

Confronting the Concept of Environmentally Induced Conflict

Tobias Hagmann *

* Doctoral candidate, Swiss Graduate School of Public Administration, Lausanne and Researcher at Swisspeace, Bern. I am grateful to Simon Mason, Silvia Hostettler, and Balz Strasser for comments on earlier versions of this paper and to the Swiss National Centre of Competence in Research [NCCR] 'Research Partnerships for Mitigating Syndromes of Global Change' for funding my research.

Abstract

The article takes stock of the contradictory body of literature on the environmental causes of violent inter-group conflict in developing countries. It reviews key scholarly works of the environmental conflict field and points out their main shortcomings in the realms of research design, theory, and normative foundation. I argue that the concept of environmental conflict is fundamentally flawed, as it relies on preconceived causalities, intermingles eco-centric with anthropocentric philosophies, and neglects the motivations and subjective perceptions of local actors. In addition, a number of theoretical and heuristic questions are raised in order to challenge core assumptions on the ecological causes of violent conflict. The article concludes with a plea for peace and conflict researchers to call into question the concept of environmental conflict, as it represents an inappropriate research strategy in our quest to understand human-nature interactions.

1 Introduction

Since the beginning of the 1990s, an ambiguous body of literature has emerged on the topic of environmentally induced conflicts¹. Claims that increasing resource scarcity and environmental degradation contribute to violent conflict have met with scepticism ever since they were first raised. When empirical studies by environmental conflict scholars replaced alarmist assertions in the mid-1990s, this initial doubt evolved into methodological and theoretical criticism. Numerous controversies have occurred in the past decade between members of the environmental conflict school² and those opposed to their findings³. Much has been said and written about challenges to environmental conflict research and strategies to overcome the current deadlock⁴. Prominent authors like de Soysa

¹ Other lines of inquiry on the relationship between natural resources and civil war are not considered in this paper. For recent contributions, see Paul Collier, Lani Elliot, Håvard Hegre, Anke Hoeffler, Marta Reynal-Querol, and Nicholas Sambanis, *Breaking the Conflict Trap: Civil War and Development Policy* (Washington D.C.: World Bank, 2003); “The Geopolitics of Resource Wars”, *Geopolitics*, 9 (2004), special issue; Michael L. Ross, “What Do We Know About Natural Resources and Civil War?”, *Journal of Peace Research*, 41 (2004), pp. 337-356.

² “Environmental conflicts”, “environmental security”, or “eco-violence” are often used interchangeably in the literature. In this article environmental conflict research designates scholarly contributions that portray or discuss the natural environment as a cause of violent conflict. There is no widely accepted definition of what constitutes an environmental conflict or environmental security. Nor is there agreement on whether environmental conflict exists as a distinct type of violence. In most cases authors have defined types of armed conflict resulting from environmental scarcity or degradation rather than environmental conflict *per se*. See, for example, Stephan Libiszewski, *What is an Environmental Conflict?*, ENCOP Occasional Paper No. 1, (Zurich: Center for Security Studies).

³ Most recently Thomas Homer-Dixon, Nancy Peluso, and Michael Watts, “Exchange. Thomas Homer-Dixon, Nancy Peluso, and Michael Watts on Violent Environments”, *Environmental Change and Security Report*, 9 (2003), pp. 89-96.

⁴ Alexander Carius, Günther Baechler, Stefanie Pfahl, and Andreas March, *Umwelt und Sicherheit: Forschungserfordernisse und Forschungsprioritäten* [Environment and Security: Research Requirements and Research Priorities] (Berlin: Ecologic, 1999); Nils Petter Gleditsch, “Beyond Scarcity vs. Abundance: A

report that the debate on environmentally induced conflicts has reached a theoretical impasse unhelpful for policy makers and those wishing to prevent conflict⁵. Dalby, who reasons from the perspective of a political ecologist, comes to the same conclusions⁶. Gleditsch also subscribes to a “fairly pessimistic assessment of the state of the study of environmental causes of conflict”⁷. Finally, Matthew concurs that the field’s value has been depressed by “simplified renderings of environment and security literature”⁸.

This article posits that the inconsistency of environmental conflict research is not limited to methodological weaknesses and theoretical shortcomings. Rather I argue that the concept of environmentally induced conflict is itself fundamentally flawed, as it neither allows for convincing empirical substantiation nor for sound theory-building. A critical review of the literature reveals the shakiness of the concept’s core assumption: the idea that “environmental concerns are indeed associated with greater conflict”⁹. Three elements are central to my argument. First, research on the “ecologic sources of conflict”¹⁰ has been characterised by a one-sided fixation on causality. Second, environmental conflict literature

Policy Research Agenda for Natural Resources and Conflict”, In: *Understanding Environment, Conflict, and Cooperation*, edited by United Nations Environment Programme (Nairobi: UNEP, 2004), pp. 16-18.

⁵ Indra de Soysa, “Ecoviolence: Shrinking Pie, or Honey Pot?”, *Global Environmental Politics*, 2 (2002a), p. 27.

⁶ Simon Dalby, “Resources and Conflict: Contesting Constructions of Environmental Security” (2003), paper presented at a conference in Kathmandu, Nepal.

⁷ Nils Petter Gleditsch, “Armed Conflict and the Environment”, In: *Environmental Conflict*, edited by Paul F. Diehl and Nils Petter Gleditsch (Boulder and Oxford: Westview Press, 2001a), p. 269.

⁸ Richard A. Matthew, “In Defense of Environment and Security Research”, *Environmental Change and Security Report*, 8 (2002), p. 116.

⁹ Paul F. Diehl and Nils Petter Gleditsch, “Controversies and Questions”, In: *Environmental Conflict*, *op. cit.*, p. 6.

¹⁰ Title of a research project whose main findings are presented in Jeremy Lind and Kathryn Sturman, eds. *Scarcity and Surfeit. The Ecology of Africa's Conflicts* (Pretoria: Institute for Security Studies, 2002).

amalgamates eco-centric and anthropocentric conceptions of agency that are incompatible. Third, the field has failed to take into account how social actors contribute to, perceive, and cope with environmental change and degradation.

The subsequent section provides a succinct overview of the evolving literature on environmental conflicts. Its most important research thrusts are put into context briefly in order to familiarise the reader with the debate. Section three summarises existing criticism expressed towards environmental conflict scholars in the fields of research design, methodology, and theory. Section four exposes fundamental conceptual and heuristic flaws of the concept underlying environmentally induced conflict. Finally, the last section reflects on the need to develop alternative and more promising concepts and approaches for the study of nature-human interactions. It concludes with a plea for rethinking the usefulness of the concept of environmental conflict within the discourse of peace and conflict research.

2 Evolution of environmental conflict research

Divergent conceptual approaches, methodologies, and levels of analysis make a coherent presentation of the environmental conflict literature difficult. Adding to this difficulty is the literature's division into specific sub-themes such as water conflicts, land and territorial disputes, or conflicts over mineral resources including oil and diamonds. Previously the state of the art had been based on consecutive "generations" of environmental and conflict research¹¹, noted differences and commonalities in methodology and research design¹², or

¹¹ Carsten F. Rønnfeldt, "Three Generations of Environment and Security Research", *Journal of Peace Research*, 34 (1997), pp. 473-82.

¹² Gleditsch, 2001, *op. cit.*

stressed underlying normative underpinnings and epistemology¹³. This section recounts the evolution of environmental conflict research (in the disciplinary fields of political science and international relations) on the basis of its most important themes or research strands. These research strands are partially overlapping, not consecutive in a chronological sense, and mutually constitutive as they reflect the dialectic evolution of the field.

The conceptual development of environmental security as a new theme in international relations studies marks the beginning of the environmental conflict school. Since the mid-1980s, scholars such as Westing¹⁴ aimed at extending conventional security thinking to include other issues such as environmental change and resource depletion. This interdisciplinary and largely conceptual debate mobilised academic and political stakeholders alike. It was expanded by the end of the Cold War and exemplified the search for alternative paradigms in international affairs and security studies. Contributions focused on whether and under what circumstances the biophysical environment represents a threat to national and global security. To this day the discourse on environmental security - as a potential threat to stability or a policy goal that needs to be achieved - is part of an epistemic community that critically advocates the broadening of (post-)national security¹⁵.

¹³ Jon Barnett, "Destabilizing the Environment-Conflict Thesis", *Review of International Studies*, 26 (2000), pp. 271-88.

¹⁴ Arthur Westing, ed. *Global Resources and International Conflict: Environmental Factors in Strategic Policy and Action* (Oxford: Oxford University Press, 1986).

¹⁵ Key references on environmental security include Lothar Brock, "The Environment and Security: Conceptual and Theoretical Issues", In: *Conflict and the Environment*, edited by Nils Petter Gleditsch (Dordrecht: Kluwer, 1997), pp. 17-34; "Environmental Conflict Research - Paradigms and Perspectives", In: *Environmental Change and Security: A European Perspective*, edited by Alexander Carius and Kurt M. Lietzmann (Berlin etc.: Springer, 1999), pp. 37-53; Daniel H. Deudney, "The Case Against Linking Environmental Degradation and National Security", *Millennium: Journal of International Studies*, 19 (1990), pp. 461-76; Daniel H. Deudney and Richard A. Matthew, eds. *Contested Grounds: Security and Conflict in the New Environmental Politics* (New York, N.Y.: State University of New York Press, 1999); Richard A.

A number of major contributions on empirical tracing of the environment-conflict link emerged in the early 1990s. They were characterised by a strong emphasis on empirical evidence and a “process-tracing” methodology applied to numerous case studies. This research stream focused predominantly on causal links between environmental scarcity, degradation, and acute national and international conflict in developing countries and countries in transition. Two research groups were at the forefront of the endeavour to demonstrate and typify causal mechanisms between resource scarcity and physical violence: conflict researchers at the University of Toronto directed by Thomas Homer-Dixon, usually referred to as “the Toronto Group”¹⁶; and scholars associated with the “Environment and Conflict Project” (ENCOP)¹⁷ of the Swiss Federal Institute of Technology in Zurich and the Swiss Peace Foundation in Bern.

Matthew, “Rethinking Environmental Security”, In: *Conflict and the Environment*, *op. cit.*, pp. 71-90; 2002, *op. cit.*, pp. 109-24.

¹⁶ Thomas Homer-Dixon, “On The Threshold: Environmental Changes as Causes of Acute Conflict”, *International Security*, 16 (1991), pp. 76-116; “Environmental Scarcities and Violent Conflict: Evidence from Cases”, *International Security*, 19 (1994), pp. 5-40; “The Ingenuity Gap: Can Poor Countries Adapt to Resource Scarcity?”, *Population and Development Review*, 21 (1995), pp. 587-612; *Environment, Scarcity, and Violence* (Chichester: Princeton University Press, 1999); Thomas Homer-Dixon and Marc A. Levy, “Correspondence. Environment and Security”, *International Security*, 20 (1995), pp. 189-98; Val Percival and Thomas Homer-Dixon, “Environmental Scarcity and Violent Conflict: The Case of South Africa”, *Journal of Peace Research*, 35 (1998), pp. 279-98; Daniel M. Schwartz, Tom Deligiannis, and Thomas Homer-Dixon, “The Environment and Violent Conflict”, In: *Environmental Conflict*, *op. cit.*, pp. 273-94.

¹⁷ Günther Baechler, “Why Environmental Transformation Causes Violence: A Synthesis”, *Environmental Change and Security Report*, 4 (1998), pp. 24-44.; *Violence Through Environmental Discrimination: Causes, Rwanda Arena, and Conflict Model* (Dordrecht: Kluwer, 1999); Günther Baechler, Volker Böge, Stefan Klötzli, Stephan Libiszewski, and Kurt R. Spillmann, *Kriegsursache Umweltzerstörung. Ökologische Konflikte in der Dritten Welt und Wege ihrer friedlichen Bearbeitung. Vol 1* [Environmental Destruction as a Cause of War. Ecological Conflicts in the Third World and Ways for their Peaceful Resolution] (Chur and Zurich: Rüegger, 1996); Günther Baechler and Kurt R. Spillmann, eds. *Environmental Degradation as a Cause of War. Vol. 2: Regional and Country Studies of Research Fellows and Environmental Degradation as a Cause of War. Vol. 3: Country Studies of External Experts* (Chur and Zurich: Rüegger, 1996).

Both research groups used different terminology and concepts. Nevertheless both aimed to reveal empirically how and under what circumstances resource scarcity causes armed conflict. Their analysis focused mainly on renewable resources that are key for food production such as cropland, freshwater, and forests. Both projects operated exclusively on the basis of *ex-post* analysis of cases where environmental scarcity had actually led to conflict. Consequently, both defined conflict typologies and theorised on the socio-political processes that led to violent conflict.

The Toronto Group conceded that environmental scarcity “rarely contributes directly to interstate conflict”¹⁸. Conversely, its conclusions remained fairly determined, as a number of negative consequences such as impoverishment, population displacement, or state weakening were associated with environmental scarcity. These social effects create and reinforce instability. Under given circumstances, this leads to collective violent action¹⁹. Consequently, three main types of armed conflict might arise from environmental scarcity; that is, simple-scarcity conflicts, group-identity conflicts, and insurgencies in the context of relative deprivation of lower-status groups²⁰. ENCOP in turn envisioned seven stereotypical environmental conflicts; ethno-political conflicts, centre-periphery conflicts, regional migration/displacement conflicts, transboundary migration conflicts, demographically caused conflicts, international water/river basins conflicts, and

¹⁸ Thomas Homer-Dixon, “The Project on Environment, Population and Security: Key Findings of Research”, *Environmental Change and Security Report*, 2 (1996), p. 48.

¹⁹ Percival and Homer-Dixon, 1998, *op. cit.*

²⁰ Homer-Dixon is not very clear on the number and types of conflicts potentially arising from environmental scarcity. In *Environmental Scarcities and Violent Conflict: Evidence from Cases* (1994) he mentions “environmental scarcity conflicts” which result from population growth and unequal resource distribution as a fourth type of conflict. Finally, five types of future violent conflicts are defined in *Environment, Scarcity, and Violence* (1999).

international conflicts arising from distant sources due to neo-colonialist exploitation of resources²¹.

The next research thrust was inspired by theoretical and methodological criticism of the Toronto Group and to a lesser degree to ENCOP. A number of researchers associated with the International Peace Research Institute (PRIO), Oslo, figure prominently among this strand of environmental conflict research²². This heterogeneous group of scholars initially set out to test and validate or disprove conclusions of previous research. They used statistical methods and conducted large cross-national tests. Consequently their contributions provided a clearer picture of geographic and diachronic frequency distributions of environmental conflict cases. Use of quantitative models allowed them to ponder the relative weight of various variables and thereby to refine existing environmental conflict models. New ecologic and socio-political variables were included in studies that focused on renewable and non-renewable natural resources alike.

Some core conclusions of the previous research strand were challenged, namely the alleged determinism between resource scarcity and violent conflict. Nonetheless, scholars in this phase remained attached to the idea of investigating causalities and correlations

²¹ Baechler, 1998, 1999, *op. cit.*; Baechler *et al.*, 1996, *op. cit.*

²² Nils Petter Gleditsch, ed. *Conflict and the Environment* (Dordrecht: Kluwer, 1997); "Armed Conflict and the Environment", In: *Environmental Conflict*, *op. cit.*, pp. 251-272; "Environmental Change, Security, and Conflict", In: *Turbulent Peace: The Challenges of Managing International Conflict*, edited by Chester A. Crocker, Fen O. Hampson, and Pamela Aall (Washington D.C.: US Institute of Peace, 2001), pp. 53-68; Nils Petter Gleditsch and Bjørn Otto Sverdrup, "Democracy and the Environment", In: *Human Security and the Environment*, edited by Edward A. Page and Michael Redclift (Cheltenham: Edward Elgar, 2002), pp. 45-70; Wenche Hauge and Tanja Ellingsen, "Causal Pathways to Conflict", In: *Environmental Conflict*, *op. cit.*, pp. 36-57; Indra de Soysa, "The Resource Curse: Are Civil Wars Driven by Rapacity or Paucity?", In: *Greed and Grievance: Economic Agendas in Civil Wars*, edited by Mats Berdal and David M. Malone (Boulder and London: Lynne Rienner, 2000), pp. 113-35; 2002a, *op. cit.*; "Paradise Is a Bazaar? Greed, Creed, and Governance in Civil War, 1989-99", *Journal of Peace Research*, 39 (2002b), pp. 395-416.

between environmental variables and domestic armed conflict. Members of this innovative research stream repeatedly called for inclusion of other independent and intervening variables such as poverty²³, political regime type²⁴, or cultural variables²⁵. Economic and political variables were identified as “missing links” between environmental degradation and armed conflict. While these contributions of PRIO-associated researchers innovated the empirical analysis of environmental conflicts, they failed to generate new theoretical insights or ground-breaking concepts.

Scholars have repeatedly called for consideration of null cases into research designs, *i.e.* cases in which environmental scarcity does not lead to conflict²⁶. The one-sided focus on the environment as a source of conflict prevents a more holistic view on the complex interactions between natural resources and human behaviour. Little is known about the causes and processes that foster cooperation rather than conflict over resources. The analytical shift towards an appreciation of natural resources as a source of cooperation - or rather as a source of conflict *and* cooperation - has only occurred sporadically. Limited empirical evidence has been presented in this regard. This happened mainly to refute overly deterministic “eco-violence” assertions or arguing for the “peacebuilding” potential of environmental policies such as conservation²⁷. To this day, the environmental conflict

²³ Dan Smith and Willy Østreng, eds. *Research on Environment, Poverty and Conflict* (Oslo: PRIO, 1997)

²⁴ Gleditsch and Sverdrup, 2002, *op. cit.*

²⁵ De Soysa, 2002a, *op. cit.*

²⁶ Frank Biermann, Gerhard Petschel-Held, and Christoph Rohloff, “Umweltzerstörung als Konfliktursache? Theoretische Konzeptionalisierung und empirische Analyse des Zusammenhangs von ‘Umwelt’ und ‘Sicherheit’“ [Environmental Degradation as Conflict Cause? Theoretical Conceptualisation and Empirical Analysis of the Link Between ‘Environment’ and ‘Security’], *Zeitschrift für Internationale Beziehungen*, 5 (1998), pp. 272-308; Smith and Østreng, *op. cit.*, 1997.

²⁷ See, for example, Marielle J. Carter and Stephen N. Ndegwa, “Environmental Scarcity and Conflict: A Contrary Case from Lake Victoria”, *Global Environmental Politics* 2 (2002), pp. 40-62; Ken Conca and

school has produced little explanation on links between the environment and cooperation between social groups.

3 Unresolved dilemmas of the research field

The various research strands of environmental conflict have been critically received and discussed. A number of unresolved dilemmas emerge from these debates that characterise the disparate literature on environmentally induced conflict. They concern the robustness of research designs, the conceptual value of core variables, neo-Malthusian assumptions, and the epistemology of northern-driven discourse on environmental change and conflicts.

Research designs proposed by environmental conflict scholars have been challenged repeatedly. The Toronto Group, for instance, has been accused of violating important principles of research design, such as lacking control groups, offering imprecise variables, and neglecting variation on the dependent variable, all of which make the falsification of the hypotheses impossible²⁸. Sprinz criticised the Homer-Dixon variables for appearing concurrently as causes and measures of environmental problems, while ENCOP lacks an *ex ante* formulation of research hypotheses²⁹. Rønnfeldt disapproves of the field's tendency to

Geoffrey D. Dabelko, eds. *Environmental Peacemaking* (John Hopkins University Press, 2002); Richard A. Matthew, Mark Halle, and Jason Switzer, eds. *Conserving the Peace: Resources, Livelihoods and Security* (Winnipeg: International Institute for Sustainable Development, 2002).

²⁸ Wolf-Dieter Eberwein, "Environmentally-Induced Conflict - Methodological Notes", In: *Environmental Change and Security: A European Perspective*, *op. cit.*, pp. 167-181; Gleditsch, 2001, *op. cit.*; Marc A. Levy, "Time for a Third Wave of Environment and Security Scholarship?", *Environmental Change and Security Report*, 1 (1995), pp. 44-47.

²⁹ Detlef F. Sprinz, "Modeling Environmental Conflict", In: *Environmental Change and Security: A European Perspective*, *op. cit.*, pp. 183-194.

propose “overly complex models which offer only very general conclusions”³⁰. Tøset, Gleditsch, and Hegre have disapproved of “the widespread tendency in studies of environmental security to refer to future crisis as empirical evidence”³¹.

In reply to the methodological criticism addressed on their findings, members of the Toronto Group have argued for a distinction between “causal effect” and “causal mechanism”³². In their viewpoint, experimental and quasi-experimental methods such as multivariate quantitative studies provide indications about causal effect, *i.e.* changes in probability and/or the value of the dependent variable. Conversely, single-case methods and exploratory case study designs shed light on causal mechanism, *i.e.* the process and intervening variables producing causal effects³³.

Core concepts and variables of environmental conflict research reflect misleading assumptions and definitions. This holds true for seemingly technical vocabulary relating to the status of non-human entities such as “resource scarcity” or “environmental degradation”. It also applies to terms embracing social phenomena such as “environmental discrimination”. The concept of resource scarcity - a core independent variable in many studies - raises serious criticism, as virtually all natural resources are or can become scarce, and as scarcity by definition leads to conflicts of interest³⁴. Dalby rightly points out that certain non-renewable resources such as diamonds or oil “are by definition a resource,

³⁰ Rønnefeldt, 1997, *op. cit.*, p. 478.

³¹ Hans Petter Wollebæk Tøset, Nils Petter Gleditsch, and Håvard Hegre, “Shared Rivers and Interstate Conflict”, *Political Geography*, 19 (2000), p. 978.

³² Schwartz *et al.*, 2001, *op. cit.*

³³ An authoritative contribution on the topic is Leif Ohlson, *Environment, Scarcity and Conflict - A study of Malthusian concerns*, (Göteborg: University of Göteborg, 1999).

³⁴ Gleditsch, 2001a, *op. cit.*

precisely because they are not ubiquitous”³⁵. Furthermore, the complexity and multitude of intervening variables weakens the explanatory power of theoretical models proposed³⁶. Thus the operational measurement of many concepts of environmental conflict research leaves considerable room for interpretation.

The prime theoretical critique addressed to representatives of the environmental conflict school concerns the supposed links between demographics, resource availability, and violence. The idea that population growth reinforces environmental and social stress, which in turn enhances violence, is typically Malthusian³⁷. Homer-Dixon’s Toronto Group, Günther Baechler’s ENCOP Group, and others have been sharply and amply criticised for their outdated neo-Malthusian conception³⁸. Similar to the conception of “carrying capacity”³⁹, resource scarcity or abundance as explanatory variables of armed conflict assumes simplistic theoretical relationships between resource availability and population growth. From this neo-Malthusian viewpoint, resources become scarce, thus exacerbating

³⁵ Dalby, 2003, *op. cit.*, p. 7.

³⁶ Marc A. Levy, “Is the Environment a National Security Issue?”, *International Security*, 20 (1995), pp. 35-62.

³⁷ “Malthus postulated the simple, but profound notion that while food production grew linearly, population increases tended to be exponential. At some point, the population would outstrip the capacity of the Earth to feed all the people, passing what has later been referred to as the ‘carrying capacity’ of the environment”, Jaroslav Tir and Paul F. Diehl, “Demographic Pressure and Interstate Conflict: Linking Population Growth and Density to Militarized Disputes and Wars, 1930-89”, *Journal of Peace Research*, 35 (1998), p. 322.

³⁸ Simon Dalby, “Jousting with Malthus' Ghost: Environment and Conflict After the Cold War”, *Geopolitics*, 5 (2000), pp. 165-175; Peter M. Haas, “Constructing Environmental Conflicts from Resource Scarcity”, *Global Environmental Politics*, 2 (2002), pp. 1-11; Nils Petter Gleditsch and Henrik Urdal, “Ecoviolence? Links Between Population Growth, Environmental Scarcity and Violent Conflict in Thomas Homer-Dixon's Work” *Journal of International Affairs*, 56 (2002), pp. 283-302; Nancy Lee Peluso and Michael Watts, eds. *Violent Environments* (Ithaca, NY: Cornell University Press, 2001).

³⁹ Lisa Cliggett, “Carrying Capacity's New Guise: Folk Models for Public Debate and Longitudinal Study of Environmental Change”, *Africa Today*, 48 (2001), pp. 2-19.

conflict once they have been “overused”, “depleted”, or “degraded” to a certain threshold. However, these thresholds can only be determined through inductive reasoning based on *ex-post* analysis and a selection of cases on the dependant variable. In all too many cases, the literature perceives resources either in terms of deficit or wealth. It thereby neglects the fact that scarcity and abundance are themselves the result of social and economic demands that vary across time and space⁴⁰. Resource scarcity per definition represents a product of social processes rather than of nature⁴¹.

Epistemological considerations of environmental conflict studies question the literature for apprehending the biophysical environment through the lenses of national security. Scholars have been accused of “securitizing” the environment⁴². Dalby, for instance, rejects the idea of “militarising the relationships between the poor and the rich in the face of rapidly growing disparities, and turning the poor into a military threat to the affluent, looms over this whole literature (...)”⁴³. Barnett provides the most thorough epistemological critique of this type on the premises of an eco-centric perspective. He argues that the environment-conflict thesis serves to legitimise the security agenda of developed countries in the North and West⁴⁴. According to this logic, the discourse on environmentally induced conflicts in developing countries acts as a smokescreen that diverts attention from the fact that developed countries consume and extract most natural

⁴⁰ Philippe Le Billon, “The Political Ecology of War: Natural Resources and Armed Conflicts”, *Political Geography*, 20 (2001), pp. 561-584.

⁴¹ Ronnie D. Lipschutz, “Environmental Conflict and Environmental Determinism: The Relative Importance of Social and Natural Factors”, In: *Conflict and the Environment*, *op. cit.*, pp. 35-50.

⁴² Barnett, 2000, *op. cit.*

⁴³ Dalby, 2000, *op. cit.*, p. 173.

⁴⁴ Barnett, 2000, *op. cit.*, p. 271.

resources worldwide. Barnett thus disapproves of the “ethnocentric assumption that people in the South will resort to violence in times of resource scarcity”⁴⁵.

4 Fundamental flaws of the concept

The previous section outlined some of the major challenges to past research in the field of environmental conflict studies. This section unearths three fundamental flaws of the concept of environmentally induced conflict. It criticises the manner in which causality is constructed, highlights the importance of differentiating between eco-centric and anthropocentric philosophies, and stresses the need to consider the motivations and perspectives of actors.

Consensus seems to exist in the field of environmental conflict literature on how to approach the topic; through a causal construct or a “causes of conflict” line of inquiry⁴⁶ that qualitatively or quantitatively connects the status of the environment with armed conflict. The basic dilemma of such an approach is best illustrated with an example representative of the literature. In their review of “environmentally-induced conflicts” Carius and Imbusch assert “environmental changes and the increasing scarcity of natural resources play a *decisive* role in the emergence of conflicts” [emphasis in original]. Only shortly afterwards they stipulate that “whether environmental stress indeed harbours conflict or leads to violence depends upon a series of socio-economic context variables”⁴⁷. According to the authors, these “context variables” encompass “cultural circumstances and traditions, ethno-political factors, civil society mechanisms of peaceful conflict resolution,

⁴⁵ *Idem*, p. 274.

⁴⁶ Ohlson, 1999, *op. cit.*, p. 49.

⁴⁷ Alexander Carius and Kerstin Imbusch, “Environment and Security in International Politics - An Introduction”, In: *Environmental Change and Security: A European Perspective*, *op. cit.*, p. 20.

the stability of the interior policy system and, finally, societal, institutional, economic and technological capabilities”.

Serious doubt arises as to such an approach that first labels conflict as a single-issue and subsequently adds a large number of “intervening” non-environmental variables in a later stage of the analysis. This procedure is characteristic for much of the literature, and it demonstrates that the “causal paradigm”⁴⁸ - i.e. the preconceived notion that environmental degradation causes conflict - has not been useful in explaining relations between the environment and inter-group violence.

An analogy between “environmental conflicts” and “ethnic conflicts” proves fruitful in this respect. Ethnicity has been defined as “a property of a relationship between two or several groups. It is thus not a property of a group. Rather ethnicity exists *between* and not *within* groups” [emphasis in original]⁴⁹. Hence ethnicity cannot be regarded as a root cause of conflict, and the expression “ethnic conflict” falsely implies the existence of causality between ethnic diversity and warfare⁵⁰. The same applies to the environment when apprehended from the viewpoint of organised violence. Resource scarcity as well as abundance, to take just one example, is first and foremost a property of a relationship between groups and their ecosystem. As such it does not designate a specific ecological

⁴⁸ The “causal paradigm” criticized does not refer to methodologies aiming to establish “causal pathways” or statistic correlations. Rather it refers to a mental taxonomy that establishes a direct and deterministic link between the natural environment and violent conflict.

⁴⁹ Thomas Hylland Eriksen, “Ethnic Identity, National Identity, and Intergroup Conflict: The Significance of Personal Experiences”, In; *Social Identity, Intergroup Conflict, and Conflict Reduction*, edited by Richard D. Ashmore, Lee Jussim and David Wilder (Oxford: Oxford University Press, 2001), p. 46.

⁵⁰ James D. Fearon and David D. Laitin, “Ethnicity, Insurgency, and Civil War”, *American Political Science Review*, 97 (2003), pp. 75-90.

status of resources regardless of the degree of biophysical degradation or depletion one might observe.

Furthermore, this property of relationship between groups and ecosystem is always and by definition the product of a social process. Similar to ethnicity that is manipulated as a political resource⁵¹, political entrepreneurs and ruling classes influence the perceptions people have of “their” natural resources. Dominant groups do so instrumentally in order to achieve their political goals, which are often linked to illegitimate resource appropriation in a context of state decay. Societal perceptions of natural resources are furthermore conditioned by socially defined property rights and by symbolic meanings shaped by the interactions between the social and the ecological sphere. Consequently, one cannot reasonably postulate that the status of a specific kind of resource constitutes a sufficient or even necessary condition to explain violent conflict if the property of relationship between human beings and nature is not understood.

Neither the inductive case study approach nor the deductive statistical analyses of environmental conflict convincingly explain how human agency and the natural environment relate to each other on the theoretical level. This is not an inherent weakness of the respective qualitative and quantitative techniques adopted. Rather it is the expression of a positivist perception of social reality that falls short of more sociological thinking about agency, ecology, and physical violence. Environmental conflicts are by definition phenomena situated at the interface between the natural and social spheres. However, the principles and logic, which operate the interactions between the two, are not spelled out sufficiently. Is conflict and cooperation in “overpopulated” and “degraded” developing countries primarily determined by ecological conditions as neo-Malthusians argue? Is the

⁵¹ Bruce Gilley, “Against the Concept of Ethnic Conflict”, *Third World Quarterly*, 25 (2004), pp. 1155-66.

status and evolution of ecosystems the result of human-induced processes? Or is there possibly a mutual and interdependent relation between human actors and “ecological structure”? Social scientists need to position themselves theoretically on such questions if the study of human-ecological interactions and of violent conflicts is to progress.

Authors of the environmental conflict school assume that the environment has the capacity to modify the behaviour of societies by “causing” conflicts when concomitant with a number of political, economic, and social factors. The question arises as to where this capacity stems from. Intrinsically natural phenomena such as earthquakes, flooding, or rapid processes of soil degradation provoke immediate responses by human beings. However, these events are bare of intentionality and do not embrace agency in the sociological sense. The question as to why and how nature possesses the capacity to stimulate and transform human behaviour remains unanswered. This challenge cannot be resolved through definitional exercises, methodological innovations, or large empirical samples. It depends fundamentally on whether one adopts a more eco-centric or more anthropocentric philosophy. At first sight the idea of environmentally induced conflict reflects an eco-centric assumption, as the environment is portrayed as being capable of modifying the behaviour of people. A closer examination of the literature reveals that collective action, mostly inter-group conflict, is represented as the outcome of the interaction of environmental scarcity with non-environmental factors. Thus scholars ultimately fall back on an anthropocentric argument to explain human behaviour. As long as research philosophies intermingle eco-centric and anthropocentric philosophies that are not made explicit, coherent knowledge on the subject of environmental conflicts is difficult to achieve.

Conflicts are emerging and developing on the basis of the meaning and interpretation people involved attach to action and events⁵². However, the existing body of literature provides little insights about the perceptions, meanings, and strategies of those actors confronted with environmental degradation, discrimination or resource capture. Rather conflict parties are reduced to functional categories (ethnic groups, marginalised groups, etc.) or casualty numbers. This shortfall is partly due to the somewhat biased conception of conflict that guides a great number of works on environmentally induced conflicts. Conflict is identified exclusively when manifest in armed inter-group relations that result in a significant number of casualties. Focusing research agendas on the explanation of violent conflict is unquestionably a legitimate strategy. However, it bears the constant danger of neglecting the social dynamics that produce and shape collective mobilisation and action before the outbreak of violence.

Although the natural environment represents the material matrix in which human interactions are inscribed, the simple reason why the environment matters to people remains unspecified. The literature typically regards ecologic phenomena as independent variables in modelling the “causal pathways” to environmental conflict. Paradoxically, the selection of explanatory variables such as “desertification”, “freshwater availability”, or “arable land” is often accompanied with vague explanation as to *why* they are relevant in the causation of conflict or instability.

Minimal indications on the actors’ theory underlying environmental conflict analysis are occasionally given. Nonetheless, most of the literature fails to come up with an unambiguous statement on the sociological rationality of actors and a theoretical account of

⁵² John Paul Lederach, *Preparing for Peace: Conflict Transformation Across Cultures* (Syracuse, N.Y.: Syracuse University Press, 1995).

why humans behave the way they do⁵³. Or in other words: “What makes people resort to violence?”⁵⁴. Scholars like Homer-Dixon or Gleditsch have circumvented this admittedly difficult question by adopting methodologies that include a large number of variables supposed to “explain” violent behaviour. Again, these variables tell little about the ontology of these conflicts in the local context of today’s developing countries, home to the vast majority of today’s wars.

5 Conclusion

The literature on environmentally induced conflict has produced contested empirical and theoretical conclusions. Its core assumption that the environmental quantity and quality of a country or region can be causally linked to the presence or absence of conflict remains questionable. The concept of environmentally induced conflict has proved elusive. This elusiveness largely results from preconceived causalities, academic philosophies that combine eco-centric and anthropocentric conceptions, and the failure to provide an explicit explanation of agency in human-nature interactions. In addition, neo-Malthusian narratives with a predominant focus on scarcity disclose an overly simplistic conception of the multi-causality and complexity of violent conflict and of existing coping strategies. Lastly different types and intensities of violent conflict are intermingled and aggregated with disregard for regional specificities or qualitative differences in their manifestation.

⁵³ “Sociology thus postulates that there is a reason in what agents do (...) which must be found; this reason permits one to explain and to transform a series of apparently incoherent, arbitrary behaviors into a coherent series”, Pierre Bourdieu, *Practical Reason: On the Theory of Action* (Cambridge UK: Polity Press, 1998), p. 76.

⁵⁴ Barnett, 2000, *op. cit.*, p. 283.

After more than a decade of research and controversy, the literature on environmentally induced conflict remains “an answer in the quest for its underlying question”⁵⁵. The discourse on the ecological sources of violence replicates “environmental orthodoxies”⁵⁶ rather than analysing the heterogeneous trends within ecosystems and the multitude of existing natural resource management practices. Its one-sided fixation on causality and attempts to produce causal chains between a specific state of the environment (preferably a degraded, depleted, and overpopulated one) with a specific type of inter-group relationship (violence, warfare) have proved empirically controversial and theoretically unsound. To this day, the concept of environmentally caused conflicts represents a global paradigm in search of a local reality. It hinders rather than improves our understanding of the relations between ecology, politics, and violence.

Bearing in mind these important defects, peace and conflict researchers should call into question the concept of environmentally induced conflict, if not dismiss it altogether. Rather than pursuing the beaten tracks of environmental conflict research, alternative approaches need to be developed. In order to circumvent the weaknesses of the existing literature, I propose a shift from environmentally induced conflict to natural resource-use conflicts. At least three major analytical changes are required to do so. First, one must not assume that resource scarcity or environmental degradation predispose violent conflict. Rather resource use should be viewed as a contested process that inscribes itself in cooperative and conflictive relations between different resource user groups. Natural

⁵⁵ Brock, 1999, *op. cit.*, p. 38.

⁵⁶ "Environmental orthodoxies are common explanations of environmental problems that are largely accepted, not criticized and have become conventional wisdom in policy and science, yet, in reality they are contested and often inaccurate or, subject to discussion", Tim Forsyth, *Critical Political Ecology: the Politics of Environmental Science* (London and New York: Routledge, 2003), p. 24.

resource management strategies and conflict management practices should gain importance and become new research themes. Second, the analysis of resource use patterns and conflicts requires a thorough understanding of institutions that shape the rules and rights of resource use. Different layers of environmental governance at local, national, and international levels need to be incorporated into the analysis of resource use conflicts. The overlap of customary and modern state rules for resource and conflict management in developing countries deserves more attention. Third, a shift from a purely objectivist analysis to one taking into consideration the intentions, meanings, and logic for action by local groups is imperative. Dedicating more interest to the rationale of actors in resource use conflicts is also a precondition for formulating conflict transformation strategies.