displacement and expulsion, on the other hand, are due almost entirely to push factors that often appear in connection with large (agro-) industrial, mining, and dam projects.

Inter-regional migration and displacement—as a special type of internal dislocation—pit people of the same ethnicity from different regions against each other. The most important fault lines are those between highlanders and lowlanders, pastoralists and farmers, rural and urban population. Mountaineers for instance, drawn downwards by the quest for jobs, income, and land, get caught in competitive situations with indigenous populations. The distinct society-nature relationship of newcomers and settled populations triggers tensions, clashes, and in some cases violent conflicts.

Thus a myriad of social interactions emerge. In locally overpopulated and degraded mountain regions with nomadic cultures and few off-farm opportunities, environmental degradation and stress prompt major migration waves into irrigated areas and into urban fringe with resident farming cultures. Integration of former livestock breeders is difficult in large irrigated areas with monocultures (*e.g.*, Himalayan pastoralists

in the plains of Central Asia). On the other hand, farmers also migrate from eroded highlands into fertile valleys settled by semi-nomads (*e.g.* in the Horn of Africa). Thirdly, conflicts emerge if semi-nomadic pastoralists flee from persistent drought and soil erosion to semi-arid and subtropical mountain regions settled by farmers (*e.g.*



Another indicator of demographically induced migration is the clearing and cultivation of new land in remote mountains, in deltas, and in ecologically sensitive coastal areas. Landless people and semi-nomads gradually move into protected zones in urban areas or into national parks. Social unrest can recur as these movements provoke clashes with governmental troops and contribute to politically unstable situations (e.g., the Maasai in Kenya and in Tanzania). Acute conflicts occur if the discrimination is perceived as tremendous by the actors affected. The threshold for discrimination depends greatly upon the perception and varies from case to case. Generally speaking, discrimination is perceived to be unacceptable when social and/or ethnopolitical factors accumulate, facilitating group identity building (e.g., between Bengali immigrants and residents of Assam province in India).

Population dynamics accelerate the impact of other key factors such as poverty, inadequate land use and land tenure systems, environmental transformation, and poor state performance. This constellation of factors encourages cross-border migration, which—in the context of violent coups and civil wars—assumes the form of mass flight, (e.g., in the Great Lakes region in Africa) (see: appendix, B. V. 25-27. Case studies by Hafiz/Islam 1996II: 1-108; Ehrensperger 1993 (manus.)).

### 1.6 International Water Conflicts (Type CVI)

International river basins are the most obvious example of the general contradiction between ecoregional boundaries and state borders. The asymmetric dependence of upper and lower riparians on an international river basin triggers political tensions, international bargaining, and military threats. Since lower riparians are more vulnerable than upper riparians they can easily receive discriminatory access to fresh water resources. River pollution and water distribution conflict are distinct problems. The former refers to the substantial degradation of resources, whereas the latter refers to economic scarcity. Pollution conflicts are represented as strife over an indivisible public good that affects levels of pollution, political responsibilities, and economic costs. Since neighboring riparians have a vested interest in solving pollution problems cooperatively—in win-win solutions—such conflicts are easier to resolve than those over access to the resource per se. Distribution conflicts turn out to be conflicts over divisible public goods. They are perceived as zero-sum games. Discriminatory access to scarce water resources affects national sovereignty and integrity more directly than pollution. Both pollution and distribution can obviously appear in combined forms which complicates the search for cooperative solutions.

International conflicts over water use develop in the context of strong riparian interest in securing access to the shared water resources, of asymmetric power

distribution among riparians, and of the quality of the multilateral relations generally. Conflict dynamics also depend on climatic and geographical conditions, population growth, the economic structure, and the state ability to cope with vulnerability. Therefore, in addition to given hydrologic conditions, the political and socioeconomic *milieu* is of central importance for settling international water conflicts. There is no direct linkage between water pollution and distribution on the one hand and the intensity of conflicts; it is the political context that matters.

In regions that suffer from seasonal drought if not from permanent water crises (e.g., the Middle East), distribution and discrimination are highly sensitive issues, which are treated as threats to national security. Because water flow is easy to manipulate by riparians of a shared basin, scarcity conflicts in crisis-prone regions inevitably get mingled with other contributing factors. But the example of the Arab-Israeli peace process shows that negotiations about water management are possible even under conditions of acute scarcity on one hand and protracted conflict on the other. This process is possible because all actors perceive water issues to contribute to no-win solutions. On the other hand, water talks can easily be canceled if and when the political situation changes.

There is no automatic spiral toward violence. To date no open wars have been caused by water distribution issues alone. Even in arid zones where states are extremely dependent on external water resources

catalyst for cooperation if political compromises are seen as desirable and technical solutions as feasible. Successful compromises or even institutionalized mechanisms of dispute settlement reduce the danger of water-use conflicts racing out of control.

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esis that environmental scarcity simultaneously increases “economic deprivation” and “disrupts key social institutions.” This is despite the fact that ENCOP refers to different theoretical concepts than ECACP. “Deprivation conflict,” as one general type introduced by Homer-Dixon, has comparable connotations as the ENCOP types: center-periphery, ethnopolitical, internal migration, and global environmental conflicts. The concept of “disruption of key social institutions” is incorporated in the context of this study with the concepts of *marginalization* induced by discrimination against certain actors on one hand and by poor state performance in certain areas on the other.

Moreover, environmental conflicts in most cases involve rural populations in developing countries struggling for survival. Modernization and a high dependence on degrading resources challenge the livelihood security of rural dwellers. The probability that conflicts will escalate is high when

- a major contradiction exists between economic expectations and/or a larger demand for resources on one hand, and limited development perspectives, degraded resources, and poor state performance on the other (e.g., few off-farm alternatives, lack of technical skills, and financial means);
- at least one of the actors involved perceives the resort to violence as the best alternative to other solutions.

It is necessary to include many “if-then” clauses when examining violent outcomes of environmental conflicts. Environmental degradation may be a background reason for a certain conflict, it may be a factor leading to channeling or cleavages along lines between distinct groups, and it may even be a triggering factor to a conflict dynamic. However, passing the threshold of violence definitely depends on *sociopolitical* factors and not on the degree of environmental degradation as such. Critical sociopolitical factors include the lack of institutional capacities for peaceful conflict settlement, the readiness and/or capacity of authorities and leaders to organize and mobilize collective actors, the (mis-) perception of alternatives to resorting to violence, the preferences and opportunities of actors, and actor limitations. These topics have to be examined in more detail to better understand when and at what point environmental conflicts turn violent.

## 2. INEVITABLE SITUATIONS AND THE LACK OF REGULATORY MECHANISMS (HYPOTHESIS TWO)

When considering the interests and the behavior of actors, action can be seen as the result of two consecutive filtering processes of decision-making. Concerning the first filter, how does transformation influence the opportunity sets of individual and collective actors? Related to the second filter, how does transformation shape actors’ preferences so that violent conflict is considered the mechanism for solving environmental conflict?

In all forty ENCOP case studies, transformation of society-nature relationships was perceived as *serious* in terms of both degradation of renewables and discrimination against actors highly dependent on their shrinking natural capital. Yet only *eighteen* of these cases crossed the threshold of violence. In *eight* cases there were wars, whereas in *ten* cases, there were violent conflicts below the threshold of war. In *twenty-two* ENCOP cases—of which none serve as control cases—neither war nor violent conflict was present. In *eleven* of these cases, minor incidences of violent actions occurred that were below the threshold of violent conflict. *Nine* cases experienced either military threat or political tension only. And in *two* cases, the disputed projects were dropped or postponed.

Against this empirical background the conclusion is reached that the resort to violence only occurs if and when some of the following *five key situations* coincide:

*Inevitable environmental conditions:* Group survival is dependent on degraded resources for which no substitutes are apparent and eventually the group faces an inevitable and therefore desperate environmental situation. Inevitability does not stand for a deterministic or functional approach to human behavior. *Inevitable circumstances* are environmental conditions upon which an individual or a collective actor cannot rely upon rationally or deliberately.

*Scarcity of regulatory mechanisms and poor state performance:* When a political system is incapable of producing certain social and political conditions, goals, such as sustainable resource use, become unattainable. The scarcity of regulatory mechanisms is either due to a lack of state outputs regarding resource management and livelihood security or due to a disruption of (traditional) social institutions designed to regulate access to resources. Migration, for instance, can be a result of the first type of scarcity (state output) and thus provoke the second type of scarcity (disruption of institutions).

*Institutionalizing the environment:* The environment is instrumentalized or manipulated by dominating actors to pursue specific group interests so that environmen-

tal discrimination becomes an (ideological) issue of

societies, countless and sometimes serious environmental conflicts are resolved by legal and political means. Negotiation, compromise, and mediation play a central role. The organized use of force is not a central part of political strategy.

A state's authority to act consistently vis-à-vis environmental transformation should encompass a large array of economic, social, and institutional instruments: assess suitability and support crop choices, enhance the workability of land, provide access to markets, make credit and cash available, introduce land property rights, etc. Most of such instruments are hardly available in the ENCOP case studies where an *appropriate choice* would sometimes have made the difference between degradation and sustainability. Local and regional areas if not the state as a whole are subordinated to the interest of the center, often more concerned about adhering to international standards on commercial and investment law than on internal developments outside the capital district. Parts of the marginalized population see the state as a bureaucratic apparatus or as a hostile agent for foreign interests that plunders national resources without redistributing the revenues to provinces and communities.

The establishment of subsidiary conflict and resource management mechanisms would presume more than a mere economic distribution logic. Yet precisely the lack of conflict-resolving mechanism prevents innovative practice. In many places the ruling political culture allows little latitude to manage resources subsidiarily, the lowest level possible (except on marginal and degraded lands of minor value). As a consequence, there is widespread insecurity concerning property rights. Property rights disputes have rarely been solved satisfactorily, depriving a prerequisite for effective local self-government and sustainable resource management. Property rights enhance livelihood security and thus contribute to labor-intensive improvement of the productivity of sensitive soils.

States with poor performance are unwilling to adapt existing international regimes to new challenges (e.g., Nile riparians). Nor are they committed to delegate substantial authority to supra-national regional organizations that aim at acquiring dispute settlement capacities (e.g., International Governmental Authority on Development, IGAD) in the Horn of Africa). Existing environmental agreements often express good will, but they show a considerable lack of binding legal power and strict implementation. The search for the least common denominator, weak enforcement mechanism, and "free riders" characterize regional agreements.

Weak states are not committed to assuming political responsibility for the ecological crisis. Governments instead tend to count on internationalizing responsibility for the crisis and waiting for foreign assistance. Due to the weakness of civil society on the other hand,

(re-) privatization of state power occurs through relatively small and inaccessible cliques usurping the state's monopoly on the use of force and changing its function into a spearhead against the population experiencing environmental discrimination. Only in relatively few cases is the disadvantaged group capable of responding with organized violence to the poor performance of their state and/or to the robbery of local natural capital by national elites.

### 2.3 Instrumentalizing the Environmental Problem

Due to the great importance of safe water supply for vulnerable states, international river basins are easily instrumentalized as political means of pressure or blackmail. As discussed earlier, a strong upper-riparian state can carry through geopolitical interests against its lower-riparian neighbor. For its part, the lower riparian clearly has fewer means of pressure available. However, it can seize the water issue in order to denounce the upper-riparian state's unethical behavior. This strategy helps to create international awareness and to mitigate the asymmetry between the actors.

In cases where heavy environmental damage is caused by third parties (e.g., mining companies), the protection of nature proves to be good mobilizing factor for local groups. This strategy also can be beneficial because environmental consciousness is rewarded on a global level (by the UN, INGOs, etc.). Using the ecological vocabulary, although previously concerned little with nature protection, is often the only way for marginalized groups to get attention concerning their generally worsening living conditions (e.g., Ken Saro-Wiwa and the Ogoni in the Delta State of Nigeria).

Opposition groups tend to instrumentalize ecological crises in their criticism of the state. Organized actors in opposition sometimes use segments of groups facing environmental discrimination for ulterior political motives. Remnants of communist guerrillas, now faced with recruiting problems, side with the demands of protesting farmers against deforestation and export business. And due to the penetration of agents for outside interests, indigenous peoples with close and mythical nature relationships see a political advantage in making environmental disruption central in their criticism of the modernizing state. Thus, while feeling uncomfortable with the infiltration of the modern world, they emphasize the cultural and spiritual dimensions of deep human-ecological relationships. The destruction of sacred "mother earth" by foreigners is rejected as extremely immoral and as a threat to humanity.

### 2.4 Opportunities to Build Organizations and Find Allies

Instrumentalizing or manipulating environmental transformation is not presumptively explosive. A mili-



means the conflict would not have occurred in the same way—or even at all—without environmental degradation being an important variable.<sup>6</sup> The evaluation also indicates that the role of environmental discrimina-

Even though a high level of environmental degradation in a certain area shapes threat perceptions, channeling moves the environment to the background as ongoing conflicts proceed. Once a conflict escalates to war, it will hardly be waged primarily over the original reason or the trigger of the conflict itself. In the hot conflict phase, hostile parties tend to grasp for fundamental legitimization patterns and ultimate goals. Slogans such as “to be or not to be” or “they” “destroy” “our” resources, are mobilizing channels more than “land scarcity” as such.

Nonetheless, at the same time group leaders fighting for autonomy or secession may promise a solution to environmental problems. If self-determination will be achieved—so the assumption goes—“we” will not act as irresponsibly as “they” did. War therefore is not waged directly to solve ecological problems even though they may be a reason or a trigger. Similarly, war does not occur in order to defend the traditional way of life against the “attacks” of modernization. War is often about self-determination and national sovereignty. Once this goal is achieved, then self-determination is supposed to contribute almost automatically to the realization of previously formulated ecological goals. This, however, almost always turns out to be a miscalculation.

In politicized identity conflicts and center-periphery disputes, environmental damage is used as a means to realize larger goals. Marginalized groups may conclude that they can only find coalition partners and international recognition if the environmental damage caused by them can be used for solidarity to realize a further goal (e.g., independence from a corrupt or nepotistic central government). Indeed this mobilizing strategy forms the basis of clearly perceptible and perhaps even dramatic environmental destruction. However, the environmental problem is overemphasized or taken selectively as factor from the large context and reinforces the attempts to shape identity (e.g., Ogoni in Nigeria or the Bougainvillean Revolutionary Army against the central government).

### 3.5 Catalyst

*Fifth*, in only a few cases, the transformation of landscape becomes a *catalyst* of conflict. However, sudden events, such as floods or cyclones may unexpectedly contribute to the further deterioration of renewables exacerbating food supply resources and therefore intensify on-going resource conflicts. The damming of water leading to acute down-stream scarcity or the severe pollution of fresh water resources also suddenly enhance tension between conflicting parties. Intentional actions carried out to deny access to resources leads to the environment being a catalyst. Moreover, if environment is designed to be a catalyst it may also be a valid instrument for channeling (e.g.,

Delta Region in Nigeria).

## 4. THE INTENSITY OF ENVIRONMENTAL CONFLICTS

Actors alone shoulder responsibility for triggering and supplying the motivation for violent conflict. A distinction must be made between the structural cause of a conflict and conflict dynamics or intensity. While environmental discrimination plays different roles in the causation of a conflict, its intensity does not depend on the degree of the physical and chemical degradation of the landscape. As pointed out earlier, no linear correlation exists between the quality or quantity of natural resources and the intensity of violence; many accelerating and inhibiting factors are present.

In disputes between the *center and periphery*, all-out wars are rather unlikely. This generalization applies especially for mining and dams. In such settings, escalation to war occurs only in exceptional cases (e.g., Bougainville and Chico). Violence is prevalent at relatively low levels with only a few fatalities. Center-periphery conflicts engender almost everyday endemic and diffuse violence by groups facing discrimination. But these groups hardly display organization toward developing “war parties” with clearly defined strategic goals. Conflicts often escalate in a spiral of violence if acts of sabotage prompt government troops to take punitive actions directed arbitrarily against communities and settlements. If escalation to violent conflict actually occurs in connection with large projects and accompanying ecological degradation, most of them remain below the war threshold. The conflict is often contained within the especially sensitive arena, such as a national sacrifice area, by the militarily superior center.

The greatest conflict potential lies in *ethno-politicized* conflict settings and in *inter-regional* or *demographically driven migration conflicts* in countries with poor state performance. The actors are as numerous as they are diverse: minorities versus majorities, tribes versus tribes, clans versus clans, native people versus immigrants, settlers versus nomads, nomads versus governments, subsistence farmers versus multinational concerns and central governments, unemployed versus the financially better-off, and rural classes versus the central government and nomenclatures. The diversity of the actors shows that two well-equipped armies with heavy weapons seldom face off against each other. Often, more or less motivated government troops see themselves confronted by lightly armed groups. Despite these trends, the danger of arming the marginalized groups should not be underestimated. Struggles for resources have historically been relatively confined and partially ritualized between various indigenous groups. But modern weaponry often brings about a more lethal level of dispute between opposing troops.

In individual ethnopolitical wars of medium and high intensity, resource degradation, competing land-use rights and tenure systems, population growth, ethno-social stratification, regionalism, and maldevelopment accumulate into an insoluble problem syndrome causing and/or triggering violent responses. A high intensity of violence with all its excesses ensues, touched off by war crimes, rape, massacres, and crimes against humanity including genocide (e.g., Rwanda, Sudan).

In the foreseeable future, environmental conflict will not be a "world war" with a global front. A war between the United States and China to preserve the ozone layer, for example, would be absurd. Even classical inter-state wars—for instance between riparians of the same river basin—may remain an exceptional phenomenon due to intensified efforts concerning international agreements. However, in some cases, certain threat potential warrants careful monitoring (Middle East, Central Asia, Nile basin, and Mekong basin).

The growing problems of supplying agriculture, industry, and households with fresh water will become domestic problems. They will either be linked to conflicts due to the marginalization of rural poor or the creation of national sacrifice areas. Either way they are two sides of the same coin, namely environmental discrimination. Conflicts in marginalized ecoregions as well as in national sacrifice areas are by definition related to some clusters within states. Thus they fail to induce an overall conflict pattern affecting countries as a whole. More often central governments try hard to contain violence as much as possible within the area at stake. These attempts, if successful, lead to protracted low-intensity conflicts in focal areas. As a result, heterogeneity increases between highly productive rural farming arenas and efficient urban centers on one hand, and ecologically sensitive rural areas with low human development on the other. The front line between the two sectors becomes the more or less clear-cut fault line of ongoing conflicts. The same key factors lead to both further transformation of society-nature relationships as well as to violent conflicts: environmental discrimination, overuse of renewable resources by actors highly dependent on natural capital, unclear and competitive tenure systems and property rights, and political mobilization against poor state performance in marginal arenas.

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#### ENDNOTES

<sup>1</sup> Most of the empirical studies referenced in this article are found in Baechler *et al.* (1996) as well as in Baechler/Spillmann (1996 II, III). Some others exist as draft papers only.

<sup>2</sup> “Environmental conflict” connotes environmentally caused violent conflict and wars. Concerning the definition of war, refer to the concept provided by Istvan Kende and further developed by Klaus-Jürgen Gantzel. War is an armed, violent mass conflict following a planned strategy, encompassing the following three constitutive qualitative criteria: 1) it must be a conflict with a minimum of continuity (months rather than days); 2) there have to be central organizations on both sides (this could also be a para-military or guerilla force); and 3) at least one of the war parties has to be a government with regular or at least government associated troops (Kende 1982:5; Gantzel 1987:33). Violent conflicts are organized armed struggles of some duration (more than a one-day upheaval) between two or more collective actors with political goals. Violent conflicts are below the threshold of war but have a strong tendency towards this escalating to war.

<sup>3</sup> The individual authors of the case studies are not listed separately in the bibliography attached to this study. All authors with either (1996II) or (1996III) indicated in sections 1.1 to 1.7 are included in Baechler/Spillmann (1996II, III).

<sup>4</sup> Poor state performance is a lack of state outputs regarding civil and political rights, welfare expenditure, livelihood security, resource management, income, and job creation. The state may not produce good outputs for two different reasons. Firstly, the decisions and actions of the state are correct in terms of publicly stated legitimate goals, but their impact is not strong enough to reach the goals. Secondly, the rulers, although proclaiming that the state enhances the public interest, may pursue ends that are actually in their own interest. Both reasons apply especially for regions outside the capital area. Adopted and modified from Lane/Ersson (1994: 82-83).

<sup>5</sup> ENCOP conducted a case study dealing with the global-