



universität
wien

DIPLOMARBEIT

Titel der Diplomarbeit

Environmental Discourses in Development Studies
A critical Analysis, from 1970 until 2008

Verfasserin

Andrea Kobler

angestrebter akademischer Grad

Magistra der Philosophie (Mag.phil.)

Wien, am 30.07.2009

Studienkennzahl lt. Studienblatt:

A 057 390

Studienrichtung lt. Studienblatt:

Internationale Entwicklung

Betreuer:

Dr. Simron Jit Singh

To my family

TABLE OF CONTENTS

1	PREFACE	8
1.1	ACKNOWLEDGEMENT	8
1.2	MOTIVATION	9
1.3	A GENERAL CRITIQUE ON SCIENCE	10
1.4	SELF-REFLECTION	11
2	INTRODUCTION.....	13
3	METHOD	17
3.1	DISCOURSE – DIFFERENT TRADITIONS AND MEANINGS	17
3.1.1	<i>Power</i>	18
3.1.2	<i>Power, knowledge and truth</i>	19
3.1.3	<i>Historical and political dimension of discourses</i>	20
3.2	CRITICAL DISCOURSE ANALYSIS	20
3.2.1	<i>Siegfried Jäger’s approach to critical discourse analysis</i>	21
3.2.1.1	Elements of discourses.....	22
3.2.1.2	Jäger’s methodological approach.....	24
3.3	LOCALIZATION OF MY SPECIFIC INVESTIGATION	25
4	DEVELOPMENT STUDIES AND THE ENVIRONMENT - WHAT ARE WE TALKING ABOUT?	27
4.1	DEVELOPMENT STUDIES.....	27
4.2	ENVIRONMENT	30
5	HAPPY TOGETHER – SOCIAL SCIENCES AND THE ENVIRONMENT	34
5.1	THE SOCIAL VERSUS THE NATURAL.....	34
5.2	CONSTRUCTED NATURE.....	35
5.3	INTERACTIONS BETWEEN THE SOCIAL AND THE NATURAL	37
5.4	POLITICAL ECOLOGY	41

6	ENVIRONMENTAL DISCOURSES IN DEVELOPMENT STUDIES -	
	THE ANALYSIS	45
6.1	GETTING MY RESULTS	46
6.2	DESCRIBING THE ANALYSIS IN JÄGER'S TERMS	49
7	INTERPRETATION OF THE ANALYSIS RESULTS	50
7.1	NATURAL RESOURCE MANAGEMENT AND CONSERVATION.....	50
7.1.1	<i>Land and livestock</i>	50
7.1.1.1	Common property management.....	50
7.1.1.2	Conservation	53
7.1.1.3	A selected theme: forest management and conservation	55
7.1.1.4	Droughts and desertification	57
7.1.1.5	Modern technology and traditional wisdom	59
7.1.2	<i>Water</i>	61
7.1.3	<i>Marine resources</i>	62
7.2	ENERGY	64
7.3	URBANIZATION AND THE ENVIRONMENT	68
7.3.1	<i>Urban-rural divide and urban bias</i>	69
7.3.2	<i>Urban pollution, waste management</i>	70
7.3.3	<i>Urban environmental thinking and activism</i>	71
7.4	WOMEN, GENDER AND ENVIRONMENT	72
7.4.1	<i>Eco-feminism</i>	73
7.4.2	<i>Women or gender analysis in development</i>	74
7.5	SUSTAINABLE DEVELOPMENT.....	77
7.6	FROM POLITICAL ECONOMY TO POLITICAL ECOLOGY.....	85
7.6.1	<i>Political ecology – analysing socio-natural relations from a political perspective ..</i>	87
7.6.1.1	Conservation	88
7.6.1.2	Toxic waste trade	89
7.6.1.3	Other conflicts.....	90
7.6.1.4	Environmental narratives and biases.....	91
7.6.1.5	Resistance and environmentalism of the poor	91
8	CONCLUSION	94
8.1	POLITICAL ECOLOGY – AN OUTLOOK FOR THE FUTURE	96

9	APPENDIX.....	98
9.1	LITERATURE.....	98
9.1.1	<i>Internet</i>	104
9.1.2	<i>Journals</i>	104
9.2	APPENDIX 1 - ENGLISH SUMMARY	114
9.3	APPENDIX 2 - GERMAN SUMMARY	115
9.4	APPENDIX 3 – CURRICULUM VITAE	116

1 PREFACE

In the preface of my thesis the following components of my work will find consideration: the acknowledgement, my personal motivation for writing this work, a general critique on science, and a reflection about my working process during the last seven months.

1.1 ACKNOWLEDGEMENT

During the process of writing my thesis I received a lot of help from various people. Words cannot explain how much I appreciate every single person that supported me on my way. Some of them shall be mentioned here.

First of all I want to thank my parents for their great and ongoing support. Thanks for your unconditional love, for all your support throughout the years, and for encouraging me to go my own way. You are my roots.

Special thanks also goes to Martin, my boyfriend. He was the one who experienced most of my working process. Most of the work was written on his computer and he actively helped me with the content and structure of my thesis whenever possible. Most of all he encouraged me to continue with and to believe in what I was doing whenever I felt like breaking down. Thanks for your manifold support and patience, for your love and attitude towards life, as well as for taking me the way I am.

Moreover I want to thank my friend Sarah. She did not only support me while writing my thesis but truly enriched my life since we first met in one of the lectures of our first year at university. Thanks for being there throughout all that time. I am grateful for all the experiences we went through.

Thinking of the saying 'It is your friends who make your world' I can only consider myself as a very lucky person.

My friend Mike supported me with his English native skills. Thanks to him several mistakes could be avoided in the final version of this work. I really appreciate your help.

Last but not least I want to thank my tutor, Dr. Simron Jit Singh, who supported me with his professional input, general advice and motivating words during the whole working process.

1.2 MOTIVATION

It was the interdisciplinarity of development studies that attracted me when I first started to study 'International Development' at the University of Vienna.

During this time we received various inputs from different social sciences such as sociology, politics, anthropology, geography, or economy. Livelihood issues are a common matter of concern in development (studies). Strangely though discussions about these issues seem(ed) to be determined by social facts. The natural environment on which all livelihoods depend is treated very marginally. So for me the question arose how one can study developmental issues without considering nature/ the environment?

It would be unfair to say that we did not get any input on environmental issues. Today the environment is a topic that has to be covered in one way or another by development courses. Nevertheless, the main focus always lay on environmental policy, mainly the UN conferences about development and environment (e.g. 1972 in Stockholm or 1992 in Rio de Janeiro) and the ambiguous term of 'sustainable development'.

To escape this marginal approach and to satisfy my thirst for knowledge about socio-natural relations I started to take courses at the University of Natural Resources and Applied Life Sciences in Vienna as well as at the Institute of Social Ecology in Vienna which belongs to the University of Klagenfurt, Carinthia.

What I realized while digging deeper into interdisciplinarity (not just between different social sciences but between social and natural sciences) was a lack of communication and teamwork between natural and social scientists in general. Many themes were treated separately, presumably because of the difficulty in overcoming the divide that has been established between the two of them.

When searching for an adequate topic for my thesis it was clear to me that I wanted to address socio-natural relations in the field of development. A lot of work had already been carried out on the harmful impacts of development practice. What was missing in the literature that I read was a description of how environmental issues were treated within the *academic* field of development studies.

In identifying environmental discourses in development studies throughout four decades my thesis is a pioneer work and at the same time a contribution to the works of those scholars who focused their research on environmental discourses in social sciences as well as on socio-natural relations in

general. Different scholars paved the way for overcoming the great divide that prevailed so long between natural and social sciences. They all shaped my educational background and my persistent interest in socio-natural processes. I am thankful to them for all the multi-faceted inputs and feel honoured to contribute to the interdisciplinarity of this field.

1.3 A GENERAL CRITIQUE ON SCIENCE

*“[W]e should be on our guard not to overestimate science and scientific methods when it is a question of human problems, and we should not assume that experts are the only ones who have a right to express themselves on questions affecting the organization of society”
(Einstein, cited in Redclift 1987: 203).*

Reflecting upon scientific claims and assumptions as well as upon the scientific production of knowledge is, in my opinion, essential when it comes to writing a scientific work, e.g. a master thesis.

Scientific knowledge had long enjoyed the status of being objective. Although this status had been challenged by a variety of criticism (e.g. from post-modern, post-structuralist, or feminist sides) scientifically produced knowledge sometimes still claims to be part of a universal truth. The trust in science often obscures the power relations that are inherent in its production of knowledge.

Since the age of enlightenment, accelerated technical progress and modernization science has had a great influence on society in general. “Not only has it [science] determined technical processes, economic systems and social structures, it has also shaped our everyday experience of the world, our conscious thoughts and even our unconscious feelings” (Nowotny et al. 2001: 1). Insofar as it shapes our daily lives as well as global policies science is highly political and always influenced by certain interests.

The impact of scientific knowledge in the field of development as well as in environmental issues has a strong managerial aspect. During colonial times for instance it was scientific suggestions that set the rules for the management of natural resources, such as land, in the colonized countries. Local knowledge and practices were rather seen as backward and in need of modernization.

In the 1980s it was mostly social scientists who started to deconstruct certain narratives/ biases that were inherent within their disciplines or the broader field of development. Fairhead and Leach (1996) for example published a book with the title “Misreading the African landscape” and in it critically analysed and deconstructed narratives about deforestation in Africa throughout history.

However, up until now scientific knowledge has rules within the area of natural resource management and conservation. Being confronted with a global and environmental crisis (it is also the work of scientists to measure the severity of the perceived problems) the concept of 'sustainable development' is heard and read everywhere and scientists give information about how to manage the earth. A statement from the book 'Science and sustainability' published by IIASA (International Institute for Applied Systems Analysis) in 1992 illustrates this view very well by saying that “[s]cientific knowledge could and should be applied to support the goals of sustainable development through scientific assessment of current conditions and future possibilities. Science should be seen as an essential component in the search for viable, sustainable development pathways” (Obasi 1992: 20).

With this introductory critique on science I do not attempt to question science as such. Rather, my intention is to put an emphasis on the need for a critical science that reflects upon its own biases, historical context and interests. A science that is open for critique and aware of the fact that the production of knowledge is always connected to power. Every scientist is embedded in their own context, carries their own worldviews and biases, and is driven by their own interests. The very same goes for myself. Even if one works in a way that is considered to be scientifically correct this does not mean (and never will) that the findings and working process are objective or unbiased.

Scientific methods are tools that are necessary to analyse, prove, or illustrate certain points and to arrive at general assumptions. However, they can never grasp the whole complexity of a given situation and are reliant on simplifications. One single method cannot do justice to every single case study. Taking the specific context into account one can either apply a given method, use only parts of it and modify others or show the courage of doing it one's own way. There is no single best way to do something. Any possibility can be justified by arguing and explaining exactly why it was chosen.

1.4 SELF-REFLECTION

Following the saying 'Hindsight is easier than foresight' I shall reflect about the seven months working process of writing my thesis before going on to the introduction of this work.

Concerning the empirical analysis I came to the conclusion that I used a far too great amount of material. A qualitative discourse analysis does not demand such a great number of articles. As Jäger

says, the relevant material has to cover the entire qualitative spectrum in which a certain theme is dealt with (Jäger 2001b: 192, A.K.). To get my results it would have been enough to analyse 'only' one journal from the 1970s until now.

Moreover, instead of doing everything by hand it would have been helpful to use a software programme which assists the process of collecting, organizing, and evaluating the material when doing a qualitative research. Next time I will be better prepared. For now I am just thankful that the people I lived with while writing my thesis had enough patience to deal with the ever increasing amount of paper that filled up our living room.

Last but not least I realized once more the importance of knowing what one wants. As soon as you know what your focus is and which concrete question you try to answer you are already on good track.

Taken all together I am glad that I had the chance to dig deeper into such an interesting topic. The lessons learned and the experiences made were definitely worth it.

2 INTRODUCTION

This study is an attempt to explore the extent to which the academic field of development studies has incorporated environmental issues and concerns into their work from the 1970s until the year 2008.

The academic field of development studies emerged in Europe from 1960 onwards (Harriss 2005: 17) “in the context of independence from colonial rule in most of Asia and Africa and the associated aspirations to 'national' development (shared with Latin America)” (Bernstein 2007: 15). Nowadays development is often associated with the idea of modern progress and economic growth. The initial concern of development studies was (and actually still is) constituted by the 'others' that are not yet part of modern progress, mainly subsistence economies and rural societies in the poorer (at least in monetary terms) so-called developing countries of the world. Bernstein (2007) argues that the main interest of development studies concerns “everything that can affect the livelihoods and prospects of poorer people in poorer countries” (Bernstein 2007: 17).

The Millennium Development Goals, which were the result of the UN Millennium Summit in 2000, consist of eight targets that are to be met until 2015 to ensure a better livelihood for poor people in developing countries. The target of goal number seven is to ensure environmental sustainability. This shows that the international community recognizes the environment as being an essential part of development.

In this work I argue that there is a reason for development studies (that emerged out of different theories and traditions of the social sciences) to be concerned with the theme of environment/nature. This can easily be explained when looking at one of the main issues of interest of development studies: the livelihoods of poor people. As already mentioned above the target group of development studies are subsistence economies and rural societies in developing nations. Subsistence economies depend on natural resources for their survival and livelihood (e.g. for food, medicine, fire wood).

Considering this connection between natural resources and livelihood it can be supposed that the health of peoples livelihood (e.g. of subsistence economies) is based on the health of the natural resources surrounding them. In general natural resources can be seen as the basis of any society (not just but of course also subsistence economies).

Catton and Dunlap (1980) argue that “[h]uman affairs are influenced not only by social and cultural factors, but also by intricate linkages of cause, effect, and feedback in the web of nature.” They conclude that “[w]hile humans have exceptional characteristics (culture, technology, etc.), they

remain one among many species that are interdependently involved in the global ecosystem” (Catton and Dunlap, cited in Buttel and Humphrey 2002: 50f). In this context Van der Leeuw and Aschan-Leygonie (2005) state that “[h]umans are inter-active with the environment” (ibids., page 230). Every society, independent of its geographical location and level of development (however the latter might be explained), is dependent on natural resources such as energy, wood, air, or plants.

This relation between livelihood and nature/ the environment is marked by two main problems. One problem concerns the scarcity of natural resources. In this context Catton and Dunlap (1980) state that “[h]umans live in and are dependent upon a finite biophysical environment which imposes potent physical and biological restraints on human affairs” (Catton and Dunlap, cited in Buttel and Humphrey 2002: 50 f). One of the targets of the Millennium Development Goal number seven, environmental sustainability, is to “reverse loss of environmental resources” (UNDP 2006).

The other problem concerns environmental destruction due to waste and pollution.

These two problematic issues are also reflected in the distinction between a 'green' and a 'brown' environmental agenda. According to the 'Encyclopaedia of international development' the “so-called 'green' agenda considers themes such as deforestation, biodiversity and wildlife conservation” whereas the “brown environmental agenda looks at largely urban and industrial problems such as pollution and sanitation” (Forsyth 2004: 204). The 'green' agenda can be seen as a response to the problems of resource scarcity whereas the 'brown' agenda addresses issues of pollution.

The notion of crisis always shows the link between the natural and the social (or nature and livelihood). In the context of the environmental and energy crises of the 1970s the topic of environment was taken more seriously by social scientists. Different sub-disciplines started to emerge - e.g. environmental sociology, green or environmental political theory, human ecology, environmental anthropology and political ecology - that all tried to distance themselves from social determinism and to find ways of approaching socio-natural relations.

I talk about 'socio-natural relations' following Van der Leeuw and Aschan-Leygonie (2005). According to them it “becomes possible to talk about 'socio-natural relations' and 'socio-natural problems', rather than about the relationship between social and natural systems” (ibids., page 230). In this sense we can also talk about a 'socio-natural system' rather than referring to a mere social or natural part of the world.

According to the results of the discourse analysis which I applied in the course of this work, scholars of development studies have also recognized the need for approaching the theme of environment. The following environmental issues have been addressed by scholars working in the field of development: natural resource management of land, livestock, water, marine and genetic resources, conflict over access to natural resources, intermediate technology and biotechnology, environmental impacts of the green revolution, sustainable development, waste and pollution, energy, soil erosion and desertification, deforestation, indigenous ecology, eco-feminism, political ecology, environmental biases, climate change, environmental migration, environmental policies and institutions, environmental crisis and urban ecology.

My main interest in this work concerns the role of nature/ environment within development studies. As already mentioned above scholars of development studies have approached environmental issues in a variety of ways. What seemed missing though was a systematic approach to address the environment or socio-natural relations. Thus, my main research question arose out of an interest to look closer at

how development studies have tried to incorporate the field of nature/ environment within their work until now?

The application of a discourse analysis helped me to identify the main environmental issues of concern in development studies and to embed them into their historical context. Six identified themes constitute the heart of my analysis, namely natural resource management and conservation; energy; urbanization and the environment; women, gender and the environment; sustainable development; as well as political economy and political ecology.

In short, this work has two main targets. Firstly, to give an overview of environmental discourses in development studies from the 1970s until 2008. Secondly, to provide a future outlook that offers a systematic way of dealing with socio-natural relations in the context of development.

Last but not least I shall refer to the outline of my work. After presenting the method that I applied, namely Siegfried Jäger's critical discourse analysis, chapter four focuses on the definition of the terms 'development studies' and 'environment'. A general overview of how social sciences approached the topic of environment is provided in chapter five. As development studies are strongly based and influenced by social sciences this overview gives vital insights into the ways in

which the topic of environment was treated within the field.

I then move on to the main part of this work, the empirical analysis of three well-known development journals. A presentation of the relevant material and an overview of the main results (the structure analysis) are presented in chapter six. Chapter seven is concerned with the interpretation (fine analysis) of my results which are classified into six main categories.

Finally, chapter eight focuses on the conclusion and gives a possible future outlook.

3 METHOD

*“Though this be madness, yet there is method in ’t.”
(Shakespeare: The Tragedy of Hamlet,
Act II, Scene II, Polonius)*

This chapter aims at introducing the epistemological approach of my work as well as the applied method, with a focus on Siegfried Jäger's critical discourse analysis. Before introducing Jäger's approach a short introduction to the development of the term ‘discourse’ and some aspects of Foucault's work as well as its influences for critical discourse analysis (CDA) shall be given.

My thesis deals with the question of how the academic field of development studies has tried to incorporate ‘the environment’ within their own work up until now. For me it is important to know which environmental issues the academic society has focused on. What themes have been published within academic journals of development studies since the 1970s? In this regard I'm also interested in the historical contextualisation of these issues. When did academic scholars talk/ write about which themes and why? Which discourses can be identified?

A discourse analysis constitutes the core of my work. Discourse analysis has been applied in various scientific disciplines since the middle of the 1960s (Rosenthal and Völter 2005: 215; Keller et al. 2001: 8). In this context we cannot talk about a single methodological concept but a very broad field of different approaches, including quantitative and qualitative methods (Rosenthal and Völter 2005: 215; Keller 2005: 95). Which concept or method one uses greatly depends on the specific context of the research that is to be carried out.

3.1 DISCOURSE – DIFFERENT TRADITIONS AND MEANINGS

The term discourse has its origins in the old-Latin words ‘discurrere’/‘discursus’ which actually mean “to mill around”¹ (Keller 2005: 97; A.K.) or “to meander”² (ibid.; A.K.) and which initially referred to spoken language and conversation (ibid.).

Today there is no common understanding of the term discourse. It was interpreted in different ways, embedded into different traditions, and put into different contexts.

¹ Original citation: “Hin- und Herlaufen” (Keller 2005: 97)

² Original citation: “orientierungsloses Umherirren” (Keller 2005: 97)

As regards content Keller et al. (2001) distinguish between four different strands within the field of discourses. The first one, *discourse analysis*, refers to the linguistic analysis of spoken communication and was first developed in the Anglo-Saxon area. The second one is based on Jürgen Habermas' *discourse ethics*. *Discourse theory* constitutes the third strand and was developed in France in the 1960s. Foucault and his influential work can also be located within this strand. Finally, the authors mention the fourth and quite young strand of *culturalistic discourse analysis* (ibids., page 10 ff; A.K.).

Reducing it to a common denominator a discourse analytical approach asks in which way people talk or write about a certain topic (Ziai 2006: 9, A.K.). Throughout my work I use Jäger's definition of discourses. He describes them “as the flow of knowledge – and/ or all societal knowledge stored – throughout all time” (Jäger 2001a: 34).

Siegfried Jäger's critical discourse analysis, the methodological basis for my own work, is influenced a lot by the third strand (as mentioned above), namely Foucault's discourse theory. To get more information about the other strands mentioned above I refer the reader to Keller et al. (2001). Another very good overview about the development of the term ‘discourse’ in different linguistic areas and through history can be found in Keller (2005).

When engaging with topics such as 'discourses', 'power', or 'knowledge' one cannot overlook the work of Foucault. He did not develop a linear methodological approach – one of the reasons for being criticised – but first and foremost greatly influenced the social scientists' way of thinking. Staying within the relevant scope of my work I will now refer to some important aspects of Foucaultian discourse theory that are also essential in Jäger's critical discourse analysis and that are relevant for the context of my work.

3.1.1 Power

Power is an essential aspect of Foucault's work, received a lot of attention by post-modern scientists, and needs to be considered when talking about discourses. In the worldview of Foucault social relations and structures without hierarchies do not exist. Power is omnipresent, at all times and all places. It could be described as a dynamic net of complex power relations which embraces every person, its actions, and society as a whole. “[P]ower is not an institution, and not a structure; neither is it a certain strength we are endowed with; it is the name that one attributes to a complex strategical situation in a particular society” (Foucault 1980: 93).

According to Foucault it cannot be owned by anyone and goes far beyond a simple image of someone exercising power over another person. “Power is not something that is acquired, seized, or shared, something that one holds on to or allows to slip away; power is exercised from innumerable points, in the interplay of nonegalitarian and mobile relations“ (ibid., page 94).

In a Foucaultian understanding power does not only exist in a repressive form, e.g. through violence, productive forces are also inherent in it. This productive force of power, e.g. in combination with knowledge, leads us to the next point.

3.1.2 Power, knowledge and truth

Why is certain knowledge accepted as being true? It is generally argued that power and knowledge are always connected with each other. It is power that “produces reality, it produces domains of objects and rituals of truth” (Foucault, cited in Parfitt 2002: 49). Jäger (2001b) describes discourses in the name of Foucault as instruments that produce or construct social reality and knowledge (ibid., page 216; A.K.), insofar as discourses have the power to present certain knowledge as *true* or *normal* and to legitimize certain actions.

Concerning the production of knowledge Foucault (1981) does not differentiate between what is said or written (initially referred to as discourse), and what is done. For him “speaking means to do something“ (ibid., page 298, A.K.³).

Discourses are formed by what we think, say and do. At the same time discourses shape our reality, they shape the way in which we think, speak and act. Discourses therefore are “to be treated as practices which systematically form the objects of which they speak” (Foucault, cited in Jäger 2001a: 43). Jäger (2001a), in Foucaultian tradition, refers to them as “material realities” (ibid., page 36). Our perception of 'the' truth is often connected to “collective symbols” (ibid., page 35). These could be seen as certain images that help us to construct our worldview. If the media only distributes certain images of the so-called 'Third World' many people will end up using these pictures and ideas for constructing their reality when hearing or reading anything about a 'developing' country.

By legitimizing certain knowledge discourses give meaning to our world. Discourses have the power to 'normalize' certain knowledge, certain facts then seem to be 'true' (Darier 1999). Wodak (2001) explains this more thoroughly by saying that “the effects of power and ideology in the production of meaning are obscured and acquire stable and natural forms: they are taken as ‘given’” (ibid., page 3).

³ Original citation: “[...] das Sprechen etwas tun heißt [...]” (Foucault 1981: 298).

In this context Rosenthal (2005) explains that discourses have the function of both including and excluding certain individuals, groups, values, and knowledge (ibid., page 217).

3.1.3 Historical and political dimension of discourses

Historical contextualization as part of his analysis was vital to Foucault. For him it was important to discover the roots of what was said or not said, of what was perceived as normal, true, or crazy. Although each single subject contributes to the making and forming of a discourse it is the entire societal context - the whole discourse - which is of main interest. "One has to liberate oneself from the constituting subject, from the subject itself, i.e. to arrive at an historical analysis which is capable of clarifying the constitution of the subject in the historical context" (Foucault, cited in Jäger 2001a: 37). Darier (1999) calls Foucault a "contextualist" (ibid., page 12).

Most of the early work of Foucault dealt with the demystification of scientific discourses (Jäger 2001b: 222; Darier 1999: 10). "The main point that Foucault tried to make throughout this period was that knowledge is relative to the historical context from which it emerges" (Darier 1999: 10). The fact that he addressed the production of scientific discourses makes his theory very relevant for my work.

As discourses influence the way in which people or governments act they also have a highly political dimension. The fact that the environmental crisis is perceived as a managerial problem has great impact on environmental and development policies. The neoliberal discourse in development for example resulted in a number of policies associated with neoliberal ideas, e. g. privatization.

Having explained some discourse theory on which my method is based on I shall now explore critical discourse analysis in general and Jäger's approach to it more thoroughly.

3.2 CRITICAL DISCOURSE ANALYSIS

The theoretical background of critical discourse analysis (CDA) is a very broad one, "ranging from microsociological perspectives (Ron Scollon) to theories on society and power in Michel Foucault's tradition (Siegfried Jäger, Norman Fairclough, Ruth Wodak), theories of social cognition (Teun van Dijk) and grammar, as well as individual concepts that are borrowed from larger theoretical traditions" (Meyer 2001: 17f).

However, it is critical linguistics that can be seen as a precursor for CDA. Having its origins in the

1970s critical linguistics can be understood as “a form of discourse and text analysis that recognized the role of language in structuring power relations in society” (Wodak 2001: 5). Arising from this approach CDA became widely used and developed within the 1990s (ibid.). For more detailed information about the history of CDA I refer the reader to Wodak (2001).

Van Dijk (2001) describes the ‘critical’ aspect of CDA as the “perspective on doing scholarship: it is, so to speak, discourse analysis ‘with an attitude’” (ibid., page 96). When applying CDA one always has to keep track of social power relations. In this context both Wodak (2001: 9) and Van Dijk (2001: 96) emphasize the political in CDA. It goes beyond a mere scientific interest and also wants to be the basis for emancipatory and political action.

An important claim of CDA is interdisciplinary work which is needed in order to better and more fully understand its complex fields of inquiry (Wodak 2001: 11).

The different strands of CDA have at least two aspects in common: the historical contextualisation of spoken and written language or certain events as well as the aim to make power structures within societies and discourses more transparent. As with Foucault's theory CDA considers language as “social practice” (e.g. in Janks 2002: 26). Of main interest are not the texts themselves but also, as mentioned above, their socio-historical contextualization of those (Wodak 2001: 2f).

Wodak et al. (1999) state that “[t]he aim of Critical Discourse Analysis is to unmask ideologically permeated and often obscured structures of power, political control, and dominance, as well as strategies of discriminatory inclusion and exclusion in language use” (ibids., page 8).

3.2.1 Siegfried Jäger's approach to critical discourse analysis

Jäger and his colleagues have been developing this approach at the ‘Institute for Linguistic and Social Research at Duisburg’ (Duisburger Institut für Sprach- und Sozialforschung) since the middle of the 1980s (Jäger and Jäger 2007: 15).

It has its theoretical foundation in the work of Foucault. Furthermore it is influenced by the German literary scholar Jürgen Link as well as by the Russian psychologist Alexej Nikolajewitsch Leontjew and his Marxist-psychological action theory. Linguistic and cultural theory are both adopted by Jäger. Therefore this approach can be seen as an attempt to bridge the gap between different disciplines and traditions dealing with discourses (Jäger 2001b).

Today many scholars try to bring the different discourse strands closer together. The establishment of an interdisciplinary field named ‘discourse studies’ is one example (Keller et al. 2001: 13).

As already mentioned above Jäger (2001a) describes discourses as “the flow of knowledge – and/ or all societal knowledge stored – throughout all time” (ibid., page 34).

Related to Foucault, he considers knowledge and power as constantly being closely interrelated. “As ‘agents’ of ‘knowledge (valid at a certain place at a certain time)’ discourses exercise power. They are themselves a power factor by being apt to induce behaviour and (other) discourses. Thus, they contribute to the structuring of the power relations in a society” (Jäger 2001a: 37). According to Jäger (2001a) discourse analysis “aims to identify the knowledge [...] of discourses [...], to explore the respective concrete context of knowledge/ power and to subject it to critique” (ibid., page 33).

Historical contextualization is necessary in order to understand the different realities produced by discourses as well as their inherent power relations. As stated above Jäger also views discourses as “material realities” that shape society and that “[feed] on’ past and (other) current discourses” (ibid., page 36). It is always important to ask why certain knowledge is perceived and accepted as being true and why it becomes the normal standard.

Jäger (2001a) emphasizes the role of the researcher who cannot objectively analyse a certain discourse. His/ her subjective position, viewpoints, and context will always influence the analysis (ibid., page 34; see also Jäger and Jäger 2007: 15).

I will now introduce the reader to the terms used by Jäger when talking about the structure of discourses. I will also use them throughout my work.

3.2.1.1 Elements of discourses

Before examining the elements of discourses I want to bring up the term *dispositive* which Foucault had already used and which Jäger amplified and worked on more thoroughly. In general it can be understood as “[t]he interplay of discursive practices (= speaking and thinking on the basis of knowledge), non-discursive practices (= acting on the basis of knowledge) and ‘manifestations’ and/ or ‘materializations’ of knowledge (by acting/ doing)” (Jäger 2001a: 33) or in other words a heterogeneous net of discourses, their institutions, and everything that belongs to and influences them. As the dispositive analysis reaches beyond the scale of my work I won’t explain it here in more detail but refer the interested reader to Jäger (ibid., page 38-46; 56-61).

Texts are often the basis of a discourse analysis. As the result of human action they always carry certain knowledge and motives. Although they might be produced by certain individuals they have

to be seen as fragments of a whole discourse and put into their socio-historical context. It is the accepted and dominant knowledge of a given society at a certain time which is of interest, not the individual text. Only when taking the respective context into account can we move from classical text to discourse analysis (Jäger 2001b: 117ff).

All of the following explanations in this sub-chapter can be found in Jäger (2001a: 47ff).

Jäger distinguishes between '*special discourses*' referring to scientific ones and '*inter discourses*' meaning any discourse but scientific ones. However, they are both related and connected to each other.

A '*discourse fragment*' can either be a text or just a part of a text dealing with a certain topic (e.g. the environment in a broad sense).

A '*discourse strand*' consists of several discourse fragments focusing on the same topic. They are the 'flows of knowledge through time'. Jäger distinguishes between a 'synchronical dimension' that shows what is or can be said at a certain point of time and a 'diachronic dimension' that refers to flows of knowledge dealing with the same theme throughout time. Different discourse strands are entangled within each other, mutually influencing their carried arguments. This '*entanglement of discourse strands*' also has to be considered within a discourse analysis.

'*Discursive events*' are events that find a lot of attention politically, e.g. through the media, and that influence the discourse strand(s) they pertain to in one way or another.

Historical contextualization of the various strands and events mentioned above are of vital importance for discourse analysis. Jäger refers to this as '*discursive context*'.

Discourse strands are expressed on different '*discourse planes*' (e.g. science, politics, media, education ...). "Such discourse planes could also be called the societal locations from which 'speaking' happens" (Jäger 2001a: 49). Consideration has to be paid to the interaction between them, e.g. when certain scientific knowledge is transported through daily media.

The question of which ideological point of view a certain event or topic is seen refers to the '*discourse position*' of subjects, the media, or even whole discourse strands.

An '*overall societal discourse*' consists of various entanglements of discourse strands, fragments etc. and reflects the heterogeneity of societies.

3.2.1.2 Jäger's methodological approach

Both Foucault and Jäger see their methodological approach as a toolbox. Which tools one uses in the end always depends on the specific context and theme of the analysis. Jäger does not claim to have developed the only way of doing discourse analysis but offers some useful proposals and shares his hitherto gained experiences (Jäger 2001b: 121).

In the beginning of every discourse analysis one has to “locate precisely his/her investigation (the object to be investigated)” (Jäger 2001a: 52) and justify the chosen method (ibid.). The next step is the collection of the necessary material (discourse fragments) for the planned investigation. Here Jäger (2001b: 198) distinguishes between the ‘corpus’ and the ‘dossier’. For any given research question it is first necessary to collect and archive all the relevant material. The entire collected material is called corpus and is subjected to a rough structure analysis in the first step. To get a good overview the texts are divided into main topics and sub-topics. In this way qualitative and quantitative (e.g. the frequency of certain arguments) aspects are covered whereupon the qualitative part always forms the focus in CDA (Jäger 2001a: 52). “Processing the material is both at the base and at the heart of the subsequent discourse analysis” (ibid., page 54).

As it is not possible to cover all corpus texts in the subsequent and more detailed fine analysis it is important to select only the relevant ones for it. ‘Dossier’ is the term that Jäger uses for this selection that is to be analysed more thoroughly. The important thing is that the dossier contains all of the appearing main and sub-topics or in other words that it covers the entire qualitative spectrum in which a certain theme is dealt with (Jäger 2001b: 192).

Below (see next page) I will outline the main steps for the more detailed fine analysis as proposed by Jäger (2001a: 55f). Not all of his suggestions are relevant for my work. Therefore I will only point out those aspects that serve the purpose of my work.

The original version can be found in Jäger (ibid.).

- *Institutional framework: 'context'* (justifying selected articles, information about authors and journals, cause of the articles).
- *Text 'surface'* (identification and structuring of discourse fragments).
- *Rhetorical means* (argumentation strategies, insinuations, symbolism and metaphorism, idioms and sayings, references of scientific articles).
- *Ideological statements based on contents* (e.g. what kind of understanding of environment or development underlies an article?).
- *Summary* (the major statement of the articles, their localization in the discourse strands) and *concluding interpretation of the entire discourse strand investigated with reference to the processed material used*.

As soon as no new arguments arise within the analysis it doesn't make sense to include even more material. One can then consider it as complete as it already “deals with the respective fields of what can be said” (Jäger 2001a: 51).

3.3 LOCALIZATION OF MY SPECIFIC INVESTIGATION

As Jäger suggests the localization of my investigation is my first step and the heart of this sub-chapter.

My main research question asks how Development Studies has tried to incorporate the field of environment within their work up until now. Although a lot of literature about environmental deterioration due to destructive development practices can be found only a few scholars have been investigating the role of environment within the academic field of development studies.

I am interested in the knowledge which is produced in what Jäger calls 'special discourses' (see above), meaning scientific discourses. The discourse analysis that I will carry out focuses on one discourse plane, namely the academic field of development studies. The focus here lies on knowledge production in science. What kind of knowledge about the environment is (re)produced within development studies and why? What are the roots of certain knowledge/ discourses?

In this context Foucault's theory and his understanding of the relation between power and knowledge are vital for my work.

This already leads me to my next point namely to the question of why I chose Jäger's approach.

Firstly, because of its tight connection to Foucaultian theory that offers a lot about the scientific production of knowledge. Like Darier (1999) , I think that it makes sense “to follow Foucault's path

and highlight some of the historical contingencies in the construction of knowledge about the ‘environment’ [in my case within development studies], including the justifications for what some might call ‘environmental pollution’ and others a minor price to be paid for ‘progress’” (ibid., page 12).

Moreover CDA grew out of critical theory which in my opinion is a useful background when writing about a scientific discipline. Science in general often enjoys the reputation of producing ‘the’ truth. Here a critical view on seemingly given knowledge and a good portion of self-reflection are required.

Jäger applies linguistic analysis but at the same time places emphasis on the topic of power and the necessity for historical contextualization. Applying a discourse analysis as described above promises to demonstrate how the theme of environment got incorporated into the academic work of development studies.

Last but not least it makes sense to apply Jäger’s approach because of his precisely defined method or “toolbox” as he would put it which allows a practical and specific application but at the same time leaves enough space for own interpretations and modifications.

4 DEVELOPMENT STUDIES AND THE ENVIRONMENT - WHAT ARE WE TALKING ABOUT?

*“No knowledge has fallen out of the sky with a label
attached pronouncing 'absolute truth'”
(Dickens 1996: 71).*

This chapter focuses on the definition of the main terms on which my work is based on: 'development studies' and 'environment'.

4.1 DEVELOPMENT STUDIES

To avoid confusion I distinguish between the academic field of Development Studies that emerged in Europe from 1960 (Harriss 2005: 17) onwards and on the other hand the development industry, today mainly characterized by the work of the World Bank and the United Nations. Needless to say that both of them stand in interaction, constantly influencing each other. My main focus of this work is constituted by the former though, namely the *academic* field of development studies.

There is no unique or universal explanation to describe this field and there is much debate about the whether it can be identified as a single academic discipline. However, there is a consensus on the fact that from its beginning development studies was strongly based on and influenced by social sciences. It borrowed many theories from already established social disciplines, such as sociology, anthropology, geography, politics, economics or history. Schuurman (2001: 3) notes “it is important to realize that the roots of social sciences, and as such also of the more recent discipline of development studies, are embedded in the 19th century” (ibid.).

Development – the idea, the concept(s), and the practice - has to be seen in its “historical contextualization” (Kothari 2005: 1). Throughout history different meaning was given to the term development. Nowadays it is mostly associated with the idea of modern progress. In their article Cohen and Shenton (1995) trace development back to its roots and make clear that “development is a state practice rooted in the nineteenth century [... which] emerged to ameliorate the perceived chaos caused by progress” (ibids., page 29). So it was initially progress itself that caused problems which development was supposed to get under control.

“Development Studies, as we know it, was established in the context of independence from colonial

rule in most of Asia and Africa and the associated aspirations to 'national' development (shared with Latin America)" (Bernstein 2007: 15).

What are the issues development studies are concerned with?

Harriss (2005) argues that development studies is a "cross-disciplinary field of enquiry, concerned with analysing and understanding processes of social change" (ibid., page 17) whereby he defines these processes as the "society in all its economic, political and cultural complexity" (ibid.). Bernstein (2007) states that development studies are concerned with "everything that can affect the livelihoods and prospects of poorer people in poorer countries" (ibid., page 13).

With respect to content development studies were shaped by a variety of intellectual strands: for instance Keynesian influences, Marxist ideas, world system and dependence theories, modernization models, and "traditions of anthropology and other colonial science, like that of the dynamics and management of tropical environments" (ibid., page 16). With the process of globalization the scale of development studies interests correspondingly widened (see also Crush 1995: 6). The concept of modernization is vital in development studies (see for example Kothari 2007: 35). Initially it was modernization theory, e.g. models such as 'Rostow's stages of growth', that had a lot of influence on development practice and thinking. The 'others' (that differed from the Western industrial model of growth as well as from Western based ideas about modernization and progress) had to change in order to modernize. Later these ideas were criticized by for instance post-development, post-modern and feminist scholars. Schuurman (2001) notes that "[i]n the course of the 19th century the social sciences developed further by studying, and sometimes also condemning, the effects of modernization (urbanization, the acceleration of industrialization, and increasing individualization)" (ibid., page 3).

Another paradigm in development studies is the dominant and influential field of economics, since the 80s particularly neo-classical economics (Bernstein 2007: 15, 21). Fischer and Hödl (2007) refer to this process as "the 'economics imperialism' within the social sciences" (ibids., page 8).

Development as such is based on a "moral purpose" (Bernstein 2007: 18f). Kothari (2007) points to the "[d]ichotomy between a colonialism that is 'bad', exploitative and oppressive and a development that is 'good', moralistic and humanitarian" (ibid., page 35). The problem of the perception that development cannot be anything else than something good is that it obscures power relations and unequal practices that are inherent in the study and especially the practice of development (Kotahri 2007: 28). But a critical reflection of development studies as well as of the

power relations being inherent in it is vital as it “makes particularly strong claims to produce applicable knowledge geared towards specific aims which can, and in the view of many scholars should, be promoted by political and economic actors” (Fischer and Hödl 2007: 7).

As scholarship and practice are so much interwoven in the field of development it actually is a highly political one. Nevertheless, it undergoes a steady depolitization (Kothari 2007: 40).

The post-modern and post-development critique (important exponents of the latter are Arturo Escobar, Gustavo Esteva, Wolfgang Sachs and others) which developed from the 80s onwards and other critical strands in scholarship such as feminism led to a rethinking in development studies. The academic and the practical field of development had to react to this critique. This was partly reflected by the emergence of new fields of interest on the development agenda, addressing cultural and later environmental factors. Examples are community driven development, self-determinism and participation as well as gender and environmental sustainability.

Although it was important to shift attention from a mere economic development model to alternative approaches Kothari (2007) criticizes these approaches saying that they “represent only minor adjustments” (ibid., page 31).

In times of rising post-development critique Michael Edwards (1989) published an article about “The irrelevance of development studies” in the journal *Third World Quarterly*. The general critique about the so-called impasse of development and development studies attracted a lot of lasting attention from this time onwards.

Today we can already talk of a post-development phase. Most academic research challenges the modern development paradigm of progress. It is necessary to move beyond the mere dominance of economics (especially neo-liberalism) and positivist ideas. Instead I would suggest opening up a field of development studies that is open to change and open to working between disciplines, not just between social sciences but also between social and natural sciences.

“With questions of democratization, citizenship, liberalization, institution-building and the environment coming to the fore in the 1980s and the 1990s the need for an inter-disciplinary view of development – for a development studies, as opposed to a development economics/ geography/ sociology – has become ever more pressing” (Corbridge 1995: xi).

4.2 ENVIRONMENT

Environment is a very broad term that has been defined in many ways. The definition of environment as given by the European Union for example states that it is “the combination of elements whose complex interrelationships make up the settings, the surroundings and the conditions of life of the individual and of society, as they are or as they are felt” (Gilpin 1986: 73).

For the purpose of my work I am not interested in finding an overall definition of the term environment. This would not serve to answer my main research question, namely how development studies tried to incorporate the environment within their work until today. What is important though is to draw attention to the different ways in which the environment can be seen and to some points that I consider to be vital to my work. In chapter 6 (Environmental discourse in development studies – the analysis) I will furthermore explain how I applied the term in the context of my empirical analysis.

Allaby (1983) gives another definition of the environment (though somewhat similar to the EU above) describing it as “[t]he physical, chemical and biotic conditions surrounding an organism” (ibid., page 183). This seemingly broad definition does not include the living organisms (animals, humans, ...) as such into the definition but just its surrounding conditions. Insofar it does not meet my own conception of the term environment.

The most important point I want to make is that I consider us human beings, actually all so-called living organisms, as being part of the environment/ nature. In the context of development seen as modern progress it is common to treat nature and humans as two separate entities (Redclift 1987: 79). According to that view nature constitutes nothing more than a resource stock. In using these resources humans give a certain value to nature or the environment. The term natural *resources* already reflects its economic status. Technology, as it is created by humans, is often seen as the opposite of nature.

For me it is important to emphasize that we do not stand outside nature/ the environment but that we are an inherent part of it. The different parts of the environment (humans, animals, plants, water, air, ...) constantly interact one with another.

Kemp (1998) draws attention to the fact that modern environmental studies already acknowledge the “human element” (ibid., page 127) as an inherent part of their science. “[A]s a result [of this human element] environmental science includes not only the traditional sciences such as chemistry, physics and biology, but also engineering, economics, sociology, politics and law. The study of the environment is thus very much interdisciplinary in nature” (ibid.). In this way it has something in common with the field of development studies. At any rate, development studies is always referred to as being an interdisciplinary field of research. This is certainly true if one considers the merging together of different social sciences (e. g. geography, economics, history, sociology) as being interdisciplinary. The question is whether development studies succeeded in finding a way to approach socio-natural relations considering both natural and social sciences. We will hopefully find out in the further progress of this work.

Certainly, scholars from different social sciences became aware of the society-nature-nexus and started to foster research in that direction. Different sub-disciplines, such as environmental sociology, ecological economics, and political ecology to name a few, emerged from the 1970s onwards.

In the 3rd edition of 'The environmental dictionary and regulatory cross-reference' (King 1995) we can already find a broader definition (than that of Allaby 1983) that sees the environment much more as a whole. It states that the “[e]nvironment [...] means water, air, land and all plants and man and other animals living therein, and the interrelationships which exist among them” (King 1995: 225).

There is often a confusion when it comes to defining nature in contrast to the environment. The latter seems to be a more modern, scientific and systematic term and is often used in an economic sense when talking about the global state of the world. In a critical and vigorous statement Escobar (1996) expresses it in the following way:

“As the term is used today, 'environment' includes a view of nature from the perspective of the urban-industrial system. Everything that is relevant to the functioning of this system becomes part of the environment. The active principle of this conceptualization is the human agent and his/her creations, while nature is confined to an ever more passive role. What circulates are raw materials, industrial products, toxic wastes, 'resources'; nature is reduced to stasis, a mere appendage to the environment. Along with the physical deterioration of nature, we are witnessing its symbolic death. That which moves, creates, inspires – that is, the organizing principle of life – now resides in the environment” (ibid., 1996: 52).

In this way the all-encompassing nature which includes every living organism and which nurtures all life is replaced by the utility and monetary value of the environment.

As one can see different definitions of 'the environment' have been formulated and applied, all implicating various ideas, interests and beliefs. This already demonstrates that there seems to be more than just one reality concerning nature/ the environment. Shove (1994) notes that “[f]or the time being [...] it is tempting to favour limitlessly broad understandings of 'the environment', allowing a thousand flowers to bloom rather than risking any prematurely restrictive definition” (ibid.; page 256).

In environmental sociology for example a common distinction is made between the 'natural' and the 'built' environment. “The built environment consists of those tangible settings which people create for repeated use. These are settings with a shape and form which were not in place until someone decided to create them for a human purpose” (Dunlap et al. 2002: 3). The study of the natural environment however, includes themes such as forests, natural hazards and disasters, energy and technology, waste disposal and conservation, as well as environmental movements (ibids., page 6ff). It is always a difficult task to deal with categories as they cannot escape reductionism. For example it is not easy to say what belongs to the 'natural' (environment). Humans and nature have always shaped and influenced each other. The distinction made between 'the natural' and 'the built for human purpose' environment cannot escape reductionism either. However, in order to do research one also has to work with categories. Furthermore the definition of 'the environment' and the distinction between different environments was probably seen as a necessity in order to establish the new field of environmental sociology.

In his book 'Sustainable development: exploring the contradictions' Michael Redclift (1987) gives a very dynamic definition of the term environment. He describes it well by looking at the environment “as process rather than form, as the result of a set of relationships between physical space, natural resources and a constantly changing pattern of economic forces” (ibid., page 79). Furthermore he emphasizes that the natural environment has to be seen within its historical, economic, and political context (ibid., page 102). He states that “[m]uch of the 'natural' environment of developing countries is a reflection of these [historical, economic and political] processes; indeed it is no more 'natural' than the rural environment of East Anglia or the Po Valley” (ibid.).

A rural environment is no more natural than an urban or industrial one.

Today, popular environmental issues often refer to the so-called environmental crisis (perceived as such since the 1970s, e.g. through publications such as the 1972 'Limits to Growth' written by Meadows et al.) and cover topics such as biodiversity, soil (erosion), forests/ deforestation,

desertification, water, natural resources, over-population, energy, and conservation.

Concerning the themes within environment and development the 'Encyclopedia of international development' distinguishes between the "so-called 'green' agenda [which] considers themes such as deforestation, biodiversity and wildlife conservation [and the] brown environmental agenda [that] looks at largely urban and industrial problems such as pollution and sanitation" (Forsyth 2004: 204). Further mentioned is the catchword 'sustainable development' which is explained "as an umbrella term for development that protects the environment [and which] is criticized for being vague" (ibid.).

As we see 'the' environment covers many themes and has been analysed from various perspectives. This work shall investigate which environmental issues have been discussed by scholars working in the field of development studies. Moreover it shall shed some light on the different perspectives from which these themes have been analysed.

5 HAPPY TOGETHER – SOCIAL SCIENCES AND THE ENVIRONMENT

*“More than perhaps any other issue, the 'environment' calls upon the social sciences to develop internationally comparative and interdisciplinary approaches”
(Jamison, cited in Milton 1996: 1).*

The aim of this chapter is to present an historic overview of how social sciences in general have approached the topic of environment throughout time. As development studies are strongly based and influenced by social sciences this chapter can add valuable insights to understand how development studies have incorporated the theme of environment within their own field.

For a long time natural and social sciences were seemingly incompatible with one another, greatly divided by contradictory assumptions in terms of exploring the world. Biological versus social determinism, eco-centrism versus anthropocentrism, and research based on natural laws versus hermeneutic-based research were some of the main contradictions that kept natural and social sciences from finding common ground.

5.1 THE SOCIAL VERSUS THE NATURAL

Defining strict boundaries of one's own discipline always implies the exclusion of other somewhat alien approaches and ideas. A classical and oft-mentioned example of this in the social sciences is Durkheim's aphorism saying that the social can just be explained out of the social (e. g. in Lockie 2004: 27; Buttel and Humphrey 2002: 34). No broadening perspective to other disciplines is needed if everything can be explained out of the social and resultant sociology.

This anthropocentric worldview that prevailed for a long time in social sciences has its roots in different historic developments. One of these roots leads us back to the “philosophical and scientific developments during the 15th and 16th century” (Ezzy 2004: 13). An example of the thinking of this time is Descartes well-known dualism (for explanations see for example Cottingham 1998: 236). In this regard Plumwood (2004) states that the “[h]uman/nature dualism is a key, linking part of the network of culture/nature, spirit/matter, mind/body and reason/nature dualisms that have shaped Western culture, and is an active force in contemporary life” (ibid., page 44). In this sense the human is not considered as being part of nature. On the contrary, nature or its resources only

has/have the purpose of serving humans which appear as the crown of creation. The domination of nature and 'primitive' people (some call/ed this process development) can be justified by this anthropocentric and dismissive world view (ibid.). The author draws attention to the fact that the above described dualism does not only root in “ancient philosophy” but also in “the dominant Western religious movements of Christianity” (ibid., page 45). Ezzy (2004) agrees upon this statement and notes that “[a]nthropocentrism is characteristic of Christianity and the Western capitalist worldview” (ibid., page 9”).

The ideas formed within these historical developments prevailed for quite some time, also creeping into Western science.

“Western science replaced but also built on this earlier religious foundation, transforming the idea of conquering nature as death by subordinating nature to the realm of scientific law and technology. Modern science, now with religious status, has tended to inherit and update rather than supersede these oppositional and supremacist ideals of rationality and humanity” (Plumwood 2004: 45).

In this view their ingenuity makes humans the creators of their own world, managing everything that surrounds them (e. g. nature) (ibid., page 46). Milton (1996) concludes that “[t]he firm conviction that environmental problems can be solved by technology was a logical consequence of this underlying ethos” (ibid., page 4).

Post-modern and eco-feminist scholars investigated a lot of work in order to criticize environmental and social determinism. Eco-feminist scholars in particular are known for refuting the dualism of mind/body, human/nature and so on (see for example Ezzy 2004: 14).

5.2 CONSTRUCTED NATURE

A major challenge that kept social and natural scientists from finding common ground was the debate whether nature was a material reality (more the natural scientists view) or a construction (more the social scientists way of dealing with this topic).

While the materialist/ realist/ positivist is convinced that “nature is attributed a pre-given objective reality that exists quite independently of human knowledge or action” (Lockie 2004: 30) the constructivist claims that “there is no socially unmediated position from which to apprehend material reality” (ibid.).

Constructivism and realist perspectives are more than just one idea of thought. In relation to constructivism one can distinguish between a radical constructivism and a softer one. Radical constructivism does not accept any ideas about a pre-given or objective reality. Everything is

determined by our social and subjective interpretations. Reality and the way in which we perceive the world is only conditioned by “social context” (Robbins 2004: 113f). This radical form of constructivism runs the risk of representing “sociological reductionism” (Irwin 2001: 219).

The milder form of constructivism, which seems to be some kind of a meeting point between social and natural sciences, does not question the existence of “a pre-given and objective material reality that exists independently of humans” but emphasizes that the way in which we perceive the world and that what we regard as being real “is necessarily shaped by human categories, theories, projects, interests and power relationships” (Lockie 2004: 30; see also Robbins 2004: 114). The ways in which people perceive and understand the environment has real political and cultural implications and have to be considered in any analysis (Lockie 2004: 31).

The sub-disciplines which emerged from the classical social sciences, such as environmental sociology or political ecology (dealt with in detail in the next sub-chapter), mostly refer to and base their research on 'soft' constructivism. Irwin (2001) points out that “the argument being made by constructivists is *not* that the natural environment is a mirage or fantasy but rather that our only way of interpreting (or 'knowing') this environment is through human and social processes.” (ibid., page 221). The same counts for scientific knowledge which cannot be objective but is embedded in historical and social processes. According to this viewpoint, Irwin continues, “this entrenched battle over 'realism versus constructivism' has become rather pointless and, indeed, dull” (ibid.).

At this point I want to refer the reader with a greater interest in this field to an article which was written by the German sociologist and political scientist, Christoph Görg (2003). In his article called 'Nichtidentität und Kritik: zum Problem der Gestaltung der Naturverhältnisse' he explores the society-nature nexus on the basis of Adorno's theory of “Nicht-Identität” (non-identity). It would go beyond the scope of my work to refer to it in greater detail but at least I can make a little contribution by saying that it is worth reading Görg's article.

Coming back to my thesis, Dunlap and Marshall (2007) conclude that “the 'realist-constructivist battles' of the 1990s are subsiding.” (ibids., page 337). In 2001 Irwin argued that sociology (I think we can actually talk about all social sciences) is slowly moving into a phase “where existing categorizations – the social, the natural, the scientific, the technological, the human, the non-human – are seen to be fluid and contextually constituted rather than predetermined” (ibids., page 178). Research that focuses on socio-natural relations shall be the focus in the following sub-chapter.

5.3 INTERACTIONS BETWEEN THE SOCIAL AND THE NATURAL

It should be clear by now that finding common ground between natural and social sciences faces some considerable challenges. Nevertheless, what can be observed today is a general trend towards more interdisciplinarity which is expected to meet the challenge of dealing with the ever increasing complexity of our world. Especially since the appearance of a (global) environmental crisis in the early 1970s the focus of many scientific disciplines has slowly shifted to the interrelations between the social and the natural.

It was the interplay of various factors that made up the ecological crisis. These included among other things the oil crisis, influential scientific publications such as Rachel Carson's 'Silent spring' (1962) and 'The limits to growth' (1972), the recognition of the negative impacts of development practice, and the successful lobbying work of rising Northern environmentalism.

The importance of the media in its role of distributing (scientific) information/ knowledge about the environmental crisis that humanity seemed to face should not be underestimated. "In general it has been found that newspaper coverage of environmental issues increased dramatically throughout the late 1960s and reached an early peak at the time of the first Earth Day in 1970, presumably contributing to the concomitant rise in public concern during the same period" (Schoenfeld et al., cited in Dunlap and Marshall 2007: 334).

In fact, acknowledging human dependence on the environment/ nature, all social sciences experienced the emergence of different sub-disciplines trying to deal with the interactions between the natural and the social. Environmental sociology and human ecology, environmental anthropology, ecological economics, environmental or green political theory, and political ecology are nowadays well-known examples.

Dobson (2006) notes that this "specialised engagement [with the ecological challenge/ crisis] has seen the emergence of green political theory (or environmental political theory, as it is known in North America) as a distinct sub-field of political theory" (ibid., page 1). Martinez-Alier and Schlüpmann (1987) introduce their book about ecological economics by saying that "[s]ince the early 1970s, economists have paid increasing attention to the ecological analysis of economic processes. This was at first focused on the definition of ecological limits to growth" (ibids., page iix). Dunlap and Marshall (2007) point out that "environmental sociology was just emerging at the time of the 1973-1974 energy crisis" (ibids., page 337).

It can be seen that all of these sub-disciplines emerged in a similar context.

The question remained of *how* to approach the new topic of environment. Lockie (2004) argues that “[b]ringing nature back into social theory requires us to do much more than simply apply existing sociological concepts to a new topic – ‘the environment’” (ibid., page 27). Therefore it seemed to be an important task to critically examine and to question the well-established classical theories of the mother-disciplines. New theoretical approaches started to emerge.

A very well-known example is the so-called NEP (New Ecological Paradigm) which should replace the HEP (Human Exemptionalism Paradigm) in sociology. In defining the emerging field of environmental sociology Catton and Dunlap referred to the long prevailing social determinism in sociology as HEP and called for a new paradigm that acknowledges the human dependence on and interaction with nature/ the environment (referred to as the NEP) (read more about these developments in Dunlap 2008).

The following grid (next page) gives a good overview of the different assumptions underlying the dominant Western worldview, the HEP, and the NEP:

	Dominant Western Worldview	Human Exemptionalism Paradigm (HEP)	New Ecological Paradigm (NEP)
Assumptions about the nature of human beings:	People are fundamentally different from all other creatures on Earth, over which they have domination.	Humans have cultural heritage in addition to (and distinct from) their genetic inheritance, and thus are unlike all other animal species.	While humans have exceptional characteristics (culture, technology, etc.), they remain one among many species that are interdependently involved in the global ecosystem.
Assumptions about social causation:	People are masters of their own destiny; they can choose their goals and learn to do whatever is necessary to achieve them.	Social and cultural factors (including technology) are the major determinants of human affairs.	Human affairs are influenced not only by social and cultural factors, but also by intricate linkages of cause, effect, and feedback in the web of nature; thus, purposive human actions have many unintended consequences.
Assumptions about the context of human society:	The world is vast, and thus provides unlimited opportunities for humans.	Social and cultural environments are the crucial context for human affairs, and the biophysical environment is largely irrelevant.	Humans live in and are dependent upon a finite biophysical environment which imposes potent physical and biological restraints on human affairs.
Assumptions about constraints on human society:	The history of humanity is one of progress; for every problem there is a solution, and this progress need never cease.	Culture is cumulative; thus, technological and social progress can continue indefinitely, making all social problems ultimately soluble.	Although the inventiveness of humans and the powers derived therefrom may seem for a while to extend carrying capacity limits, ecological laws cannot be repealed.

Source: Catton and Dunlap, cited in Buttel and Humphrey 2002: 50f.

Discussing the different social sciences' sub-disciplines that emerged from the 70s onwards is vital for an understanding of development studies, as they were not just highly influenced by the classical social sciences but also by their sub-disciplines. Looking at them can give insights to the ways in which development scholars approached the field of environment.

Milton (1996) for example criticizes the high degree of attention that environmental economics received in contrast to other social sciences (ibid., page 71). Being dominated by economy the development industry and development studies were definitely influenced by the concepts and ideas of this sub-discipline. Milton makes economics' "indifference to goals" (ibid., page 72) responsible for their high influence on policy makers and states that "[e]conomists can be called upon to examine how predefined political goals might be achieved, in the knowledge that they will not question the goals themselves" (ibid.). An overview of the field of ecological economics can be found in an early book written by Martinez-Alier and Klaus Schlüpmann (1987) called 'Ecological economics: energy, environment and society'.

Another theory that certainly called some attention to development studies and which is broadly discussed in environmental sociology is the so-called 'ecological modernization'. Ecological modernization refers to a process of economic growth but in an ecologically sound way. It is very much connected to the idea of sustainable development as pronounced by the Brundtland Commission. Ecological modernization theory "focuses on the economies of Western European nations which are to be 'ecologised' through" (Hannigan 2006: 26) clean technology and ecologically sound ways of production (for more information about ecological modernization theory see for example Dunlap and Marshall 2007: 337). Technological optimism is an inherent part of this theory (Hannigan 2006: 26). Buttel notes that "ecological modernization has clearly added a new wrinkle to environmental sociology by expanding the field's traditional focus on environmental degradation" (Buttel, cited in: Dunlap et al. 2002: 19).

Environmental anthropology constitutes a further sub-discipline dealing with socio-natural relations. In order to stay within the relevant scope of my work I will just refer the interested reader to Milton's (1996) book called 'Environmentalism and cultural theory: exploring the role of anthropology in environmental discourse'.

What is important to note, however, is the fact that the exponents of different social sciences recognized that they could contribute to the ongoing environmental debate. Shove (1994) points out to the dialectic way in which this new process happens saying that on the one hand "the 'global

environment' has something to offer social theory” (ibid., page 257) and on the other hand “sociology has something to offer to our understanding of the environment” (ibid.). In the same manner Milton (1996) explores “the potential of cultural theory to throw light on environmental issues, and on the nature and content of environmentalism itself, as a way of understanding the world” (ibid., page 3).

Van der Leeuw and Aschan-Leygonie (2005) argue that it “becomes possible to talk about 'socio-natural *relations*' and 'socio-natural *problems*', rather than about the relationship between social and natural *systems*, stressing the interactions while accepting the differences in the nature of their dynamics” (ibids., page 230).

The following grid gives an overview of the “[d]imensions of the shift towards an interactive approach of the 'nature-culture' opposition” (ibids.):

Pre 1980's	1980's	1990's
Culture is natural	Nature is cultural	Nature and culture have a reciprocal relationship
Humans are re-active to the environment	Humans are pro-active in the environment	Humans are inter-active with the environment
Environment is dangerous to humans	Humans are dangerous for the environment	Neither are dangerous if handled carefully, both if that is not the case
Environmental crises hit humans	Environmental crises are caused by humans	Environmental crises are caused by socio-natural interaction
Adaption	Sustainability	Resilience
Apply technofixes	No new technology	Minimalist, balances us of technology
'Milieu' perspective dominates	'Environment' perspective dominates	Attempts to balance both perspectives

Source: Van der Leeuw and Aschan-Leygonie (2005: 230)

What they (ibids.) describe are three possibilities in dealing with socio-natural relations. The pre 1980s approach sees nature as being unpredictable and thus dangerous for humans. Technology is seen as a possibility to better handle and dominate nature. In contrast to this view it is man-made environmental destruction that comes to the fore in the approach of the 1980s. The focus of the 1990s is not the environment which threatens humans or the environment which is destroyed by humans but the interaction and relation between the two. As my analysis (that will be presented later on) revealed, all three approaches co-exist throughout the different decades. Therefore it can

be said that they are not temporally bounded.

However, it can be stated that interdisciplinary approaches are becoming more popular. In this context Redclift and Benton (1994) acknowledge that “a growing body of knowledge and explanation is to be found within intellectual territory that can only be described as 'common ground'” (ibids., page 13). Generally one can say that “[a]n 'interdisciplinary approach' implies the pooling of knowledge and expertise, the creation of a joint enterprise to produce a deeper or more complete understanding” (Milton 1996: 219). Whereas most of the authors that are concerned with research focusing on socio-natural relations refer to the necessity of interdisciplinary approaches, Milton argues in favour of a “multidisciplinary” approach (ibid., page 221). By multidisciplinary he understands to look at “a shared area of interest [...] from several different perspectives” (ibid., page 219) instead of having a “shared approach, which implies a common perspective” (ibid.).

In the following I shall refer to a specific sub-discipline which will be of great relevance later on in this work, political ecology.

5.4 POLITICAL ECOLOGY

It was an anthropologist, Eric R. Wolf, who utilized the expression 'political ecology' in 1972 for the first time (Biersack 2006: 3). He did this in a neo-Marxist tradition “to signify the study of how power relations mediate human-environment relations” (ibid.). However, it were geographers who engaged most in this field (ibid., page 6). It was in the 1980s that they merged political economy, based on dependency (Frank) and world system (Wallerstein) theory, with ecological issues (ibid. page 3). Blaikie and Brookfield for example shaped the field of political ecology significantly. In their publications 'The political economy of soil erosion in developing countries' (Blaikie 1985) and 'Land degradation and society' (Blaikie and Brookfield 1987) they analysed ecological issues through the lens of political economy.

Other schools of thought also had a great impact on the field of political ecology, namely postmodernism, poststructuralism, and feminism. The engagement with power relations and “discursive practices” is reflected by these influences (Biersack 2006: 13f).

There are multiple and different approaches, concepts and methods in political ecology, their application dependent on the specific context (see also ibid., page 5; Neumann 2005: 5f). „Political ecology [...] has attracted several generations of scholars from the fields of anthropology, forestry, development studies, environmental sociology, environmental history, and geography“ (Robbins

2004: 5).

A common description of political ecology is made by Martinez-Alier (2002). He sees ecological distribution conflicts as the main field of inquiry. „By ecological distribution is meant the social, spatial and intertemporal patterns of access to the benefits obtainable from natural resources and from the environment as a life support system, including its 'cleaning up' properties“ (ibid., page 73).

Robbins (2004) who wrote an excellent and one of the latest book(s) on political ecology puts political ecology in contrast to an apolitical ecology. He refers to two famous apolitical narratives, namely “ecoscarcity” and “modernization” (ibid., page 7).

In the context of ecoscarcity he refers to influential neo-Malthusian works such as Ehrlich's (1968) 'Population bomb' and Meadows (1972) 'Limits to growth' who all state that the growing scarcity of natural resources cannot result other than in a crisis considering the fast and ongoing population growth. Robbins (2004) sees this line of argumentation as a “consistently weak predictor of environmental crisis and change” (ibid., page 8) because it ignores unequal resource distribution. Moreover this approach neglects “the complexity of global ecology” (ibid., page 9). The neo-Malthusian 'ecoscarcity' argument justifies certain policies and management strategies. „Population control, rather than reconfiguration of global distributions of power and goods, is the solution to ecological crisis“ (ibid.).

The modernization approaches do not see economic growth and environmental protection as a contradiction. In the contrary there is a general believe in “'win-win' outcomes where economic growth (sometimes termed 'development') can occur alongside environmental conservation, simply by getting the prices and techniques right” (ibid., page 10). This approach “has proven historically questionable” (ibid.) and acts on the assumption that technical and environmental knowledge from developing countries is of minor value than that of developed nations (ibid.).

Robbins concludes that “the dominant contemporary accounts of environmental crisis and ecological change (ecoscarcity and modernization) tend to ignore the significant influence of political economic forces [... and] that apolitical ecologies, regardless of claims to even-handed objectivity, are implicitly political” (ibid., page 11).

How diverse the different approaches in the field may be, Robbins summarizes general assumptions in the field of political ecology:

- “[E]nvironmental change and ecological conditions are the product of political process” (ibid., page 11), so are our ideas about ecological systems (ibid., page 12).
- The field is based on “empirical, research-based explorations to explain linkages in the condition and change of social/ environmental systems, with explicit consideration of relations of power” (ibid.).
- As in development studies normative goals are an inherent part of political ecology. “[T]here are very likely better, less coercive, less exploitative, and more sustainable ways of doing things” (ibid.).
- Research does not try to find 'end-of-pipe' solutions (fighting symptoms) but rather focuses on the causes (ibid.).
- Political ecologists “[attempt] to do two things at once: critically explaining what is wrong with dominant accounts of environmental change, while at the same time exploring alternatives, adaptations, and creative human action in the face of mismanagement and exploitation” (ibid.).

According to Robbins the four following narratives are dominant in political ecology: degradation and marginalization, environmental conflict, conservation and control, environmental identity and social movement (ibid., page 14). The following grid explains these four thesis in more detail:

Thesis	What is explained?	Relevance
Degradation and marginalization	Environmental change: why and how?	Land degradation, long blamed on marginal people, is put in its larger political and economic context
Environmental conflict	Environmental access: who and why?	Environmental conflicts are shown to be part of larger gendered, classed, and raced struggles and vice versa
Conservation and control	Conservation failures and political/ economic exclusion: why and how?	Usually viewed as benign, efforts at environmental conservation are shown to have pernicious effects, and sometimes fail as a result
Environmental identity and social movement	Social upheaval: who, where, and how?	Political and social struggles are shown to be linked to basic issues of livelihood and environmental protection

Source: Robbins 2004: 14

Why I put such an emphasize on political ecology and what it has to do with development studies will be the content of the following chapters. For now this short introduction to the field of political ecology shall be enough.

6 ENVIRONMENTAL DISCOURSES IN DEVELOPMENT STUDIES - THE ANALYSIS

*“We are doomed historically to history, to the patient construction of
discourses about discourses, and to the task of hearing
what has already been said”
(Foucault 1973: xvi).*

The presentation of the material which I used for the analysis as well as the results are the focus of this chapter. The interpretation of the results is not part of this chapter but shall be thoroughly discussed in the subsequent chapter number 7 (Interpretation of the analysis results).

I chose to analyse three well-known European development journals, namely *Third World Quarterly*, *The Journal of Development Studies*, and *Development and Change* throughout four decades, from 1970 until 2008.

Founded in 1964 *The Journal of Development Studies* “was the first and is one of the best known international journals in the area of development studies” (informaworld 2009a). As it was the first journal which emerged in this field I felt obliged to consider it for my analysis. The Journal of Development Studies is published by Routledge and brings out 10 issues per year. More than a decade later, 1979, the independent journal *Third World Quarterly* was founded, also published by Routledge. On the information website it can be read that it “is the leading journal of scholarship and policy in the field of international studies. For nearly three decades it has set the agenda on development discourses of the global debate” (informaworld 2009b). Calling itself “the most influential academic journal” (ibid.) it is definitely relevant for my analysis. It publishes 8 issues per year. The third journal that I chose for my analysis, *Development and Change*, was founded in 1970. Edited by Kees Biekart, Amrita Chhachhi, Bridget O’Laughlin, Ashwawni Saith, Servaas Storm and Ben White and published for the Institute of Social Studies in The Hague it is “[o]ne of the leading international journals in the field of development studies and social change” (Wiley 2000-2009) and appears six times a year. Moreover, being founded in 1970 it covers all four decades that I subjected to my analysis.

The following overview shows which years of each journal were considered for my analysis:

Journals	Analysed years
The Journal of Development Studies	1970 to 2008
Development and Change	1970 to 2008
Third World Quarterly	1979 to 1990, 1992 to 2008

As I do not wish to make a quantitative analyses it does not matter that *Third World Quarterly* was founded only in 1979. As Jäger says, the relevant material has to cover the entire qualitative spectrum in which a certain theme is dealt with (Jäger 2001b: 192, A.K.). Analysing all relevant articles of the journals *The Journal of Development Studies* and *Development and Change* throughout the whole decade of the 70s will already provide meaningful insights about the qualitative spectrum in which the environment was dealt with in development studies during that time.

In short, this selected repertory of internationally well-known European development journals promises to give some relevant insights into the production of environmental knowledge in development studies.

6.1 GETTING MY RESULTS

Beginning my research I had no clue how many articles concerning environmental issues I would be able to find. It turned out that the amount of relevant articles was greater than expected. I faced the problem of dealing with such a load of information and had to remind myself of my work's purpose. It is not the aim of my work to lose myself into details but to give a good overview of the environmental themes/ discourses that have been covered by academic scholars working in the field of development studies.

For my corpus I considered those articles that explicitly or implicitly dealt with the theme of environment. At this stage researchers normally have two options. One can think in categories of the environment a priori and then look for articles that can be assigned to these categories. The

other possibility is to go through the journals without forming certain categories and to collect all articles that seem to be relevant in one way or another. The categories one deals with are build thereafter, according to the collected material.

For doing my analysis I favoured the latter as I wanted to start my work as open-minded as possible. Of course I had already read some secondary literature and was familiar with international environmental topics as promoted by the development industry, e. g. the UN. I do not claim being objective but am aware of the fact that I am influenced by my own academic background and social context. Another person may have chosen different issues or categories.

However, I proceeded as Jäger (2001a) suggests and subjected my corpus (all the relevant articles) to a rough structure analysis, dividing the material into main topics and sub-topics. The following issues are examples of the environmental themes that were found throughout the analysed decades: natural resource management of land, livestock, water, marine and genetic resources, conflict over access to natural resources, intermediate technology and biotechnology, environmental impacts of the green revolution, sustainable development, waste and pollution, energy, soil erosion and desertification, deforestation, indigenous ecology, eco-feminism, political ecology, environmental biases, climate change, environmental migration, environmental policies and institutions, environmental crisis and urban ecology.

For each article that covered one of the above mentioned themes in one way or another it was of importance to me whether it was referred to the issue explicitly or implicitly. Fairclough (1995), an exponent of CDA, states that “[t]he distinction between what is explicit and what is implicit in a text is of considerable importance in sociocultural analysis. Analysis of implicit content can provide valuable insights into what is taken as given, as common sense. It also gives a way into ideological analysis of texts, for ideologies are generally implicit assumptions” (ibid., page 5f).

Furthermore I wanted to know if the articles showed any keywords, which region and scale they covered, and if they referred to any conventions or other possible discursive events such as important publications or conferences.

Having collected all my results I started to put my findings into a chronological order, following the different development decades. Doing the analysis in this way enabled me to see which environmental themes scholars of development studies have addressed during the 70s, 80s, 90s and the 21st century.

I formed six main categories from the above mentioned issues and subjected them – as Jäger (2001a) suggests - to a more detailed analyses and interpretation. The following six main categories could be identified:

- natural resource management and conservation;
- energy;
- urbanization and the environment;
- women, gender and the environment;
- sustainable development; and
- from political economy to political ecology

As already mentioned above I am not interested in doing a quantitative analyses. Therefore I will not refer to any numbers of articles. Moreover the mentioned categories cannot be seen separated one from the other but constantly interact with each other. Some articles addressed more than just one theme.

What is important for my work is to focus on the qualitative spectrum of what has been discussed.

What can be said though is that the theme of natural resource management as well as the issues of energy and sustainable development have been discussed from the 1970s onwards. Political ecology, which is also closely related to the theme of conservation, has been mentioned explicitly as such from the 1980s onwards. The topic of women, gender and the environment arose in the 1990s while urban environmental problems and waste management (both belong to the topic of urbanization and the environment) did not find a lot of attention until the year 2000.

The topic of natural resource management and conservation has been discussed most, followed by issues of sustainable development and political ecology.

Concerning the journals it can be said that most articles about environmental issues were found in *Development and Change*. Both of the other journals, the *Journal of Development Studies* and *Third World Quarterly*, covered about half of the numbers of articles. Generally it was noticed that the number of relevant articles constantly rose from one decade to the next.

6.2 DESCRIBING THE ANALYSIS IN JÄGER'S TERMS

Before discussing the results of my analysis in more detail I shall summarize the main contents of it in Jäger's terms (as described in chapter 3.2.1.1 'Elements of discourses').

As already explained in an earlier chapter I am concerned with special (meaning scientific) discourses. The used material, three well-known scientific journals in the field of development, can be seen as a discourse plane or as Jäger puts it as “the societal location from which 'speaking' happens” (Jäger 2001a: 49).

My discourse fragments are constituted by different scientific articles from the above described journals that all deal with the topic of environment in one way or the other. The six main categories (see above) that I formed after doing the structure analysis can be seen as discourse strands and shall be analysed in what Jäger calls a diachronic dimension, the flow of knowledge throughout a certain period of time (in my case from the 1970s until now).

The different discourse strands cannot be seen separately one from the other. Their relations and interactions or as Jäger calls it their 'entanglement' also have to be considered in the analysis. Looking closer at the different discourse strands and identifying certain discursive events (e.g. international conferences or well-known publications about certain environmental issues that had a major influence on the different discourse strands) shall give some more insights about the entanglement and discursive context of the various strands.

We will see that the discourse strands are viewed from different ideological perspectives (Jäger calls this discourse position), e.g. from a postmodern or neoliberal point of view.

The goal of this chapter was to draw the line between my analysis and Jäger's methodology. I will now move on to the next chapter, namely the interpretation of the analysis results.

For the contextualization of my findings and a future outlook (that will be given in chapter 8.1) I will use further primary and secondary literature that was written by scholars of development studies.

7 INTERPRETATION OF THE ANALYSIS RESULTS

*“All relations between environment and people are political,
just as all development is ideological”
(Adams 1990: 83).*

This chapter is concerned with the interpretation of my findings. They are classified into six main categories (natural resource management and conservation; energy; urbanization and environment; women, gender and the environment; sustainable development; from political economy to political ecology) and will now be discussed in more detail. Further primary and secondary literature⁴ will help me to put my findings into a historical context.

7.1 NATURAL RESOURCE MANAGEMENT AND CONSERVATION

The engagement in natural resource management, including conservation and preservation, is not a new one. One can probably see this field as the earliest preoccupation with human-environmental relations in development studies. No wonder that a great amount of articles has been dealing with this theme.

7.1.1 Land and livestock

Conservation, common property management, and problematic environmental developments such as deforestation, soil erosion, desertification, and droughts were the most prominent issues within the analysed journals. They shall be discussed here in more detail.

7.1.1.1 *Common property management*

In my analysis common property management has been one of the most discussed issues related to natural resource management since the 1980s.

Many of the articles refer to Garrett Hardin's influential article 'The Tragedy of the Commons' which was published in 1968 in the journal 'Science'. In his article the biologist describes the tragedy of the commons as a situation in which individuals that share a common land act only according to their

⁴ While the citations which I took from the analysed journals are italicized, all the other citations (further primary and secondary literature) are in normal font. This should provide a better overview for the reader.

personal benefit even if this is harmful to the commons in general. He draws an example by saying: "Picture a pasture open to all. It is to be expected that each herdsman will try to keep as many cattle as possible on the commons" (ibid., page 1244). Problems that are often connected to a tragedy of the commons à la Hardin are overgrazed pastures, droughts, and soil erosion. In short, such an individual behaviour of many as described by Hardin leads to environmental deterioration of the commons. His argumentation is strongly connected to the concept of 'carrying capacity' which says that due to its natural (resource) limits our planet can only 'carry' a certain amount of people.

Considering the world's growing population pressure Hardin argues for better legal regulation in both birth control and usage of the commons. He puts this quite clear when he states that "[f]reedom in a commons brings ruin to all" (ibid.).

Hardin's article provoked an ongoing discussion about the commons, different forms of land tenure and property rights. Livingstone (1986) summarizes:

"The conclusion drawn by policy-makers [...] are major: degradation of rangeland is man-made, with its origins in the institutional arrangement described, rather than the result of natural and climatic factors; correction of the situation requires an institutional change, that is, land reform in the direction of privatisation [...]" (ibid., page 5).

Most of the analysed articles that refer to Hardin discuss his theory in a critical way. Livingstone (ibid.) for example argues that "[t]he common property model assumes the absence of co-operative behaviour and takes for granted what is in fact uncertain evidence regarding long-term degradation of ranges" (ibid., page 17). He further criticizes that "it is based on very simple assumptions regarding the process of degradation" (ibid.). Another author, J. F. Morton (1996), concludes that: "strong circumstantial evidence of a Tragedy of the Commons - famine, drought and insecurity - is misleading. Social institutions such as land tenure are both adapted to the existing resource endowment and flexible enough to accommodate changes in it" (ibid., page 1).

In the 1980s the only article found about natural resource management referred to Hardin's famous article on the tragedy of the commons. So did about half of the articles connected to the same theme that were published in the 1990s. This shows the great academic influence that Hardin had on many scholars from development studies.

Johnson (2004) wrote an interesting article published in *Development and Change* in which he distinguishes between two different groups of scholars dedicating themselves to issues related to the commons.

"One, responding to Hardin's tragedy of the commons, [that] is primarily concerned with the problem of achieving collective action to conserve natural resources which are both depletable and unregulated. A second, influenced by notions of moral economy (such as Scott, 1976; Thompson, 1971) and entitlement (Sen, 1981), [that] deals with the problem of creating and sustaining resource access for poor and vulnerable groups in society (Beck, 1994; Jodha, 2001; cf. Mosse, 1997:468-9)" (ibid., page: 408).

He further recognizes both a normative and a methodological tension between the two. While the former (the 'Hardin-group') "*analyse the rules and sanctions that encourage individuals to conserve the commons, [the latter ...] emphasize the historical struggles that determine resource access and entitlement, and the ways in which formal and informal rules create and reinforce unequal access to the commons*" (ibid., page 408f).

Concerning the method the former "*have embraced a deductive model of individual decisionmaking and rational choice to explain the ways in which different types of property rights arrangements emerge and change over time (Ostrom, 1990) and space (Wade, 1988)*" (ibid., page 409) while the latter put property rights and changes in this field into a historical contextualization (ibid.).

Woodhouse and Chimhowu (2005) suggest that "Hardin's metaphor gained particular strength because it tapped into environmental concerns in the industrial societies of Europe and North America, which were generated by the long post-war period of economic growth and rapid technological change" (ibids., page 187). In their article which was published in Kothari (2005) the authors trace back history to identify narratives and discourses of natural resource management in development studies. They discuss two opposed but constantly coexisting narratives, a traditional/populist and a modern one. The modern narrative identifies "African natural resource users as 'backward' and in need of modernization" (Woodhouse and Chimhowu 2005: 185) whereas the populist narrative perceives them "as custodians of social values" (ibids.) that live in harmony with nature which is threatened by the modern and industrialized world.

Although colonization changed types of resource management quite a lot, traditional forms of agriculture also persisted. It were two different research interests that emerged in this context. One, being based on anthropology and political economy made the "political and economic dynamics of the persistence of small-scale commodity production under conditions of capitalist development" (ibids., page 186) to its main interest of concern. The other one, being based on ideas of environmentalism, saw a great potential of destruction in traditional ways of managing and accessing natural resources. Hardin's 'tragedy of the commons' (1968) can be situated within the latter strand which in contrast to the former is part of the modern narrative (Woodhouse and Chimhowu 2005: 186).

In the 21st century the famous biologist still plays an important role but other issues related to 'the commons' (that already gained attention within the 90s) such as equity and gender, participation and empowerment, access to natural resources and power over management decisions as well as related

conflicts predominate within this latest decade of inquiry. In their introduction to a volume dedicated to the management of natural resources and forests in particular, Doornbos et al. (2000) make this shift in research very clear: *“Taken together, they [the articles of the described volume] show how social science research on forests (as on natural resource management issues generally) has come of age, moving far beyond the crude 'tragedy of the commons' and prisoner's dilemma' approaches of the 1970s and early 1980s”* (ibids., page 1).

Blair (1996) for example brings the issue of equity into the discussion about the commons and explores the relation between democracy, equity, and common property resource management.

Anja Nygren (2000b) gives an overview of the social scientists' latest interests when it comes to the complex field of the natural environment. Within the 1990s it were critical topics such as unequal power relations, the historical contextualization of certain events or crisis, the analysis of Western biases and environmental narratives and finally topics of political ecology (the latter will be discussed in more detail in chapter 7.6) that gained attraction (ibid.).

It is not of great surprise that several articles dealt with the topic of participation as this term, as well as community based development/ management, enjoyed great popularity in the development jargon within the 1990s. Most of the analysed articles that approach this topic criticize the 'participation rethoric' and argue for its practical realization in, for example, development projects.

Whether the articles refer to Hardin or not the discussion often circles around the different forms of land tenure, state-/ communal-/ or private led, and their respective social, economic and environmental implications.

7.1.1.2 Conservation

The idea of conserving or preserving nature reaches back to colonial times. The following reasons can be given for this early concern with conservation: (see Woodhouse and Chimhowu 1995)

- Conservation of resource stocks for the colonial powers in the form of private property. This commonly excluded native/ indigenous people (ibids., 181-183).
- In the context of the modernist narrative as described above, which carries the idea of backward traditional people and management systems that are in need of modernization, conservation was used as a strategy for modernization (Woodhouse and Chimhowu 1995: 184). Adams and Mulligan (2003) critically note: “In its imperialist vision, 'civilized' Europe, bearing the torch of

reason, had a duty to enlighten the rest of the world, conquering wildness and bringing order and rationality to 'uncivilized' peoples and nature" (ibids., page 3).

- In the context of the counter-narrative, the populist one, it was the idea of wilderness (derived from 19th century romanticism) which was at the heart of conservation concerns (Woodhouse and Chimhowu 1995: 185).

Main drivers or as Jäger would call it 'discursive events' that fostered the internationalization of conservation concerns were amongst others the UN Man and Biosphere Programme (1971), the World Conservation Strategy (1980), Caring for the Earth (1991), and the Biodiversity Convention (1992) which was the result of the Earth Summit in Rio de Janeiro in 1992.

In her article 'Conservation Narratives in Costa Rica: Conflict and Co-existence' Campbell (2002) distinguishes between a traditional and a counter-narrative of conservation, the latter which emerged since the 1980s. She attributes the following characteristics to the traditional narrative: "exclusive", "parks and protected areas", "restrictive/ prohibitive", "institutional (state) control", "modern", "top-down" (Campbell 2002: 31). In contrast stands the counter-narrative: "inclusive", "land use patterns", "sustainable use", "community control", "postmodern", "bottom up" (ibid.). Based on this understanding the analysis shows that from the 70s onwards most articles were based on the counter-narrative or concern problems connected with it. Unequal access to land and natural resources, missing self-determination, participation and rights of local people, social inequality and poverty, resettlements and insufficient compensation, as well as hence emanating conflicts are issues of concern.

Justice, equity and power relations are inherent issues of the conservation debate. It is always connected to the theme of livelihood and covers a socio-political perspective. Utting (1994) for example makes the '[s]ocial and political dimensions of environmental protection in Central America' (title of the article) to the main theme of his inquiry. And Neumann (1997) argues in favour of research that concentrates "on the politics of land [...] to demonstrate the link between conservation and the improvement of local livelihood" (ibid., page 577).

At this point it is important to note that the theme of conservation is closely interlinked with the field of political ecology which will be explored a bit later in this chapter. However, as it also belongs to the category of natural resource management it will be discussed here.

The only article (Cartwright 1989) dealing with conservation and livelihood in the 1980s already

has a global character. The topic appears more often in the 1990s and 2000s. In both decades an emphasis is made on the complexity of conservation planning and interventions. Neumann (1997) for example criticizes approaches that are based on Western biases and talks about a “[p]ersistence of primitivist discourse in the ‘new’ conservation approach” (ibid., page 575). The perception of local communities as homogeneous groups is misleading and obscures their complex interests and realities (ibid.). In 2003 Jane Turnbull points out that there is not just one Western or one traditional conservation narrative but that there are complex histories. She further emphasizes the importance of great awareness concerning power relations in environmental management.

A big issue concerning conservation within the 21st century deals with national parks. In this regard the articles came up with topics of forced resettlement (e.g. Schmidt-Soltau 2003), the problem of population pressure (e.g. Bedunah/ Schmidt 2004), community based conservation (e.g. Goldman 2003 and Robins/ Van der Waal 2008), competition over access to land (e.g. Dressler 2006), and resistance movements (e.g. Norgrove/ Hulme 2006).

7.1.1.3 A selected theme: forest management and conservation

From the 90s onwards forests became a popular issue. No article on this topic could be found in the analysed journals within the 70s and 80s. The emergence of research on this topic goes hand in hand with international concerns about deforestation which were discussed at the 1992 Rio Conference and explicitly expressed in the resulting paper, Agenda 21.

In her article Nygren (2000b) states that “[r]esearch focusing on deforestation became important only when the phenomenon was politically defined as a global problem” (ibid., page 11).

According to my analysis the major focus of research in the 1990s was on joint or communal forest management. “In the 1990s, JFM [joint forest management] has received an enormous amount of attention from development practitioners, planners, donors, and academics alike” (Sundar 2000: 255). The only exception is an article (Ribot 1998) about commercial forestry in Senegal creating conflicts over access to resources and leading to local resistance against dominant benefit-holders. Resistance movements in the Third World that work against commercial logging and other forms of modern industrialization have often been mentioned by scholars working on topics of political ecology.

From 2000 onwards research embraced both topics, conservation and joint forest management, but the focus shifted to issues such as power, knowledge, and discourses. One could argue that these

topics go into the direction of political ecology.

Deforestation, the major problem when talking about forests, is a controversially discussed topic. In the 1990s the following main issues of argumentation can be identified.

The first one concerns deforestation in the Amazon and focuses on the destructive practices of forest settlers. Amazon deforestation has become a very prominent issue around the globe since the 1980s (Kyle and Cunha 1992: 7; Murphy 1997: 36). *“The pace of Amazon deforestation over the past decade has become the object of worldwide attention and concern”* (Kyle and Cunha 1992: 7). Kyle and Cunha (1992) explain that *“[a]gricultural expansion has been the goal of most Amazonian occupation projects and, so far, the main cause of deforestation”* (ibids., page 7). Murphy (1997) points out that *“tropical deforestation [can largely be] attributed [...] to the activities of small migrant farmers settling on plots in the rainforest”* (Myers, cited in Murphy 1997: 36). He further notes that development researchers and policy-makers face a great challenge: *“The most ecologically damaging farming systems – extensive pasture and cattle ranching – are precisely those which provide a better quality of life for small farmers in the Ecuadorian Amazon”* (Murphy 1997: 61).

The second issue addresses deforestation due to fuelwood demand of rural households in Nepal. *“Fuelwood is a fundamental source of rural energy – and of deforestation – around the world”* (Amacher et al. 1999: 138).

From 2000 onwards the articles that centre around the theme of deforestation seem to expand in scale and complexity. Working in the context of political ecology the authors are concerned with power structures in socio-natural relations and with the deconstruction of certain narratives, e.g. the popular narrative that sees shifting cultivation as *“a principle cause of deforestation in tropical Africa”* (Ickowitz 2006: 599). Local socio-natural relations and global pressures are both equally discussed. Leach and Fairhead (2000), also famous for their book 'Misreading the African landscape' (1996) *“identify a deforestation discourse produced through national and international institutions”* (ibids. 2000: 35). They critically address emerging *“problems with 'discourse' perspectives which produce analytical dichotomies which confront state and villager, and scientific and 'local' knowledges”* (ibids., page 35). Nygren (2000 b) points to the links between global and local processes and states the following:

“The simple starting point is that deforestation involves much more than the physical act of felling trees. It is a process of change in the people's land tenure and land-use systems, in their social stratification and power relations, and in their environmental perceptions and cultural constructions - a process of change that has to be examined from a diachronic perspective” (ibid., page 13).

7.1.1.4 Droughts and desertification

Desertification and life in arid environments have already been discussed in the 1970s. This makes sense considering the fact that the topics received international attention in the same decade through the 1977 UN Conference on Desertification which was held in Nairobi.

Throughout all four analysed decades the geographical focus lies on Africa.

In 1979, two years after the international conference on desertification took place, Larmuth draws a clear picture of humanities self-made crises in this context. He starts his article with a quotation by Le Houerou saying *“It is man who creates the desert; the climate only provides the conditions”* (Le Houerou, cited in Larmuth 1979: 104). He describes three major causes of degradation as pronounced at the above mentioned UN Conference: firstly, *“the [mechanised] breaking of new ground [...] leading to profitable crops for a short time before erosion leaves the soil unsuitable for further use”*; secondly, *“overgrazing”*; and thirdly, the destruction of the root system of certain plants due to the demand for firewood (Larmuth 1979: 104). Associated problems and consequences reach amongst others from famines and death of livestock to new waves of refugees and in the worst case *“a total breakdown of local social, economic and agricultural systems”* (ibid.). The neo-Malthusian argument of growing population pressure arises frequently. Larmuth concludes that *“it is clearly absurd to consider an infinitely large population being fed from zero cultivable land”* (ibid., page 105). By saying that *“[t]he last hundred years have been a continuum of warning analyses from the scientific world being ignored because they were not politically attractive”* (ibid., page 106) he stresses the importance of scientific research in the context of natural resource management.

Apart from this early article the main issue circles around African pastoralists and hunter-gatherer societies and their interaction with their arid, often drought prone, environments. What most of these articles and the one written by Larmuth (1979) have in common is their conviction that local people in African arid regions have a valuable know-how in ways of dealing with these vulnerable environments.

Larmuth (ibid.) points out that *“any survival stratagem for scattered subsistence farming must be based on extension of traditional techniques, and not on new crops and technology whose long term stability in extreme conditions is unknown”* (ibid, page 106). Swift (1982) notes that although pastoralists and hunter-gatherer people were often forced to live in *“ecologically margin environments [they] nevertheless demonstrate a variety of sophisticated social, cultural and economic adaptations to the problem of making a living from scarce and unreliable resources”*

(ibid., page 159). Moreover he notes that the strategies of adaptation (e.g. physical mobility, herd structure) by these local people “is now beginning to be widely accepted by researchers, but it has not yet made much headway among government and aid organization planners” (ibid., page 167) who often seemed to have only one goal: to make these local and mobile people settle down. While Neville and Rada Dyson-Hudson (1982) suggest “the development of innovative local solutions to local problems” (ibids., page 237), Western (1982) makes an interesting distinction between two approaches in the field of studying pastoralists environments. “[O]ne is geographical, largely a spatial and structural comparison of different locations; the other is dynamic, concerned with the interactions of the environment and man” (ibid., page 183). The author calls the latter an “ecological approach” (ibid.). As already mentioned in an earlier chapter it were mostly geographers who engaged in the field of political ecology that is concerned with socio-natural relations. Nowadays those geographers would probably argue that their interest in research goes far beyond “a spatial and structural comparison of different locations” (ibid.).

In comparison to the 1980s silence occurs in the debate about desertification and arid environments in the 1990s. From 2000 onwards the topic seems to experience a revival. The focus shifts from socio-natural interactions to the income situation of pastoralists. Livelihood diversification is at the core of the discussion during this time (e.g. Little et al. 2001; Berhanu et al. 2007).

Another topic of concern in the 21st century is cooperation in common pasture management. Bogale and Korf (2007) for example who examine “cooperative sharing arrangements [...] of pasture land” (ibids., page 762) point out that “[o]ne should not assume a priori that resource scarcity predisposes potentialities for violence, since violence can occur when resources are scarce as much as when they are abundant” (ibids.). Breusers (2001) comes back to an argument made earlier, namely that mobility belongs to one of the most important strategies for pastoralists in arid environments. In this context he argues against a “western-type tenure security” (ibid., page 49) that could be an obstacle to the necessary mobility of herders and “in favour of the maintenance of flexible resource tenure regimes – a model discussed in recent years in relation to pastoral land use in drylands” (ibid.).

The connection between drought and poverty is drawn by Little et al. (2006).

7.1.1.5 Modern technology and traditional wisdom

The Green Revolution technologies were first seen as the answer to the growing population pressure and food crisis in 'Third World' countries. Most of the articles dealing with the Green Revolution did not refer to any environmental impacts at all. For my analysis I only considered those articles that mentioned the environment implicitly or explicitly in the context of the Green Revolution.

It is interesting to note that the only article dealing with this matter in the 70s sees the environment/nature as an obstacle to successfully implement the Green Revolution. The author, B.H. Farmer (1979), states *“that improvement in productivity is still limited in many areas because technology has not yet sufficiently overcome problems set by the natural environment”* (ibid., page 316). In contrast to this wisdom of a problematic natural environment that has to be dominated by man all the other articles (from the 80s onwards) found on topics such as modern agricultural techniques (e.g. in the context of the Green Revolution) or agricultural industrialization in general dealt with distribution problems of and access problems to natural resources (e.g. Alauddin 1989) as well as environmental deterioration (e.g. De Medeiros 2007).

It was in 1993 that Vandana Shiva published her book 'The violence of the Green Revolution' which proved to be quite influential in the way in which people/ scientists perceived the Green Revolution. Much earlier to that time, in 1962, marine biologist Rachel Carson published another very influential book called 'Silent Spring' in which she criticizes the application of the pesticide DDT as a fertilizer in agriculture. In her view man has the power to destroy his surroundings, and even himself. Carson is very clear about this assumption, opening one of her book's chapters with the words: *“Only within the moment of time represented by the present century has one species – man – acquired significant power to alter the nature of his world”* (ibid., page 5). Both books challenged the modern and very technocratic wisdom of progress.

As we can see the different perceptions of socio-natural relations as outlined in chapter 5 co-exist throughout time. Whereas Farmer (1979) sees nature as an obstacle or threat, authors that refer to Shiva (1993) or Carson (1962) rather focus on the destructive potential of human beings.

Biotechnology one could argue was born as a promising successor of the imperfect Green Revolution. It is often seen as a masterpiece of human mind and as 'the' technology of the future. As the analysis shows it is a very controversially discussed topic that found some minor attention in the

80s and that was heavily discussed from 2000 onwards.

While one article in the 80s focuses on the potentials of the new technology for mining (Warhurst 1985) another one addresses the topic more critically and states “*to assess the impacts of the coming 'biorevolution', it is useful to grapple first with the world political-economic context within which biotechnology will be deployed*” (Kenney and Buttel 1985: 62). In their article 'Biotechnology: prospects and dilemmas for Third World development' Kenney and Buttel (ibids.) point out that it is important to “*meet the needs of the disadvantaged*” (ibids., page 87) and address the problem of technology dependency for the developing countries.

In 2001 Ostergard, Tubin and Altman argue very critically about biotechnology and state “*that globalisation has pushed governments, biotechnology firms and universities into strategic alliances that have unfairly included another partner in the creation of these new products: the developing world*” (ibids., page 644). Control over and profits from the new technology are based in the developed world while the resources needed are taken from the developing countries (ibids.).

A whole volume was dedicated to the topic of biotechnology in 2007 in the Journal of Development Studies. Herring (2007), who writes an introducing article, gives a very good overview about the pro and contra arguments in the academic discussions on biotechnology and points out that “*genetic engineering is changing the terrain of development studies*” (ibid., page 1). New questions arise, “*of property, ethics and safety unimaginable a generation ago*” (ibid.). Science has a leading role in this process defining “*how one conceptualizes evidence, knowledge, uncertainty and risk*” (ibid.). One also has to acknowledge that “*[a]llocative decisions within big science will be driven by markets and politics*” (ibid., page 21).

Proponents of biotechnology are convinced that the new technological discoveries are able to serve the needs of the poor (ibid., page 3). It is seen as a possible solution for some of the main problems in development. “*Biotechnology is to fight obdurate diseases, increase agricultural production, combat nutritional deficiencies and protect the environment (Department of Biotechnology, 2001). Any and all of these outcomes could be pro-poor if realised*” (ibid.).

Opponents on the other side have a different story to tell and address topics such as “*monopoly control of seeds; [...] global bio-piracy [... as well as] environmental degradation, unsafe foods introduced through foreign aid and public distribution systems, or allergenicity from novel proteins*” (ibid., page 4). Summarized one could say that the discussions circle around three main topics: biosafety, bioproperty, and biopolitics (ibid., page 8). In a perfect world the developing countries could indeed benefit from the new technology but, as Herring points out, “*[b]enefits for the poor frequently depend on coalitions that use political means to countervail their structural*

disabilities in markets: minimum wages, social security, nutrition programs, health insurance, transfer payments” (ibid.). The main argument of opponents is the “*acknowledged uncertainty*” (ibid., page 20) of the new technology.

Development based on modernization narratives have often been criticized, especially from the 80s onwards (e.g. by post-modern or feminist scholars). As Woodhouse and Chimhowu (1995) have already pointed out, modern narratives never come alone. There is always a counter-narrative carrying traditional wisdom. In this context the analysis also revealed that traditional and modern narratives often go hand in hand.

The analysed articles cover both the modern and the populist narratives throughout the decades (this could already be observed in the chapter on desertification). A further example of this can be given from the 1970s. My findings show that a critique about western-based modern ways of managing the environment prevailed in the 70s. Still, both the modern and the traditional/ populist narrative could be found in this decade. Articles connected to the latter criticized modern approaches, such as the promotion of mono-cultures or the usage of chemical fertilizers, for their simplifications that ignore the complex ecosystem and societies of the Tropics as well as existing traditional knowledge. Another theme covered swidden or shifting cultivation in a very positive way. Voices connected to the former for example argued in favour of the Green Revolution and better agricultural technology that is able to increase productivity and hence feed the growing population.

7.1.2 Water

Throughout the analysed decades the discussion about water management centres around an important theme: distribution. Apart from environmental problems (such as soil erosion) unequal distribution remains the biggest social problem concerning this topic, no matter if the articles consider drinking water, water for sanitation or for agricultural usage.

Irrigation management is the only theme that has been covered by all analysed decades, starting from the 70s. It is always connected to rural pastoralists' development. From the 90s onwards, the decade in which water becomes a big issue, irrigation management builds the greatest issue with discussions similar to those about land management ranging from common water/property management (e.g. Mosse 1997), tenure systems (e.g. Wood 1999), indigenous irrigation systems and gender (e.g. Adams et al. 1997) and equity in distribution (e.g. Sampath 1992) to policy making in irrigation systems (e.g. Rap 2006) and a critique of neoliberal water reforms (e.g. Boelens and

Zwarteveen 2005) in the 21st century.

Watershed management is also discussed in a similar way from 2000 onwards, with the focus on community management (as in natural resource management of land Hardin is also discussed in this context) and participation.

Negative environmental impacts of and forced resettlements due to the construction of big dams receive some attention in the 21st century. China's Three Gorges Dam is considered most.

Another topic that can be found from the 80s onwards concerns drinking water and sanitation. It makes sense that the topic started in this decade as it also moved onto the international agenda during this time. The UN declared the 1980s to the international decade of drinking water and sanitation. Water distribution and supply efficiency as well as water pricing are the most prevailing topics of concern.

One of the Millennium Development Goals (2000) concerns better access to drinking water. An article from 2006 *“looks at the Millennium Development Goal objectives and linkages between poverty, education, access to water, and household water use”* (Larson et al. 2006: 22).

The notion of crisis can be found from the 1990s onwards. The global water crisis as part of the overall environmental crisis also stands in connection to growing political conflicts over water which find special attention in the 2000s. An article in the 90s focuses on the Aral Sea crisis that exemplifies the catastrophic consequences of natural resource mismanagement (Spoor 1998).

Global water scarcity and international law (e.g. Elver 2006), the geopolitics of water (e.g. Selby 2005) as well as water conflict and mediation (e.g. Zawahri 2006) and an assessment of the 2006 UN Human Development Report on water (Mollinga 2007) are main issues that scholars have been discussing in the 21st century.

7.1.3 Marine resources

The management of natural marine resources has been discussed from the 80s onwards. The main problem mentioned, which can be noticed throughout all analysed decades, is that of over-exploitation of marine resources such as fish. Third World fisheries constitute the major focus of interest. Platteau (1989) for example gives an overview of *“[t]he dynamics of fisheries development in developing countries”* (ibid., page 565).

Many of the analysed articles refer to the 'Convention of the Law of the Sea' which was the result of the third UN Conference on the Law of the Sea (1973-1982). In simple terms the convention

discusses property rights and management of the world's oceans and its marine resources. These are also the main topics addressed by the analysed articles. Borgese (1982) in her article 'Law of the sea: the next phase' and Pardo (1984) in his article 'Third World Lecture 1984: Ocean space and mankind' for example both focus on the famous convention and its implications for further developments in this field.

Compared to the 1980s the topic of marine resources plays only a minor role in the 1990s. Community based management of fisheries (e.g. Hviding and Baines 1994) and share contracts in marine fishing (Platteau and Nugent 1992) are main issues of concern. An article written by Hviding and Baines (1994) for example addresses *“traditional fisheries-related resource management through a case in which local communities, from a basis of customary, 'common property' control over the sea and its resources, handle a multitude of development issues”* (ibids., page 13). Reference to Hardin's 'Tragedy of the Commons' (1968) can be found in connection to common property management. I won't refer to it in more detail as this topic has already been thoroughly discussed (see chapter 7.1.1.1).

In addition to themes that centre around common resource management issues such as indigenous rights and social equity (Mulrennoan and Scott 2000) as well as geopolitics (Dodds 2000) can be found from 2000 onwards. Dodds (ibid.) draws attention to problems such as *“[i]llegal trawling, unregulated dumping, illegal trafficking and coastal habitat destruction”* (ibid., page 241) and states that *“[t]he dilemma facing concerned policy makers, environmentalists and scientists is how to act in a world where nation-states are neither in a position to conserve marine environments nor willing to act in a responsible and environmentally sustainable manner”* (ibid.).

Mulrennoan and Scott (2000) address the problems for indigenous people to act within the territorial boundaries of marine space as defined by European authorities. *“For marine-oriented indigenous peoples, by contrast, land and sea space are integrated within systems of customary tenure, local knowledge, and resource use and management”* (ibids., page 702). The authors conclude that *“[j]urisdictional redundance is problematic not only because it undermines the rights and authority of indigenous residents, but equally because environmental processes rarely respect provincial, national or international boundaries”* (ibids., page 703).

Environmental problems are mentioned in the form of over-harvesting (Dodds 2000) and the destruction of coral reefes (Thorburn 2001). In this context Dodds (2000) notes that *“[t]he Food and Agriculture Organization (FAO) has argued that all world's current fishing grounds are being exploited at or above their sustainable limits”* (ibid., page 229).

As one can notice, the topic of natural resource management and conservation has been discussed very extensively by development scholars and makes clear that they have a great interest in this theme.

7.2 ENERGY

Energy has always been the engine of the modern development project. The age of enlightenment with all its progress and industrialization wouldn't have been possible without it. It is not of great surprise that the first oil crisis found attention within development studies.

However, the topic was not addressed in a very comprehensive way. Shove (1997) calls attention to the invisibility of energy in daily life as well as in social scientists research. "In its invisibility, energy has much in common with other subjects of environmental concern. After all, CO₂ emissions and levels of biodiversity are no easier to detect with the naked eye" (ibid., page 261). She describes two ways of dealing with the topic of energy in sociological research. The first one is about making energy use and consumption transparent and countable, the other one focuses more on hidden aspects concerning energy. Shove calls this "energy-in-disguise" (ibid., page 264).

"To date, discussion of energy consumption has been dominated by those who see energy through the mediating languages of technical and economic discourse" (ibid., page 270).

With this introduction I will now present the analysis findings concerning the topic of energy in more detail.

In the analysed journals discussions about energy already arose in the 1970s. It is no wonder that this topic was addressed so early as both of the well known energy crises (1973, 1979) date back to the same decade. These events stimulated debates about the multi-faceted "*impact[s] of today's reversed [energy] transition from oil to coal, nuclear, and other sources of energy*" (Attiga 1979: 44).

Although both 'developed' and 'developing' countries were affected by the energy crisis and surrounded by debates about energy supply and consumption the geographical scale of interest within the analysed articles focused on the latter ones. When it comes to discussions about energy the countries of the so-called Third World are mostly divided into OPEC countries, non-OPEC countries and non-OPEC but oil importing countries.

Attiga (1979) sees the Third World rather as a homogeneous group concerning their interests in the

energy transition of the 1970s. In his article he tries *"to develop the theme that the countries of the Third World have a common fundamental interest in facing their energy needs and development problems on a collective and regional basis. In this regard, there is no basic difference between the oil-exporting and oil-importing developing countries"* (ibid., page 40). He sees a lot of potential in regional cooperation and joint projects among Third World nations and draws a somewhat positive outlook, understanding the crisis as a chance to more self-dependent and -sufficient development (ibid., e.g. page 56).

In contrast Bailey (1979) argues that *"the energy problems of the Third World countries are extremely diverse"* (ibid., page 57). He further states that *"the developing countries are concerned because the price of oil is a major constraint on development"* (ibid., page 57f).

The articles from the 1970s had an economic focus and centred around general discussions about price adjustments/ increases of oil by OPEC in 1973 and the resulting opportunities, challenges and problems for the 'Third World'. Whereas most of the articles focus on the year 1973 as the historical starting point for the first energy crisis Pendse (1979) is one among few authors (Attiga 1979 for example also refers to problems dating back to earlier decades, especially in connection with Third World countries) that traces the crisis farer back in history to earlier decades. Pendse (1979) explains that the knowledge that fossil fuels cannot be used infinitely had already been available by the 60s and growing concerns about the energy intensive development of industrialized nations had already emerged at that time. Moreover the negative implications for the natural environment due to the rising usage of fossil fuels became more and more apparent. But all of these already existing problems were addressed too late and inadequately (ibid., page 71). *"[F]irewood and electricity shortages and the scarcity of capital"* (ibid.) were other problems already appearing in developing countries.

Although conservation is seen as a necessity in the long-run (e.g. Bailey 1979: 68; Attiga 1979: 55) and alternative energy strategies are explored (especially solar, wind, and hydro power, indigenous and non-commercial energy use, fuel from biomass, as well as coal and nuclear power) the reason for this is a strategic and economic one. The main question is how to avoid economic shortages and dependence from a finite resource. Attiga (1979) states that *"[b]ecause of their almost total dependence on oil exports, the major producers of this group would prefer to limit their production in the interest of sound conservation policies"* (ibid., page 55).

Attiga sees the greatest challenge for the oil-producing countries in developing *"sustained economic growth without oil"* (ibid., page 44).

There is hardly any explicit reference to the natural environment. The problem of non-renewable resources is seen as an economic one. Development without energy alias without growth is not possible. *"In the long term the only bottleneck preventing development is shortage of energy"* (Uri, cited in Bailey 1979: 67). Concerns and protests from environmentalists are rather seen as an obstacle. Bailey (1979) for example notes that *"it takes five years or more to build a nuclear power station, and in some cases even longer because of environmentalist objections to implementing nuclear programmes"* (ibid., page 67).

Another focus (apart from the economical one) constitutes the theme of technology. Inventing or using the right technology is seen as the basis for a good working economy (e.g. ibid., page 62). Third World countries it is said, have to make sure that they do not become dependent on technologies from the industrialized countries. The increased oil prices are also seen as an incentive for oil-importing Third World countries to develop new technologies and explore alternative sources of energy.

The discussion about intermediate technology can also be dated into the early decade of the 70s. These debates were fuelled by a book called 'Small is beautiful: economics as if people mattered' written by British economist E. F. Schumacher (1973). The book was published in 1973 and therefore dates back to the same year of the first energy crisis. This temporal coincidence and Schumacher's critique of modern economic development in times of growing globalization all accounted for the influence of his work.

In his book he states: "Ever bigger machines, entailing ever bigger concentrations of economic power and exerting ever greater violence against the environment, do not represent progress: they are a denial of wisdom. Wisdom demands a new orientation of science and technology towards the organic, the gentle, the non-violent, the elegant and beautiful" (1973: 34).

The analysis shows that the theme also raised attention among scholars working on development issues. Mc. Robie (1979) for example states that *"energy intensive technologies [...] are by no means always in harmony with the needs and aspirations of poor countries"* (ibid., page 71). Furthermore he concludes *"that the development of such alternative technologies can avoid many of the conflicts that are inherent in the conventional technologies of the rich countries"* (ibid.).

In every time of crisis people are looking for new answers and opportunities. This search for

alternatives is reflected in the main interest of research within the 80s, namely alternative and renewable sources of energy.

Energy is seen as "*the lifeblood of any economic system*" (Munslow and O'Keefe 1984: 25). The articles evaluate the energy situation of developing countries and the main question is how to reduce their oil dependence from the oil-producing countries and at the same time their technology dependence from the industrialized world.

Alternative/ renewable sources of energy are seen as a possible solution. House (1980) suspects that "*[a]lternative sources of energy such as wind power, solar energy, tidal wave power and biogas may have been developed to an extent to have partly replaced the dependence on oil*" (ibid., 30).

Hoffman (1985) points out that it makes sense for developing countries to invest into such alternatives as "*[they] are well endowed with the major sources of renewable energy*" (ibid., page 5). Moreover, generating energy from renewable sources, e.g. the sun or wind, is relatively cheap and the technology needed does not have to be highly sophisticated. "*[...] many of the necessary conversion systems are potentially inexpensive, relatively small-scale, and simple to construct, operate and maintain*" (ibid., page 6). Schumacher's 'small is beautiful' concept shines through this argumentation.

While Hoffman (1985) focuses on the potential and constraints of photovoltaics in the Third World, Redclift (1984) calls attention to the social (e.g. inequality) and natural (e.g. river pollution) problems of Brazil's ethanol programme with the goal of substituting fuels. Juma (1985) concentrates on a similar topic, power alcohol as an alternative source of energy for transport/ vehicles in Kenya and Zimbabwe but makes the theme of technology acquisition her main interest of research and emphasizes the importance of "*understanding [...] the role of technology in market competition and market restructuring*" (ibid., page 40).

Decreasing the dependence on oil is seen as a necessity for future developments. But this leads to an other concern shared by most authors of the analysed articles. "*The danger [...] is that the developing countries may once again find themselves in a position of technological dependence vis-à-vis the West which could conceivably parallel their high degree of dependence on the West for conventional energy systems*" (Hoffman 1980: 335f).

Another theme that emerged within the 80s and that grew into the major issue in the 21st century is that of political conflicts about the access to sources of energy and related to this topic international security.

In comparison to the 1970s and 80s the topic of energy found relatively little attention within the 1990s. The focus in this decade remains an economical one (e.g. 'Oil price shocks and policy responses in the post-reform Chinese economy' by Peng/Martin 1994 or 'Nigerian oil and exchange rates [...]' by Struthers in 1990).

The political implications of the international concerns about energy found a lot of attention from 2000 onwards. Topics of interest are the global security (e.g. Lai 2007), political or trading conflicts as well as problematic policies in the field of energy.

Williams (2007) for example states that "*[e]nergy trade periodically aligns Northern importing - consuming countries against predominantly Southern producing - exporting countries*" (ibid., page 45).

China finds quite a lot of attention within the analysed articles. This is no wonder considering that "*China is now the world's second largest oil consuming nation. [The countries] external quest for oil has thus generated much attention and is believed by many to destabilise the world order*" (Lai 2007 519). While Lai (ibid.) objects the assumption that China imperils global security, Klare and Volman (2006) focus on the "*US - China competition over access to African oil*" (ibids., page 624) and the problematic military aid which both of the former countries offer Africa. "*In the end African societies will most probably suffer from this competition as an influx of arms bolsters the capacity of entrenched African regimes*" (ibid., page 609).

Coming back to Shove's explanations about energy which I put in the introduction of this sub-chapter I can now generally support her view. It is indeed the case that in the context of the theme 'energy' technical and economic factors matter most. Socio-natural relations and its various interactions do not find a lot of attention.

7.3 URBANIZATION AND THE ENVIRONMENT

For a long time development was associated with the idea of modernity. Rural and back-warded areas were to be transformed into places of economic growth and progress. Corbridge (1995) says that "[i]n the 1950s it was widely assumed that developing countries were bound for an urban-industrial future. Urbanization and manufacturing industry were the most potent indicators of modernity" (ibid., page 256; similar viewpoint: Potter et al. 1999: 367). With its progressive image urbanization "goes hand in hand with the process of 'development', however the latter is defined" (Potter et al. 1999: 367).

Nowadays we can find the world's largest cities, the so called mega-cities, within the Third World. However, the positive image of urban settlements soon started to fade. The modern development process did not promise what it initially lived up to. Urban poverty, people living in slums, and environmental hazards such as pollution are some of the alarming problems in areas of growing urbanization.

7.3.1 Urban-rural divide and urban bias

One of the themes discussed by the analysed articles focuses on the urban-rural divide in developing countries. Policies and development interventions have often put an emphasize on urban areas, thus “ignoring the complex dynamics between rural and urban areas” (Swanepoel 2000: 82). Misleading assumptions such as “the belief that life *will* be better for poor people in the city” (Corbridge 1995: 256) or the undervaluation of “rural outputs relative to urban outputs” (ibid., page 257) are nowadays mostly seen as urban bias. A very great influence on development studies in this context emanated from a book called 'Why poor people stay poor: a study of urban bias in world development', published by the economist Michael Lipton in 1977. Almost all of the analysed articles refer to the economist's book and in a development reader for students it can be read that “Michael Lipton is most often associated with the idea of urban bias” (Corbridge 1995: 257).

In his book Lipton (1977) focuses on Africa and Asia, excluding Latin America “where it is generally accepted that industrialization and urbanization have proceeded much more quickly than in South Asia and Africa” (Corbridge 1995: 258). Redclift (1984) focuses exactly on this missing link and gives 'a Latin American perspective' (ibid., from the title). He analyses the usefulness of Lipton's concept for Latin America and concludes that “[i]f we revise 'urban bias' to take account of Latin American experience we are witnessing the end of the concept as it was originally used” (ibid., page 136).

Mick Moore (1984) whose article was published in the early 1980s criticizes the “*relatively uncritical acceptance of the rural-urban dichotomy as a basic analytical concept*” (ibid., page 6) especially in connection to Third World analysis. Furthermore he draws the line between rural-urban analysis and “*the classical traditions of social science*” (ibid.) and points out that “[t]he concept of a clear rural-urban divide is deeply embedded in classical political economy, in Marxian political economy, and in sociological theory. The relevance of this concept to the contemporary Third World is implicitly questioned” (ibid., page 5).

Moore also scrutinizes Lipton's concept and concludes that “[f]or all its deficiencies of excessive

simplification and generalisation, Lipton's [1977] work, for example, does provide a solid foundation for understanding the prevalence of a certain pattern of policy-induced resource allocation throughout most of the Third World” (ibid., page 25).

7.3.2 Urban pollution, waste management

The issues discussed most within the analysed articles in the context of urbanization are pollution and waste management. Environmental themes such as pollution arose quite late in the journals of inquiry and could be found from 2000 onwards. Before that time other related issues were of greater concern. Melchert (2005) points out that “*[t]he 1990s saw a blossoming of debates on the social, economic, cultural and political transformations that are taking place in major cities with the advent of a globalized world order*” (ibid., page 820).

The earliest published article about the urban environment reminds of a theme discussed within the sub-chapter 7.1. 'Natural resource management and conservation'. Rural commons with an open access character á la Hardin are at the core of the discussion. Anand (2000) states that “*[...] a community-based approach is highlighted as a central theme in recent literature on urban environmental management in developing countries*” (ibid., page 30). The author concludes that co-operation among urban population in solid waste management does exist (ibid.).

In the context of urban waste management the authors set different focal points. While Meen-Chee and Narayanan (2006) focus on waste management problems in Penang island as well as on individual recycling behaviour others focus on central stakeholders in the waste management process, e. g. on waste pickers and waste collectors. Hayami et al. (2006) for instance put an emphasize on the “*important contribution to society*” (ibids., page 41) that waste pickers and collectors make.

The geographical scale of the articles dealing with waste management and recycling behaviours centres around Asia, mostly India.

Another range of articles deals with environmental pollution and pressures in Third World countries. Melchert (2005) introduces her article by saying:

“Nowhere are urban environmental pressures so accentuated as in Third World metropolitan cities. Here the rush to gain a competitive edge in the global economy, in order to attract multinational firms and become a ‘global city’, is leading to an inconsistent urban policy framework in which development policies frequently clash with environmental policies” (ibid., page 803).

She makes two mega-cities, Beijing and Sao Paulo, to her main interest of research and explores the impacts of globalization on the environmental and spatial dimensions of both cities.

Environmental problems due to industrialization and rapid economic growth are at the core of the debate.

Calvert (2001) who applies the concept of “*internal colonisation*” states in the very same context that “[t]he accelerated growth of urban settlements in the South has [...] serious implications for the environment” (ibid., page 51). Melchert (2005) focuses on globalization processes and puts “*the role of globalization vis-à-vis urban sustainability issues*” (ibid., page 803). “[C]ost-effective strategies for pollution control” (Pandey 2005: 33) constitute the main interest of research in Pandey's article about 'sectoral and geographical industrial pollution inventories in India' (ibid.). He localizes the problem by saying that “[b]ecause of the lack of reliable information on the nature and magnitude of emissions/discharges from various industrial sources it is difficult for regulators to formulate costeffective strategies for industrial pollution control” (ibid.).

A very technocratic notion is introduced by the article 'Environmental reform, technology policy and transboundary pollution in Hong Kong' written by Welford et al. (2006). The authors “*explore the utility of Ecological Modernization Theory as a basis for future environmental reform at the local level and as a mechanism for tackling broader regional environmental concerns*” (ibids., page 145). They conclude that “*greater attention must be given to fostering and facilitating technological innovation in the environmental sector*” (ibids.). In comparison to this notion of technological optimism Anand (2000) believes that “*unlike many other environmental problems, the problem of wastes, if anything, is going to increase (rather than diminish) with economic growth*” (ibid., page 32).

7.3.3 Urban environmental thinking and activism

Whereas some of the articles listed above mentioned human behaviour (e. g. recycling behaviour) in the context of urban environmental issues only one article explicitly dealt with the theme of environmental thinking and activism in urban areas (Mawdsley 2004). Mawdsley (ibid.) concentrates on the Indian middle classes, puts an emphasize on their heterogeneity and states that “[g]iven their impact on the environment, and their influence on the social and political contexts within which environmental change is being experienced and managed, this is an area of study that requires greater attention” (ibid., page 96f). She explores how the Indian middle classes relate to “*the complex meanings and materialities of the environment*” (ibid., page 79) and has three main

themes of research: *“civic indifference and the public sphere; environmental activism; and Hinduism and ecological thinking”* (ibid.).

The discussions about topics of urban pollution and environmental thinking/ activism evolved quite late, from 2000 onwards. Considering the fact that urban pollution was the main concern at the first UN conference on the (human) environment it came of great surprise that the topic arose that late within the analysed journals.

7.4 WOMEN, GENDER AND ENVIRONMENT

The term 'gender' has become indispensable to people working within the development business. It has already attained special status in today's development jargon. „The general consensus places the birth of gender and development in 1970 with the publication of Ester Boserup's path-breaking volume on 'Women's role in Economic Development' (1970)“ (Pearson 2005: 158). We can talk about gender as a mainstream topic since the end of the 20th century (ibid., page 166ff). It is important to note though that the term gender was often misunderstood. Gender is more than just a mere focus on women. It is a social relation and refers to socially constructed 'males' and 'females' in daily life.

However, it was the successful work of feminists that placed the topic on the international agenda. (Discursive) events such as the 1972 international year of women, several UN conferences on women as well as the UN women's decade from 1976 to 1985 offered space for broaching several issues that addressed women's needs and concrete living situations as well as the question of how to incorporate women into the market orientated development process.

For my analysis I considered only those articles that linked any kind of gender aspects (also those articles that focused only on women) to environmental themes.

It was of some surprise that not a single article dealing with gender or feminist ideas and the environment could be found in the 1970s and 80s. According to the analysed articles/ journals the topic evolved rather late, in the beginning of the 1990s.

In the 1990s the majority of the articles dealt with women or gender relations in common resource management. In contrast most articles from 2000 onwards shift away from the earlier focus on local field studies and instead tend towards another interest of inquiry, namely the de-construction of certain discourses and narratives that emerged in the field of gender and environment within

development circles.

The focus of the 1990s is not surprising considering the fact that during that decade the development world experienced a new shift to community based development.

Locke (1999) for example addresses the issue of gender equity and asks how gender is dealt with in the policy practice in joint forest management. Furthermore she puts an emphasize on the contribution that social scientists can make in this field and states that

“project managers and foresters need to accept the case for collaborating with social scientists and community development practitioners in order to contribute to understanding gendered relationships in the context of JFM without the expectation of catch-all recommendations for implementing gender-sensitive policy” (ibid. 1999: 282).

Agarwal (1997) focuses on women's participation in the re-emerging community based resource management and stresses the need to realize that communities and gender relations are not homogeneous but that they consist of heterogeneous interests, relations and realities. Adams, Watson and Mutiso (1997) put an emphasize on gender when discussing “*water rights [e.g. access to water] in an indigenous irrigation system*” in Kenya (ibids., page 707).

7.4.1 Eco-feminism

What most of the articles have in common is their critical reference to eco-feminism. Let me give a short introduction to this topic before I consider my findings more thoroughly.

The connection between women, the environment and development was mainly drawn by eco-feminists, especially since the ecological and developmental crisis. It was in the 1970s that eco-feminist theories evolved. The boost of the environmental movement as well as of the peace and women's movement can also be dated into the same time period (see for example Littig 2001: 13).

The assumption lying at the bottom of eco-feminist approaches views the modern system of industrialization and capitalism as a patriarchal system that dominates, subordinates and destroys both women and nature. Women in contrast to men, it is moreover said, are characterized by a deep and close relationship to nature.

Littig (2001) refers to Mellor who distinguishes between two different tendencies in eco-feminism: “a rather radical spiritual/ cultural orientation on the one hand, and a rather materialist/ constructivist ecofeminism on the other hand” (Mellor, cited in Littig 2001: 14). The former: “will tend to stress male domination per se, and even maleness itself, as the cause of ecologically

destructive and socially oppressive behaviour” (ibid.) and describes women as having “an elementary closeness to nature” (ibid.). The latter: “come[s] from a socialist feminist background [and] see[s] the division of power, and particularly of labour, between men and women as holding the key to unsustainable patterns of development” (ibid.). Moreover proponents of the second stream often accuse the former for being essentialist (ibid.).

Leach (2007) makes a similar „*distinction between those [eco-feminists] taking an essentialist position, attributing the connection between women and nature to biological roots, and those who see it as a social or ideological construct*” (ibid., page 69f).

In the analysed articles it is especially the essentialist perspective of eco-feminism that finds a lot of criticism (more about this see below).

A very important eco-feminist author who successfully linked eco-feminist ideas with development is Vandana Shiva. There is a general consensus on the fact that she had great influence on scholars from development studies. The analysed articles can only corroborate this view as many of them make a reference to Vandana Shiva's work.

I will now look at the main points of critique that were made by the authors of the analysed articles in more detail.

7.4.2 Women or gender analysis in development

Since the 80s a growing influence of eco-feminism can be noticed in development strategies dealing with gender (see also Leach 2007: 68f), especially the so-called WID (women in development) and WED (women, environment and sustainable development) approaches.

The WID approach appeared against the background of different social movements (anticolonial struggles, 1968 movement, civil rights movement, second wave of feminism) (see Pearson 2005: 159) and as a counter reaction to feminist and environmental critiques in the 1970s (see Littig 2001: 18). Its main goal was based on the inclusion of women into modern development (Pearson 2005: 159).

The ensuing WED approach did not diverge much in substance and was criticized for almost the same reasons. “*Indeed what came to be termed the Women, Environment and Development (WED) approach could, scholars later argued, be seen as a translation of WID perspectives into the environmental domain — a rather late one, given that WID was already coming under critique in*

other domains” (Leach 2007: 69).

What did change though was the perception of women. Were they initially seen “as victims of the environmental crisis” (Braidotti et al. 1994: 2) so were it “their roles as efficient environmental managers within the development process in the South” (ibids.) that soon attracted attention.

In her article 'Earth mother myths and other ecofeminist fables [...]’ Leach (2007) states that „[f]rom the early 1990s, a number of thoroughgoing critiques of these WED and ecofeminist perspectives began to appear“ (ibid., page 73). This view can be supported by my analysis.

One of the main points of critique is the gender blindness of WID and/ or WED approaches which is often ascribed to the influences of eco-feminism. Leach (2007) for example criticizes the mere emphasis on women in development: „As with WID, the focus [of WED] was almost exclusively on women's activities, with men barely appearing in the picture” (ibid., 69). Hand in hand with the critique of gender blindness goes the critique of seeing women as one homogeneous group sharing the same interests. Jackson (1993) summarizes the points of concern in a very clear way by saying that “[...] the application of gender analysis to environmental relations involves seeing women in relation to men, the disaggregation of the category of 'women', and an understanding of gender roles as socially and historically constructed, materially grounded and continually reformulated” (ibid., page 649).

As a response to the predominating focus on women Laurie (2005) published one article that deals with masculinities in the water sector. She states that her work “represents a renewed call to examine male bias at an ideological, institutional and discursive level” (ibid., page 528). Moreover she points out that “more than two decades of mainstreaming gender into development research and policy have failed to come to grips with the masculine subject” (ibid., page 527f).

In this context Pearson (2005), who wrote an interesting chapter in Kothari's book 'A radical history of development studies' (2005) dealing with the historical contextualization of gender in development, observes that “the inclusion of the study of men and masculinity is increasing even if it has yet to claim a lot of mainstream (male) attention” (Pearson 2005: 157f).

Another even though related point of criticism concerns the eco-feminist view that women have a closer relationship to nature than men (e.g. found in Leach 2007, Agarwal 1997, Jewitt 2000, Locke 1999). It is clear that this view cannot be supported by any proponents of gender analysis as it is a very essentialist one.

Leach (2007) critically states that „it appears to be only women who have any environmental

connection“ (ibid., page 71). Related to the eco-feminist view of the close women-nature-relation stands the assumption that women would always opt in favour of natural conservation. „*Much environment and development discourse assumes that women are the 'natural' constituency for conservation interventions*“ (Jackson 1993: page). Jackson (ibid.) is not the only author criticizing this view. Agarwal (1997) for example problematizes the „*nature of the ecofeminist argument that women simply by virtue of being women have a special relationship with nature, with a particular stake in environmental protection that is seldom shared by men*“ (ibid., page 39).

In her article about 'Environmentalisms and gender interests in the Third World' Jackson (1993) concludes „*that there are no grounds for assuming an affinity between women's gender interests and those of environments and that such a view is symptomatic of the gender blind, ethnocentric and populist character of western environmentalism*“ (ibid., page 649).

It is not of great surprise that gender analysts view eco-feminism as being essential. Interestingly one article written by Niamh Moore (2008) as a response to Melissa Leach's article 'Earth mother myths and other ecofeminist fables [...]' (2007) in which the latter gives an overview over eco-feminist discourses in development, Moore (2008) argues for „*a perspective that recognizes that ecofeminism was never only essentialist*“ (ibid., page 473) and proposes a „*genealogical critique of the critique of essentialism*“ (ibid.).

As a response to the critique about WID and WED approaches another somewhat new concept called GAD (gender analysis in development) arose in the mid-1980s (see for example Laurie 2005: 527). GAD received a more positive critique as it, so Laurie (2005), „*usefully focused attention on gendered power relations and generated questions about the role of identity formation in development processes*“ (ibid., page 527). Locke (1999) concludes that „*GAD does not presuppose that 'women' will necessarily gain from environmental conservation*“ (ibid., page 269).

However, in the book 'A radical history of development studies' Pearson (2005) states:

“While WID has been reclothed as ‘GAD’, gender analysis in development, reflecting the analytical insistence that women’s gender position is a relational one (in comparison with men’s) as well as a concrete condition reflecting the reality of being female in a poverty and underdeveloped situation (see Young 1988), the priority of ‘integrating women into development’ has remained the objective of development agencies” (ibid., page 160).

Jewitt (2000) points out that „*there have been proposals for a wider examination of gender (instead of just women or men) within different social contexts*“ (ibid., page 965). One of the examples she refers to is Bina Agarwal's approach of 'feminist environmentalism'. Agarwal (1997) herself states in this context that „*the gender division of labour, property and power (viz. the feminist environmentalist perspective) appears to be a better predictor of environmental action we are*

observing, than the perspective provided by ecofeminism” (ibid., page 39).

Feminist theory shaped development research quite a lot. It had a lot of influence on research (e.g. post-development or political ecology) that addresses power relations and that tries to demystify dominant discourses.

7.5 SUSTAINABLE DEVELOPMENT

Today it almost seems as if the word development cannot stand alone without the annex 'sustainable' in front of it. Since the appearance of 'the' global environmental crisis which the public perceived as such from the early 70s onwards the question of how to manage the earth's ecosystem was at the forefront of discussions about future developments. A lot has been written about sustainable development (SD) and the different stories are everything else than consistent.

Adams (1990) points out that “the concept of sustainable development cannot be understood in a historical vacuum. It has many antecedents, and over time has taken on board many accretions and influences” (ibid., page 14). In his book the author addresses different strands that all paved the way for the emergence of SD as we perceive it today: nature preservation and conservation, tropical ecological science and ecological managerialism, “the growing global reach of scientific concern”, “the rise of perceptions of global environmental crisis”, “the way international environmental concern was focused by the 1972 Stockholm Conference” (ibid., page 15).

It would go beyond the scope of this work to go into more detail. Moreover Adams (1990) has already done great work concerning this matter and I recommend his book to anyone being interested in this theme. Instead I will rather concentrate on my analysis findings. In the journals the topic has been discussed controversially.

The notion of crisis is portrayed very well in some of the analysed articles. In a report called 'Information for a better world environment' which was published in Third World Quarterly in 1980 the crisis is drawn as follows: “*Increasing oil spillages and pollution, soil erosion, river contamination, desertification and deforestation*” (Third World Quarterly, page 131). Moreover we face an increasing population pressure, urban growth, “*the breakdown of traditional social and cultural values, and the degradation and pollution of the natural environment*” (ibid.). The report concludes that global efforts, e. g. global networks of information and knowledge, are necessary to improve the environment. Other authors support this view and emphasize the necessity of global management initiatives. Devlin (1994) states that “[w]hatever the efforts of individual countries to

solve domestic environmental problems, global management of global environmental resources is unavoidable” (ibid., page 59).

Williams (1993) suggests that the international focus on the global environment harbours new possibilities for the coalition of developing countries and might *“provide fresh impetus to the stalled North-South dialogue”* (ibid., page 8).

As my work already revealed in an earlier sub-chapter (7.1 Natural resource management and conservation) a strong managerial aspect is nothing new in development (studies) but with the emergence of SD it reached global scale.

The consensus that (global) management is necessary to overcome the crisis resulted in a multitude of environmental policies/ regulations/ assessments and other management strategies. Many of the analysed articles address these issues, especially from the 90s onwards. Bertram (1992) for example believes that *“[t]here is a real prospect that an international convention on carbon dioxide emissions could end the debt crisis and finance sustainable development in the South”* (ibid., page 423). Only one article on this theme can be found in the 80s, focusing on the 'Institutionalization of an Environmental Programme in [...] Nicaragua' (Wiberdink and Van Ketel 1988).

Other topics that received a lot of attention since the 1990s are the role of NGO's within the SD process (e. g. Charlton 1995, Jasanoff 1997, Tang and Zhan 2008 and others) as well as the role of the UN bodies and the different states in connection to the theme of global governance (e. g. Conca 1995, Baark and Strahl 1995, Duffy 2005 and others). Considering the fact that NGO's received a great boost during the 1990s and that they were actively involved in the World Summit on Sustainable Development which took place in 1992 in Rio de Janeiro, it makes sense that the role of NGO's was addressed by development scholars from this time onward.

The geographical focus in this process of environmental policies/ politics/ government lies once again on the so-called developing world. Great attention is paid to China. Ho (2006) argues *“that China's development poses the greatest ever environmental challenge for the modern world in terms of speed, size and scarcity”* (ibid., page 3). In another article of the same volume Ho and Vermeer (2006) state

“that the greening of state and society [which does take place] are insufficient to guarantee the sustainability of Chinese development. Moreover, China's sheer size, the speed of its development, and the relative scarcity of its natural and mineral resources, imply that its economic growth will eventually also jeopardize sustainability at a global level” (ibids., page 225).

Chan et al. (2008) pose the following question: *“What is China's participation in global*

environmental governance?” (ibids., page 291). All these contributions reveal that China is seen as a big threat not just to its national ecological conditions but also to global sustainability.

While there seems to be a consensus on the necessity for global environmental management, what remains rather unclear and vague is the meaning of the term SD itself and the ways in which to achieve it, provided that it can be achieved at all.

Biswas and Biswas (1982) put an emphasize on scientists' important role in the whole process.

Rowlands (1993) points out that SD is generally regarded as a “*Good Thing*” (ibid., page 393) and concludes that “*the debate about sustainable development, while recognised as critical, remains complex*” (ibid., page 393). In an article on South Africa Munslow and Fitzgerald (1994) note that the “*reason for the widespread acceptance of 'sustainable development' is that it can mean all things to all people*” (ibid., page 229). Due to this vague conceptualization it “*may soon become another rhetorical flourish in the vast development literature*” (Parayil 1996: 947f). What is dangerous about sustainable development, so Doyle (1998), “*is its lack of explicitness, its exquisite use of language, its Orwellian doublespeak*” (ibid., page 774).

Apart from other important aspects as described by Adams (1990) a milestone for the internationalization of SD was the 1972 Conference in Stockholm which resulted in the World Conservation Strategy (WCS). The conference was mainly achieved through the successful lobbying activities of Northern environmentalists who brought environmental concerns (that time mainly connected to urban industrialized areas, e. g. pollution) into the centre of international attention. Doyle (1998) notes that “*[e]nvironmentalism has challenged 'business as usual' politics more than any other social movement in the late 20th century*” (ibid., page 771). Adams (1990) states that “[t]he WCS represents environmentalism carefully repackaged for a new audience, but its message is essentially the same. It is a determinist vision which the WCS puts forward. Ecology (and environmental systems more generally) are presented as setting limits on human action” (Adams 1990: 47). Carrying these Malthusian assumptions the WCS builds on works such as 'The limits to growth' (Maedows 1972), 'Spaceship earth' (Ward 1966) and 'The population bomb' (Ehrlich 1968).

In the WCS it can be read:

“Human beings, in their quest for economic development and enjoyment of the riches of nature, must come to terms with the reality of resource limitation and the carrying capacities of ecosystems, and must take account of the needs of future generations. This is the message of conservation. For if the object of development is to provide for social and economic welfare, the object of conservation is to ensure Earth's capacity to sustain development and to support all life” (Kassas et al. 1980:1).

On the one hand side the WCS has a moral claim to care for the ecosystem and criticizes the destructive development practice while on the other side it stresses “the utility of species and ecosystems as resources for human subsistence and development” (Adams 1990: 50). The problem is, so Adams, that it views both development and environment as something apolitical, ignoring the complex power structures in which they are embedded (ibid.).

Another milestone in the SD process which turned out to be quite different from the ideas of the WCS which put environmental conservation at the core of discussions was the so-called Brundtland Report ('Our common future') which was published by the World Commission on Environment and Development (short WCED) in 1987. Whereas it was initially development (seen as economic growth) itself that used to be the main point of criticism the Brundtland Report succeeded in presenting it (economic development) as the new solution for successfully managing the earth. Adams (1990) puts this very clear by stating that the report “is based on an economic and not an environmentalist vision. It uses some of the language of 1970s environmentalism, but not the questioning of growth or technology” (ibid., page 60). Poverty and environmental deterioration are put into a direct connection. Poverty is seen as the main obstacle to improving the environment. Insofar poverty has to be removed first and this can only be achieved through development, alias economic growth (see also Adams 1990). In this context Adams (ibid.) asks: “But what of the pressures of that growth itself? What about demands for energy and raw materials, about pollution?” (ibid., 60).

We can already see two different discourses that can both be found under the banner of sustainable development and both of them could be found in the analysis. In the context of these diverse discourses Redclift (1987) concludes that “[s]ustainable development is a concept which draws on two frequently opposed intellectual traditions: one concerned with the limits which nature presents to human beings, the other with the potential for human material development which is locked up in nature” (ibid., page 199).

The former can be seen in connection to the WCS and to criticism about economic growth, the destructive practice of development, as well as solutions being based on the mere believe in new technologies.

The latter is more based on the visions of the Brundtland Report which makes economic growth to its core strategy. It is often connected to positivist and classical economist ideas of growth and the belief that humans are able to fight any (environmental) crisis with new technological inventions. Development initiatives that focus on approaches such as clean technology or ecological

modernization are very common.

Both of these two narratives are based on a neo-Malthusian notion. The former is concerned with population growth that might exceed the carrying capacity of the earth's ecosystem and often refers to the 'Limits of growth'. The latter worries about population growth in developing countries and sees it as an obstacle to development/ economic growth. In the tradition of the latter stands for example Garrett Hardin's (1968) 'Tragedy of the commons'.

It was not of great surprise that some of the analysed articles emphasized the importance of economic growth to reduce environmental damage. Kneese (1979) for example states that “[t]he developed countries [in contrast to developing countries] are technologically and economically capable of reducing the pollution of their environment while continuing to grow” (ibid., page 84). Karshenas (1994) makes a strong statement by saying that “[e]nvironmental degradation in many instances is related to economic backwardness and slow economic growth rather than being a matter of a growing economy pressing against the limits of the natural resource base” (ibid., page 743). In almost the same manner Wiberdink and Van Ketel (1988) argue as follows: “Although most Third World countries officially pay attention to environmental issues, in practice they have made little progress (often due to their weak economic performance)” (ibids., page). In this line of argumentation poverty is the problem and economic growth as well as technological innovation the solution. Unequal distributional effects receive little, if any, attention.

Nevertheless, most of the authors criticize this positivist view, especially from the 1990s onwards. This development goes hand in hand with the boom of postdevelopment theories.

Parayil (1996) for example notes that “[t]he development theory embedded in SD models contains the same positivistic and metaphysical assumptions that neoclassical economics takes for granted” (ibid., page 948). The author criticizes that developing countries are mostly blamed for environmental destruction and “for not achieving sustainable development because of 'population explosion' and [consumption of] their 'ecological capital', supposedly without any concern for intergenerational equity” (ibid.).

Doyle (1998) states “that sustainable development has managed to place the economic imperative firmly over the ecological” (ibid., page 774). Moreover he points out that “sustainable development [...] tells us that, through increased efficiency and effectiveness in production, [...] biophysical limits can be bypassed” (ibid.). He further criticizes that 'nature' is excluded from the concept of sustainable development. What matters is the utility and effectiveness of the environment, alias resources (ibid.).

According to the findings of my analysis I would argue for a third strand that tries to go beyond this dichotomy of an environmental/ conservative and an economic focus. One that does not neglect humans dependence on nature but at the same time addresses issues such as equity, distribution, and power. It focuses on livelihood issues and recognizes the fact that all livelihood depends on nature as well as on the interplay of social and ecological factors. Moreover it tries to deconstruct classical narratives that are determined by social or natural factors only. This kind of research, one could argue, goes in the direction of political ecology.

Peter Ho (2006), writing about sustainability in China, concludes the following: *“It is necessary to move beyond both alarmist visions of an environmental doomsday, and optimistic notions that incremental changes in technology, institutions and lifestyles are sufficient for sustainability”* (ibid., page 3).

What we find here is the same discussion I referred to a bit earlier in this work, namely the issue of how to address socio-natural relations. It does not make sense to see either the social or the natural in a determinist way nor to ignore either of them. The socio-natural system as a whole and its complex, multi-faceted, and diverse interactions are of far greater relevance. Analysing natural processes as well as power relations and structures of social hierarchies are both vital aspects in this process.

Guthman (1997) for example puts an emphasize on the production of environmental knowledge and states that

“[t]he production of environmental interventions is intimately connected to the production of environmental knowledge, both of which are intrinsically bound up with power relations. Therefore, the facts about environmental deterioration have become subordinate to the broader debates on the politics of resource use and SD” (ibid., page 45).

Parayil (1996) states that *“[a] meaningful sustainable development policy should locate the international linkages between the transfer of capital, labour and natural resources, and should attempt to correct the unequal exchange practices between the two spheres”* (ibid., page 949).

Already as early as in 1986 social scientist Redclift, who nowadays is a well-known scholar in the field of environmental sociology, already tried to bridge the gap between natural and social sciences and made an attempt to get some influence in the field of sustainability which was initially dominated by environmentalists concerns. He argues that *“‘sustainability’ means more than ecological and agricultural stability in less developed countries: it inevitably has a livelihood component, without which ‘conservation’ objectives cannot be met. This is beginning to be*

recognised by ecologists and other scientists interested in tropical ecosystems“ (ibid., page 93).

In a book (Sustainable development: exploring the contradictions) which Redclift (1987) published in the very same year he perceives and describes the problem as follows: “The environment has suffered more neglect at the hands of social scientists than any comparable subject. If it has fallen to natural scientists to understand environmental change without recourse to the methods and analytical tools of social science, it is hardly our place, as social scientists, to criticize” (Redclift 1987: 4). Later he concludes: “We [social scientists] are losing control both of the destruction of nature and its recreation” (ibid., page 204).

What the author addresses here is a concern about the question of how social scientists can approach environmental issues and socio-natural relations without ignoring power relations as well as questions of equity and justice.

Two decades later Attfield et al. (2004) approach this concern from a similar perspective and argue that *“sustainable development includes, but is not restricted to, living within ecological limits; it also entails addressing issues of justice and equity, as well as the eradication of poverty and ensuring sustainable livelihoods”* (ibids., page 405).

The most important aspects concerning academic discussions about the theme of SD have already been mentioned. Last but not least I shall refer to the various problems/ obstacles and solutions that were mentioned in the context of SD by the authors of the analysed articles.

All the problems can be seen as components of the perceived environmental crisis.

Deforestation and the destruction of rain forests is a widely discussed topic and already started in the early 1990s (e.g. Gross 1990).

Environmental migration due to ecological (as well as socio-economic) problems is a less discussed theme but also finds some attention from the 90s onwards. Whereas in the 90s the only article published on this theme explicitly refers to environmental migration (Swain 1996) and states that *“[e]nvironmental migration should be one of the most important items on the global political agenda”* (ibid., page 971), the topic is only implicitly discussed from 2000 onwards. De Haan (2002) states that *“[e]xtreme insecurity and vulnerability in the Sahelian environment has been, of course, one of the dominant reasons for population mobility”* (ibid., page 54). At the same time the scholars argue that environmental degradation is one of many reasons for migration. Mosse et al. (2002) for example concludes that *“the forces leading to migration are as much to do with the social relations of dependency and indebtedness which subsistence failure entails, as with ecological decline”* (ibid., page 59).

Munslow (1999) sees political instability and armed conflicts as *“the key impediment to sustainable development”* (ibid., page 551).

Problems that have been discussed from 2000 onwards are climate change, tourism, and natural disasters.

“[T]he challenge that climate change poses to development” (Saunders 2008: 1509) has been recognized by the development community. Saunders (ibid.) puts an emphasize on the importance of individual behaviour and states: *“Peak oil and climate change require that we begin to make a transition towards a low carbon friendly society immediately, otherwise people in developing countries will be subjected to yet more inexorable and unnecessary suffering, some of which is already inevitably because of our prior fossil fuel abuse”* (ibid., page 1523).

A connected theme is tourism. One of the problems concerning tourism is the pollution due to transportation, e.g. aeroplanes. Brown and Hall (2008) moreover state that *“[i]t frequently causes degradation of the environment through unregulated construction, over-use of resources, pollution and diversion of often scarce water supplies”* (ibids., page 841). Tourism is often seen as a strategy for development as it brings income to and fosters economic growth in developing countries. Sustainable tourism, eco-tourism, pro-poor tourism and similar approaches have been promoted as a new and sustainable alternative to any destructive forms of tourism. Although Gössling et al. (2008), who focus on 'Consequences of climate policy for international tourist arrivals in developing countries' *“emphasise that the preconditions for poverty alleviation through tourism deserve as much attention as the consequences of climate policy for arrivals”* (ibids., page 896), most of the authors writing on this theme present it from a critical point of view. Brown and Hall (2008) for example state that instead of fostering sustainable development *“sustaining the tourism industry and the resources upon which it depends has appeared all too often to be the major priority”* (ibids., page 1023f).

Concerning natural disasters Özerdem and Barakat (2000) who focus their research on the Marmara earthquake identify the following 'root causes' of the disaster: *“The limited access to power, structures and resources of some populations and political and economic ideologies [... that] create 'dynamic pressures' such as rapid population growth, rapid urbanisation, foreign debt, war, lack of ethical standards in public life and environmental degradation”* (ibids., page 429). Floods, earthquakes, and droughts are some of the discussed natural disasters.

Apart from better (local and global) environmental management through policies, institutions, and global governance (as already discussed above) a further reaction to the crisis was the appearance of

topics such as corporate social responsibility (CSR), clean technology, green/ sustainable agriculture, and ecological modernization.

Ecological modernization theory, which attempts “to explain institutional changes in modern societies related to the internalization of environmental values and norms” (Sonnenfeld 2002: 2) is discussed by some of the scholars. Whereas Sonnenfeld (ibid.) focuses on social movements, Mol (2006) “analyses to what extent environmental reforms in contemporary China can be interpreted as ecological modernization” (ibid., page 29).

Most of the articles about CSR refer only very implicitly to environmental facts. Only one article deals explicitly with biological diversity (Fig 2007). Brown and Hall (2008) state that

“[s]ocial science paradigms employed have included 'sustainable livelihoods' and 'dependency', while specific approaches, rather than theoretical models – such as sustainable development, pro-poor tourism, and corporate social responsibility – have drawn on current thinking in economics, environmental science, sociology, political science and business” (ibids., page 1021).

Clean technology and clean production is seen as a possibility to reconcile environmental and economic goals. “Cleaner Production (CP) has been advocated worldwide as a strategy for companies to obtain environmental and economic benefits simultaneously” (Oliver and Ortolano 2006: 99). Again it is China that builds the geographical focus. Zhao (2006) for example states that “[t]he recent shifts in China's auto industry policy from development only, through development with emission control, to development with cleaner vehicle technology demonstrates that China is attempting to balance the challenges of economic development, environmental protection and energy security” (ibid., page 121).

Another article that focuses on China puts sustainable/ ecological/ organic agriculture in the centre of concern (Sanders 2006).

One can see that 'the' topic of sustainable development carries many facets and has been discussed in different and multiple ways.

7.6 FROM POLITICAL ECONOMY TO POLITICAL ECOLOGY

Global political economy has been of great relevance in development studies. It challenges the orthodox wisdom of classical economics⁵ and connected ideas such as “a world [market] of perfect competition and frictionless free trade” (Corbridge 1995: 329). Generally one could say that the

⁵ Emerging in the 18th century classical economics (e.g. of Marx, Smith, Ricardo) was initially referred to as political economy. A century later this classical strand was better known as classical economics and a new field of political economy (such as the above mentioned global political economy) emerged that criticized the orthodox view of its classical ancestor.

field of global political economy is concerned with economic distribution conflicts.

For my analysis I considered only those articles of political economy that dealt with any environmental issues in one way or another. As already mentioned in the sub-chapter on 'Political Ecology' some geographers started to include ecological issues within their political economical research in the 1980s. Considering this fact it makes sense that political economical perspectives on the environment emerged in the 1990s within the analysed journals.

A very prominent article was that of James Boyce (1992) called 'Of coconuts and kings: the political economy of an export crop'. Boyce's article also appeared in a reader about development studies published by Stuart Corbridge in 1995. This demonstrates its relevance to scholars from development studies.

In his article Boyce (1992) examines the international coconut trade, focusing on the Philippines. Although the Philippines are the main coconut exporters worldwide they do not belong to the economic winners. In the contrary, Boyce argues that “[t]he benefits of this trade for Filipino producers have been circumscribed by declining terms of trade in the world market and by highly unequal distribution of coconut-sector income at home” (ibid., page 1). In his article he connects wealth and power with distributional issues.

'The political economy of oil' is the main interest of inquiry in a feature review written by Samir Awad in 1999. Introducing his book review he notes that “[d]espite high expectations on the part of policy makers that the 'black gold' would be the vehicle that transformed the oil-producing countries into modern states with advanced economies, actual outcomes were quite disappointing” (ibid., page 1221). The two books on which his review is based on give some explanations for the economic and political deterioration of the oil-producing countries.

Another topic of interest that was found within the analysed articles and that was put in direct connection to political economy were environmental policies in neoliberal economies. While Sanders (1999) focuses on China, Kaimowitz (1996) makes Latin America to his geographical scale of interest. Both articles argue that the neoliberal model of growth and short-term productivity is inconsistent with environmental protection. Kaimowitz (ibid.) argues that “[n]eoliberal economic and environmental policies themselves offer some opportunities for helping to reduce pollution and natural resource depletion. On balance, however, they have probably done more harm than good in this regard” (ibid., page 449). He speaks in favour of “an alternative economic development model” (ibid.). Sanders (1999) states in this context that “there is considerable evidence from across China that, with regard to the ongoing curses of environmental degradation and pollution, the market-

based reforms of the 1980s and 1990s contributed more to the problem than to the solution” (ibid., 1212).

7.6.1 Political ecology – analysing socio-natural relations from a political perspective

It was already mentioned (see chapter 5.4 Political ecology) that integrating environmental issues into political economical analyses paved the way for a new field of research, namely political ecology. What both fields, political economy and ecology, have in common is that both are concerned with power structures and socio-historical contexts. Moreover both of them are interdisciplinary fields of research, study distribution conflicts in one way or another, and have both a great relevance within development studies.

Instead of calling this sub-chapter 'from political economy to political ecology' my first idea was to term it 'economic and ecological distribution conflicts'. As the other five categories refer to certain themes I thought it might be better to make it just as such with the sixth category. But as political ecology embraces a variety of issues and as quite a few of these issues were found in the analysed journals I decided to address the whole field. I already gave an introduction to the field of political ecology in chapter 5.4. In this sub-chapter I will rather focus on my findings.

That the first attempts of geographers (e. g. of Blaikie and Brookfield) trying to incorporate environmental issues in political economic analyses had a lasting impact on development studies is exemplified by an article written by Stonich (1991). She introduces her article as follows: *“Using an approach which integrates environmental concerns into political-economic analysis, this article examines the impact of the promotion of non-traditional agricultural exports on regional inequality and environmental degradation” (ibid., page).*

In the analysed articles political ecology was explicitly referred to from the 1990s onwards. Nevertheless, even if not referred to explicitly as political ecology the topic already arose within the 1980s. This might not be surprising considering the fact that the field attracted attention within the same decade due to influential publications such as from Blaikie (1985) and Blaikie and Brookfield (1987). However, it came of great surprise for myself. As I received hardly any input about political ecology during my own students time I personally believed that this topic had been treated very marginally within Development Studies. It turned out that I was wrong about this.

Furthermore, Biersack (2006) draws attention to the importance of political ecology for

development. “Development frequently, if not always, involves resources, their cultivation, and their commodification. Historically it has had a special relevance for political ecology, and it continues to have a special relevance for a place-based post-Marxist political ecology that is in league with transnational studies” (ibid., page 19). Nygren (2000a) makes the point by referring to Gadgil and Guha who highlight that “*nature-based conflicts are intimately connected to the development process as a whole*” (Gadgil and Guha, cited in Nygren 2000a: 828).

Several topics from conservation and resistance movements over toxic waste trade and the political ecology of oil palm, violence, infrastructure planning, and water to the deconstruction of environmental narratives were covered within the analysed articles in the context of political ecology. They shall now be discussed in more detail.

7.6.1.1 Conservation

The topic of conservation has been taken up by many political ecologists. I already referred to it in connection to natural resource management (see sub-chapter 7.1) and will therefore only discuss those elements that are vital in the context of political ecology.

As already mentioned in the sub-chapter about natural resource management and conservation the latter is often connected to the issue of livelihood. Which natural resources/ which natural environmental areas are conserved by whom and why (whose interests are 'conserved') could for example be of a political ecologist's interest. Another question could concentrate on the exclusion and inclusion of certain (groups of) people from resources/ land/ activities. Distribution, equity, justice, and local knowledge are topics of concern.

As the analysed articles show, conflicts can arise when local inhabitants of 'to-be-conserved'-areas are granted only restricted or no access to the natural resources on which they depend for livelihood. Ghimire (1994) writes in his article about national parks that “*the transformation by the state of increasing areas of land and aquatic resources into strictly protected areas has included a total restriction on the use of park resources by the local people, causing poverty and social conflict, and in some cases further environmental deterioration*” (ibid., page 195).

The scientist Nancy Lee Peluso is famous for her political ecological work. Her book 'Rich Forests, Poor People: Resource Control and Resistance in Java' (1992) addresses the political, social, economic and ecological impacts of conservation policies that exclude local people from their livelihood basis. So does her article 'The political ecology of extraction and extractive reserves in East Kalimantan, Indonesia' (1992) published in *Development and Change*.

(Forced) resettlements is another related and problematic issue that often leads to conflict. Dickinson and Webber Professor (2007) for instance state that “*resettlement has apparently been designed to achieve development (expanding capitalist methods of production) rather than Development (improving peoples' lives)*” (ibids., page 539).

From 2000 onwards the focus of the analysed articles is based on conservation in forests and national parks.

7.6.1.2 Toxic waste trade

Toxic waste trade found some attention in the 80s and 90s. This happened in the context of the growing awareness about the negative environmental impacts of the ever-growing industries in the so-called 'developed countries'. The trading of hazardous waste lacked any kind of control for quite some time and led to some problematic incidents in the 80s. The European ship 'Karin B' which dumped its toxic cargo on African land was referred to in all the articles and it is one of the examples that fuelled discussions about and protests against the trade of toxic and hazardous waste.

Wynne (1989) makes the problem clear by saying that the toxic waste trade “*allows industrial society consumers to externalise the costs of the contradictory political 'demands', for ever-greater consumption combined with increased environmental quality*” (ibid., page 144). Clapp (1994) sees this topic as an example for the “*inextricable links between the world economy and the global environment*” (ibid., page 505). This makes it interesting for the field of political ecology. The topic of toxic and hazardous waste trade is indeed a highly political one and has led to many conflicts. Questions such as 'Who produces most of the industrial toxic waste?', 'Who carries the burden of this industrial pollution?' and 'In which ways does the modern model of growing economies and industries harm other societies and the environment?' or put in other words 'What are the costs of modern development and who has to pay them?' are at the centre of concern. Highly industrialized countries have the capital to keep their environments healthy and to pass their environmental problems over to other parts of the world. “*Instead of reducing the risks of the generation of hazardous wastes, current regulations seem only to redistribute them geographically*” (Bongaerts, cited in Wynne 1989: 145). Clapp (1994) focuses on grassroot activities and concludes that “*[t]he growth in NGO activity to counteract the trade can be seen as a reaction to the ethos of 'free trade' in the global world economy which considers wastes a commodity like any other, and which often disregards effects of global trade on the environment, human health, and long-run economic*

development” (ibid., page 516).

Both articles (Wynne 1989; Clapp 1994) refer to the 'Basel Convention on the Transboundary Movement of Hazardous Waste and its Disposal' which brought the topic into public awareness and consequentially and most probably also into the research agenda of development studies.

7.6.1.3 Other conflicts

From 2000 onwards most authors writing about ecological distribution conflicts and political ecological issues in general explicitly refer to their field of inquiry as such. Different issues are covered.

Cooke (2002) for example focuses on the political ecology of oil palm in Malaysia and points out that

“[p]olitical ecologists have opened a path for linking social action with struggles over natural resource access and control. [...] In this sense, although oil palm plantations are presented in official discourse as a vehicle for development and for raising the living standards of rural peoples, they may in fact be seen as providing an avenue for the exercise of power and control” (Cooke 2002: 190).

Bohle and Fünfgeld (2007) concentrate on a topic that found only little attention so far and comment it in the following way: *“Up to now, political ecology has lacked a sound conceptual approach for analysing how violence that has its origin in political conflict induces environmental and social change. The article examines how the environment serves as an arena for exerting power” (ibids., 665).*

Other articles that did not explicitly refer to political ecology but that definitely operate in this field covered themes such as international conflicts over water (e. g. Haftendorn 2000), conflicts due to mining activities, and conflicts about infrastructure projects (e.g. road building).

In the context of road ecology, for example, Perz et al. (2007) *“examine four case studies of roads with distinct histories in order to explain the socio-spatial processes behind road building in terms of profit maximization, land tenure claims, co-operative and conflictive political ecologies, and constraints as well as opportunities afforded by the biophysical environment” (ibids., page 529).*

Concerning mining activities Gordon and Webber (2008) conclude that

„[e]xpansionary mining activity by foreign capital has led to increasing conflict with miners, peasants, environmentalists and indigenous movements around the dispossession of land and resources from local communities, the contamination of water sources and the diversion of rivers, exploitative labour practices, unemployment, the terms of technology transfers, the extraction of natural riches for the nearly exclusive benefit of foreign capital, and the threat to existing agricultural activities“ (ibids., page 82).

7.6.1.4 Environmental narratives and biases

Political ecologists are also involved in deconstructing environmental narratives and biases. „It remains for political ecology to decolonize the production of environmental and political ecological knowledge and to develop critical awareness of its own implication in the very dynamics it studies“ (Biersack 2006: 26).

Nygren (2000 a) introduces her article saying that “[b]y analysing local resource-related narratives and actions and their links to the larger political-economic processes and environment-development discourses, the study builds upon the insights of political ecology” (ibid., page 808). Deciphering and deconstructing certain (environmental) 'realities' she explains that

“[b]y referring to questions not asked and views not articulated, valuable insights may be revealed about who defines how 'reality' is presented, and how alternative voices are marginalized. In this respect, environmental accounts can be seen as narratives of control and exclusion, as well as narratives of diversity and resistance“ (ibid., page 808f).

In the same manner Adger et al. (2001) identify in their article “*the major discourses associated with four global environmental issues: deforestation, desertification, biodiversity use and climate change*” (ibids., page 681). They conclude that

“[i]n each of the four areas there is a global environmental management discourse representing a technocentric worldview by which blueprints based on external policy interventions can solve global environmental dilemmas. Each issue also has a contrasting populist discourse that portrays local actors as victims of external interventions bringing about degradation and exploitation“ (ibids.).

Books such as 'Misreading the African landscape: society and ecology in a forest-Savanna mosaic' (Fairhead and Leach 1996) in which the authors deconstruct dominant narratives about deforestation in West Africa helped to launch further research in this direction.

7.6.1.5 Resistance and environmentalism of the poor

Most of the articles concerning this matter focus on resistance (movements) against the impacts of globalization, imperialism and neoliberal market policies.

Gordon and Webber (2008) for instance investigate resistance movements in Latin America and state that „[s]ince the late 1990s popular resistance against neoliberalism has manifested itself across Latin America by way of radical extra-parliamentary movements in the countryside and cities, as well as through the election of a number of populist, left and centre-left governments“ (ibids., page 64). Mittelman (1998) asks “*what constitutes resistance to neoliberal globalisation?*”

(ibid., page 847) and defines the environment *“as political space, a critical venue where civil society is voicing its concerns”* (ibid., page 848). In his article he puts an emphasise on *“the diversity of environmental politics in encounters with globalising processes”* (ibid.).

Harvey (2001) who makes biodiversity conflicts in Mexico to his main interest of inquiry tries to show *“some of the main connections between globalisation, democracy and development”* (ibid., page 1045). According to him the process of development and its inherent and unequally distributed power forces influence peoples' lives significantly. *“The emergence of a global 'Life Industry', dominated by a handful of transnational corporations, is of great significance for how the world's people gain access to food, medicines, and technology”* (ibid.,page 1045f). Furthermore he highlights the problems connected to *“the dominant neoliberal model of 'market citizenship', in which subjects are created by the extension of individual property rights and capitalist rationality”* (ibid., page 1046).

Gordon and Webber (2008) focus on mining activities and associate problems such as the *“dispossession of people from their land and ecological degradation”* (ibids., page 63) with it. Moreover they point out that *“[w]hile the motivations behind growing popular rebellion are multifarious, resistance to the commodification of natural resources has been a central feature“* (ibids., page 72). The authors put their case studies into the context of *“the broader dynamics of global capitalism, in order to develop a coherent anti-imperialist perspective”* (ibids., page 82).

A commonly discussed theme in the context of environmental resistance movements is the so-called 'environmentalism of the poor'. The economist Martinez-Alier contributed quite a lot to this discussion with his equally called book ('Environmentalism of the poor') published in 2002. For quite some time environmental movements were connected to the developed world. The environmentalism of the poor challenges this view. In his book Martinez-Alier (ibid.) points out that the latter grew out *“of local, regional, national and global ecological distribution conflicts caused by economic growth and social inequalities”* (ibid., page 14).

Guha (who also published the book 'Varieties of environmentalism: essays North and South' together with Martinez-Alier) and Gadgil (1994) wrote an article about 'Ecological conflicts and the environmental movement in India'. The authors distinguish between first and third world environmentalism and state that *“in the Western world, the destruction of the environment has had an adverse impact primarily on health and on natural habitats valued for reasons of science, aesthetics or leisure, whereas in the poorer countries it has in addition gravely undermined the life chances of millions of rural (and urban) households”* (ibids., page 133). Moreover Guha and Gadgil identify natural resource conflicts as an inherent part of development.

“Broadly speaking, these conflicts have set in opposition, on the one side, social groups who have gained disproportionately from economic development whilst being insulated from ecological degradation (in particular, industrialists, urban consumers and rich farmers), and on the other, poorer and relatively powerless groups such as small peasants, pastoral nomads, tribals and fishing communities, whose livelihoods have been seriously undermined through a combination of resource flows biased against them and a growing deterioration of the environment” (ibids., page 119).

As we could see, many themes that were covered by the analysed articles have something in common with the approaches of political ecology. Apart from the above mentioned issues one could also connect it to the other five categories. Conservation and natural resource management has already been mentioned. As already stated in the introduction on political ecology (chapter 5.4) the field also draws on insights from gender and feminist theory. Therefore the category 'women, gender, and the environment' is quite relevant for it. Sustainable development, insofar as it is seen as the study of livelihood issues and insofar as livelihood is seen as being based on the interaction of both natural/ environmental and social factors, is closely connected to political ecology. Energy and urbanization could also be analysed through the lens of political ecology, e.g. posing questions of equity and resource distribution.

Political ecology seems to offer many possibilities for approaching socio-natural relations from a political point of view. Insofar it seems to offer a lot for development studies.

8 CONCLUSION

In this study I have attempted to explore and analyse – using Jäger's discourse analysis method – how scholars of development studies have tried to incorporate the theme of nature/ environment within their work until now. Identifying the main topics/ discourses that could be found within three well-known development journals from the 1970s until 2008 constituted the core interest of my investigation. At the same time, my interest also lay in exploring possible future outlooks for development studies that might open new paths for systematically approaching environmental issues and socio-natural relations.

The analysis revealed some interesting results. Six main environmental topics or discourse strands were identified: natural resource management and conservation; energy; urbanization and environment; women, gender and the environment; sustainable development; and last but not least from political economy to political ecology.

Within development studies, the topic of *natural resource management and conservation* has received a lot of attention among scholars and has been discussed in a variety of ways. Community based resource management, technological innovations, indigenous knowledge, and global conflicts were all topics of concern. From the 1990s onwards the focus from particular field studies shifted to research that tried to connect local and global scales and that addressed dominant discourses/ narratives (such as deforestation narratives) as well as power relations, equity and livelihood issues.

The topic of *energy* was already referred to from the 1970s onwards. The oil crises which can be dated to the same decade definitely fueled research in this direction. The topic was mainly approached and discussed from the point of view of economic and technological factors throughout all decades.

Urban pollution and waste management as well as urban environmental thinking and activism were main issues of concern in the category *urbanization and the environment*. Surprisingly, discussions about this topic arose very late, from 2000 onwards. Urban environmental problems such as pollution were major issues of concern in Northern environmentalist thinking during the 1960s. These concerns were the basis for the first international conference on the (human) environment in 1972. Development in contrast was often associated with economic growth, seen as the main threat to the environment in the eyes of environmentalists. This might be the reason why

the topic of urban pollution did not find attention in earlier decades.

Women, gender and the environment was the content of the fourth category. Whereas in the 1990s the majority of the articles dealt with women or gender relations in common resource management the focus from 2000 onwards shifted to the deconstruction of dominant narratives/ discourses that emerged within the field of gender and environment in development studies. Both WID (women in development) approaches and essentialist notions derived from eco-feminism found a lot of critique.

The topic of *sustainable development* has been discussed quite controversially. Two deterministic lines of argumentation could be identified. One with an environmental/ conservative and the other one with an economic/ technocratic focus. A third stream of research could be identified especially from 1990 onwards. One that does not neglect humans dependence on nature but at the same time addresses issues such as equity, distribution, and power. It focuses on livelihood issues and recognizes the fact that all livelihood depends on nature as well as on the interplay of social and ecological factors. Moreover it tries to deconstruct classical narratives that are determined by social or natural factors only.

It came of some surprise that the topics connected to the category *from political economy to political ecology* have been dealt with quite a lot within development studies (especially the latter, political ecology). The connected articles covered a whole range of different issues ranging from different socio-ecological conflicts (due to conservation, mining activities, toxic waste trade, infrastructure projects, and unequal access to water) over the deconstruction of certain environmental narratives and biases to resistance movements.

It is important to note that the mentioned categories cannot be seen as single entities but that they constantly interact with each other. Taken together I can make the following conclusions:

A strong managerial aspect was obvious in most of the analysed themes (e.g. urbanization, conservation, energy, sustainability). This is nothing new but with topics such as sustainable development and the internationalization of environmental concerns (e.g. through the World Conservation Strategy or the Brundtland Report) it reached global scale.

Earlier in this work it was already mentioned that socio-natural relations (which can be seen as the

basis for all livelihood) can be studied and seen from different perspectives (see Van der Leeuw and Aschan-Leygonie 2005). Two rather determinist ways of dealing with these socio-natural relations either perceive nature as a threat to humans that has to be dominated by mankind or view humans and modern progress as the main threat to the environment which consequently faces destruction. The analysis revealed that just as the modern and the populist narrative (as described by Woodhouse and Chimhowu 1995) always co-exist throughout time, so do the above described ways of dealing with socio-natural relations.

However, another aspect of the analysis showed that especially from the 1990s onwards it was the interaction between both the social and the natural which was of main concern (see also Van der Leeuw and Aschan Leygonie 2005). Among others this is especially true for topics such as natural resource management and conservation; women, gender and the environment; and sustainable development. This kind of research includes the analysis of dominant discourses, the deconstruction of certain narratives, a focus on power structures and the conviction that social factors cannot be seen separately from natural factors but that both of them always determine and depend on each other. The influence from post-development, post-modern, and feminist sides is quite apparent. One could argue that this kind of research goes very much into the direction of political ecology. It seems as if the field of political ecology embraces most of the environmental topics that have been discussed by scholars from development studies.

8.1 POLITICAL ECOLOGY – AN OUTLOOK FOR THE FUTURE

As we could see, many themes that were covered by the analysed articles have something in common with the approaches of political ecology. As mentioned earlier, Robbins (2004) has categorised the current work of political ecologists into four main issues:

- degradation and marginalization (land degradation, long blamed on marginal people, is put in its larger political and economic context)
- environmental conflict (environmental conflicts are shown to be part of larger gendered, classed, and raced struggles and vice versa)
- conservation and control (usually viewed as benign, efforts at environmental conservation are shown to have pernicious effects, and sometimes fail as a result)
- environmental identity and social movement (political and social struggles are shown be linked to basic issues of livelihood and environmental protection)

(ibid., page 14).

My analysis revealed that all of Robbins thesis were covered by the articles of the analysed journals.

Sustainable development, insofar as it is seen as the study of livelihood issues and insofar as livelihood is seen as being based on the the interaction of both natural/ environmental and social factors, is closely connected to political ecology. So are the categories women, gender and the environment as well as natural resource management and conservation. Energy and urbanization could also be analysed through the lens of political ecology, e.g. posing questions of equity and resource distribution. Moreover Robbins (2004) sees these topics (energy and urbanization) as potential and relevant issues for further political ecological research.

Through this empirical research, it has become increasingly obvious that several scholars from development studies have been operating within political ecology in order to address different livelihood themes, knowingly or unknowingly.

Political ecology is an interdisciplinary field that offers a good way for approaching socio-natural relations from a political point of view. Moreover both development studies as well as political ecology concern livelihood issues which as already mentioned are based on socio-natural relations. Insofar political ecology seems to offer a lot for development studies.

So why not open up for the field of political ecology that already played a vital role in development studies and that has so much to offer?

Another point that I want to make concerns the geographical scale of the analysed articles which only concentrated on the so-called developing nations. This is a very narrow focus, considering the fact that development (with its social, ecological, political, and economic dimensions) does not only happen in one part of the world and goes far beyond the dichotomy of developed and developing nations. Robbins (2004) states that political ecological research of the future will have to go beyond such a narrow geographical scale. Therefore both fields development studies and political ecology face a similar challenge and might be able to support each other.

Incorporating political ecological research into the work of development scholars to better understand development issues – that are far more complex and inclusive of social and natural systems - seems to be a plausible outlook for the future of development studies.

9 APPENDIX

9.1 LITERATURE

Adams, W.M. (1990): Green development. Environment and sustainability in the Third World. London; New York: Routledge.

Adams, William M.; Mulligan, Martin (2003): Introduction. In: Adams, William M.; Mulligan, Martin (eds.): Decolonizing nature. Strategies for conservation in a post-colonial era. London: Earthscan Publications.

Adams, William M.; Mulligan, Martin (eds.) (2003) Decolonizing Nature: Strategies for Conservation in a Post-Colonial Era. London: Earthscan Publications.

Allaby, Michael (1983) [1977]: Macmillan dictionary of the environment. Second edition. London; Basingstoke: The Macmillan Press.

Bernstein, Henry (2007): The antinomies of development studies. In: JEP Journal für Entwicklungspolitik, XXIII/2. Wien: Mattersburger Kreis für Entwicklungspolitik, 12-27.

Biersack, Aletta (2006): Reimagining political ecology. Culture/ power/ history/ nature. In: Biersack, Aletta; Greenberg, James B. (eds.): Reimagining political ecology. Durham, NC [et al.]: Duke University Press, 3-42.

Biersack, Aletta; Greenberg, James B. (eds.) (2006): Reimagining political ecology. Durham, NC [et al.]: Duke University Press.

Blaikie, Piers M. (1985): The political economy of soil erosion in developing countries. London [et al.]: Longman.

Blaikie, Piers M.; Brookfield, Harold (1987): Land degradation and society. London [et al.]: Methuen.

Böhme, Gernot; Manzei, Alexandra (Hrsg.) (2003): Kritische Theorie der Technik und der Natur. München: Wilhelm Fink Verlag.

Boserup, Ester (1970): Women's role in economic development. London: Allen & Unwin.

Bryant, Clifton D.; Peck, Dennis L. (eds.) (2007): 21st century sociology. A reference book. Volume two. Thousands Oaks: SAGE.

Buttel, Frederick H.; Humphrey, Craig R. (2002): Sociological theory and the natural environment. In: Dunlap, Riley, E.; Michelson, William (eds.): Handbook of environmental sociology. Westport: Greenwood Press, 33-69.

Carson, Rachel (1962): Silent spring. Boston: Houghton; Mifflin.

- Cowen, Michael; Shenton, Robert (1995): The invention of development. In: Crush, Jonathan (ed.): Power of development. London; New York: Routledge, 27-43.
- Corbridge, Stuart (ed.) (1995): Development studies: a reader. London: Edward Arnold.
- Cottingham, John (ed.) (1998): The Cambridge companion to Descartes. Cambridge [et al.]: Cambridge University Press.
- Crush Jonathan (1995): Introduction. Imagining development. In: Crush, Jonathan (ed.): Power of development. London; New York: Routledge, 1-23.
- Crush, Jonathan (ed.) (1995): Power of development. London; New York: Routledge.
- Darier, Éric (1999): Discourses of the Environment. Oxford; Massachusetts: Blackwell Publishers.
- Dickens, P. (1996): Reconstructing nature. Alienation, emancipation and the division of labour. London: Routledge.
- Dobson (ed.) (2006): Political theory and the ecological challenge. Cambridge [et al.]: Cambridge University Press.
- Dunlap, Riley E. (et al.) (2002): Environmental sociology. An introduction. In: Dunlap, Riley E.; Michelson, William (eds.): Handbook of environmental sociology. Westport, CT: Greenwood Press, 1-32.
- Dunlap, Riley E.; Michelson, William (eds.) (2002): Handbook of environmental sociology. Westport, CT: Greenwood Press.
- Dunlap, Riley E.; Marshall Brent K. (2007): Environmental sociology. In: Bryant, Clifton D.; Peck, Dennis L. (eds): 21st century sociology. A reference handbook. Volume two. Thousands Oaks: SAGE, 329-340.
- Dunlap, Riley E. (2008): Promoting a paradigm change. Reflections on early contributions to environmental sociology. In: Organization Environment, 21/4, 478-487. Sage Publications.
- Edwards, Michael (1989): The irrelevance of development studies. In: Third World Quarterly, 11/1, 116-135.
- Ehrlich, Paul R; (1968): The population bomb. New York: Ballantine Books.
- Escobar, Arturo (1996): Constructing nature. Elements for a poststructural political ecology. In: Redclift, Michael R.; Woodgate, Graham (eds.) (2005): New developments in environmental sociology. Cheltenham, UK; Northampton, MA, USA: Edward Elgar Publishing, 150-172.
- Ezzy, Douglas (2004): Old traditions and new ages: religions and environments. In: White, Rob (ed.): Controversies in environmental sociology. Cambridge: Cambridge University Press, 8-25.
- Fairclough, Norman (1995): Critical discourse analysis. Papers in the critical study of language. New York: Longman Publishing.

- Fairhead, James; Leach, Melissa (1996): *Misreading the African landscape. Society and ecology in a forest-savanna mosaic*. Cambridge (et al.): Cambridge University Press.
- Fischer, Vorname; Hödl, Gerald (2007): Perspectives on development studies: a short introduction. In: *JEP Journal für Entwicklungspolitik*, XXIII/2. Wien: Mattersburger Kreis für Entwicklungspolitik, 4-11.
- Forsyth, Tim (2004): *Encyclopedia of international development*. London: Routledge.
- Foucault, Michel (1973) [1963]: *The birth of the clinic. An archaeology of medical perception*. London: Tavistock.
- Foucault, Michel (1980) [1978]: *The history of sexuality. Volume I. An Introduction*. New York: Vintage Books.
- Foucault, Michel (1981): *Archäologie des Wissens*. Übersetzt von Ulrich Köppen. Frankfurt am Main: Suhrkamp.
- Gilpin, Alan (1986): *Environmental planning*. Park Ridge, N.J.: Noyes Publishing.
- Görg, Christoph (2003): Nichtidentität und Kritik: zum Problem der Gestaltung der Naturverhältnisse. In: Böhme, Gernot; Manzei, Alexandra (Hrsg.): *Kritische Theorie der Technik und der Natur*. München: Wilhelm Fink Verlag, 113-133.
- Guha, Ramachandra; Martinez-Alier, Juan (1997): *Varieties of environmentalism. Essays North and South*. London: Earthscan.
- Hannigan, John (2006) [1995]: *Environmental sociology*. Second edition. London; New York: Routledge.
- Hardin, Garrett (1968): The tragedy of the commons. In: *Science*, 162/3859, 1243-1248.
- Harriss, John (2005): Great promise, hubris and recovery. A participant's history of development studies. In: Kothari, Uma (ed.): *A radical history of development studies*. London; New York: David Philip; Zed Books, 17-46.
- IIASA (International Institute for Applied Systems Analysis) (1992): *Science and sustainability. Selected papers on IIASA's 20th anniversary*. Wien: IIASA.
- Irwin, Alan (2001): Society, nature, knowledge. Co-constructing the social and the natural. In: Redclift, Michael R.; Woodgate, Graham (2005): *New developments in environmental sociology*. Cheltenham, UK; Northampton, MA, USA: Edward Elgar Publishing, 214-242.
- Janks, Hillary (2002): Critical discourse analysis as a research tool. In: Toolan, Michael: *Critical discourse analysis. Critical concepts in linguistics. Volume IV. Current debates and new directions*. London; New York: Routledge, 26-42.
- Jäger, Siegfried (2001a): *Discourse and Knowledge*. Translated from the original German manuscript by Iris Bünger and Robert Tonks. In: Wodak, Ruth; Meyer, Michael: *Methods of Critical Discourse Analysis*. London; Thousand Oaks; New Dehli: SAGE Publications, 32-61.

Jäger, Siegfried (2001b): Kritische Diskursanalyse. Eine Einführung. 3. Auflage. Duisburg: Duisburger Institut für Sprach- und Sozialforschung.

Jäger, Margarete; Jäger, Siegfried (2007): Deutungskämpfe. Theorie und Praxis kritischer Diskursanalyse. Wiesbaden: Verlag für Sozialwissenschaften.

Keller, Reiner (et al.) (eds.) (2001): Handbuch sozialwissenschaftliche Diskursanalyse. Band I. Theorien und Methoden. Wiesbaden: Verlag für Sozialwissenschaften.

Keller, Reiner (2005): Wissenssoziologische Diskursanalyse: Grundlegung eines Forschungsprogramms. Wiesbaden: Verlag für Sozialwissenschaften.

Kemp, David (1998): The environment dictionary. London; New York: Routledge.

King, James J. (1995): The environmental dictionary and regulatory cross-reference. Third edition. New York: John Wiley & Sons.

Kothari, Uma (ed.) (2005): A radical history of development studies. Individuals, institutions and ideologies. London; New York: David Philip; Zed Books.

Kothari, Uma (2007): Geographies and histories of development. In: JEP Journal für Entwicklungspolitik, XXIII/2. Wien: Mattersburger Kreis für Entwicklungspolitik, 28-44.

Liljenström, Hans; Svedin, Udo (eds.) (2005): Micro, meso, macro: addressing complex systems couplings. Singapore [et al.]: World Scientific.

Lipton, Michael (1977): Why poor people stay poor. A study of urban bias in world development. London [et al.]: Temple Smith [et al.].

Littig, Beate (2001): Feminist perspectives on environment and society. Essex: Pearson.

Lockie, Steward (2004): Social nature. The environmental challenge to mainstream social theory. In: White, Rob (ed.): Controversies in environmental sociology. Cambridge: Cambridge University Press, 43-60.

Maedows, Donella H. (et al.) (1972): The limits to growth. A report for the Club of Rome's project on the predicament of mankind. New York: Universe Books.

Martinez-Alier, Juan; Schlüpmann, Klaus (1987): Ecological economics. Energy, environment and society. Oxford [et al.]: Blackwell.

Martinez-Alier, Juan (2002): The environmentalism of the poor. A study of ecological conflicts and valuation. Cheltenham [et al.]: Elgar.

Meyer, Michael (2001): Between theory, method, and politics. Positioning of the approaches to CDA. In: Wodak, Ruth; Meyer, Michael: Methods of critical discourse analysis. London; Thousand Oaks; New Delhi: SAGE.

Milton, Kay (1996): Environmentalism and cultural theory. Exploring the role of anthropology in environmental discourse. London [et al.]: Routledge.

- Neumann, Roderick P. (2005): Making political ecology. London [et al.]: Hodder Arnold.
- Nowotny, Helga (et al.) (2001): Re-thinking science. Knowledge and the public in an age of uncertainty. Cambridge: Polity Press.
- Obasi, G.O.P. (1992): Science and the challenges of environmental and developmental issues. In: IIASA (International Institute for Applied Systems Analysis): Science and sustainability. Selected papers on IIASA's 20th anniversary. Wien: IIASA, 17-25.
- Parfitt, Trevor (2002): The End of Development: Modernity, Post-Modernity and Development. London; Sterling, Virginia: Pluto Press.
- Pearson, Ruth (2005): The rise and rise of gender and development. In: Kothari, Uma: A radical history of development studies. Individuals, institutions and ideologies. Cape Town: David Philip. London; New York: Zed Books, 157-179.
- Peluso, Nancy Lee (1992): Rich forests, poor people. Resource control and resistance in Java. Berkeley: University of California Press.
- Plumwood, Val (2004): Gender, eco-feminism and the environment. In: White, Rob (ed.): Controversies in environmental sociology. Cambridge: Cambridge University Press, pages 43-60.
- Potter, Robert B. (et al.) (1999): Geographies of development. Harlow: Addison-Wesley-Longman.
- Redclift, Michael (1987): Sustainable development. Exploring the contradictions. London: Methuen.
- Redclift, Michael; Benton, Ted (eds.) (1994): Social theory and the global environment. London: Routledge.
- Redclift, Michael; Woodgate, Graham (eds.) (1997): The international handbook of environmental sociology. Cheltenham, UK; Northampton, MA, USA: Edward Elgar Publishing.
- Redclift, Michael; Woodgate, Graham (eds.) (2005): New developments in environmental sociology. Cheltenham, UK; Northampton, MA, USA: Edward Elgar Publishing.
- Robbins, Paul (2004): Political Ecology. Critical introductions to geography. MA, USA; Oxford, UK; Victoria, Australia: Blackwell Publishing.
- Rosenthal, Gabriele; Völter, Bettina (2005): Diskursanalysen. In: Rosenthal, Gabriele: Interpretative Sozialforschung. Eine Einführung. Weinheim und München: Juventa Verlag, 215-222.
- Rosenthal, Gabriele (2005): Interpretative Sozialforschung. Eine Einführung. Weinheim; München: Juventa Verlag.
- Shiva, Vandana (1993): The violence of the green revolution. Third World agriculture, ecology and politics. London (et al.): Zed Books (et al.).
- Schumacher, Ernst Friedrich (1973): Small is beautiful. A study of economics as if people mattered. London: Blond & Briggs.

Schuurman, Frans J. (2001): Globalization and Development Studies. Introducing the Challenges. In: Schuurman, Frans J. (ed.): Globalization and Development Studies. London; Thousand Oaks; New Dehli: SAGE Publications, 3-14.

Schuurman, Frans J. (ed.) (2001): Globalization and Development Studies. London; Thousand Oaks; New Dehli: SAGE Publications.

Shakespeare, William (1954): The Tragedy of Hamlet. Prince of Denmark. Newly ed. by Brooke, Tucker and Crawford, Randall J.. New Haven, Conn.: Yale University Press (et al.).

Shove, Elizabeth (1994): Sustaining developments in environmental sociology. In: Redclift, Michael; Benton, Ted (eds.): Social theory and the global environment. London: Routledge, 256-266.

Shove, Elizabeth (1997): Revealing the invisible. Sociology, energy and the environment. In: Redclift, Michael; Woodgate, Graham (eds.): The international handbook of environmental sociology. Cheltenham, UK; Northampton, MA, USA: Edward Elgar Publishing, 261-273.

Swanepoel, Hennie (2000) [1997]: The dynamics of development. In: De Beer, Frik; Swanepoel, Hennie (eds.): Introduction to development studies. Cape Town: Oxford University Press, 71-85.

Swanepoel, Hennie; De Beer, Frik (eds.) (2000): Introduction to development studies. Cape Town: Oxford University Press.

Toolan, Michael (2002): Critical discourse analysis. Critical concepts in linguistics. Volume IV. Current debates and new directions. London; New York: Routledge.

Van der Leeuw, Sander E.; Aschan-Leygonie, Christina (2005): A long-term perspective on resilience in socio-natural systems. In: Liljenström, Hans; Svedin, Udo (eds.): Micro, meso, macro: addressing complex systems couplings. Singapore [et al.]: World Scientific, 227-264.

Van Dijk, Teun A. (2001): Multidisciplinary CDA. A plea for diversity. In: Wodak, Ruth; Meyer, Michael: Methods of Critical Discourse Analysis. London; Thousand Oaks; New Dehli: SAGE, 95-120.

Ward, Barbara (1966): Spaceship earth. New York: Columbia University Press.

White, Rob (ed.) (2004): Controversies in environmental sociology. Cambridge: Cambridge University Press.

Wodak, Ruth (et al.) (eds.) (1999): The discursive construction of national identity. Edinburgh: Edinburgh University Press.

Wodak, Ruth (2001): What CDA is about. A summary of its history, important concepts and its developments. In: Wodak, Ruth; Meyer, Michael: Methods of Critical Discourse Analysis. London; Thousand Oaks; New Dehli: SAGE Publications, 1-13.

Wodak, Ruth; Meyer, Michael (2001): Methods of Critical Discourse Analysis. London; Thousand Oaks; New Dehli: SAGE Publications.

Woodhouse, Phil; Chimhowu, Admos (2005): Development studies, nature and natural resources. Changing narratives and discursive practices. In: Kothari, Uma (ed.): A radical history of development studies. Individuals, institutions and ideologies. London; New York: David Philip; Zed Books, 180-199.

Ziai, Aram (2006): Zwischen global governance und post-development. Entwicklungspolitik aus diskursanalytischer Perspektive. Münster: Westfälisches Dampfboot.

9.1.1 Internet

Braidotti, Rosi (et al.) (1994): Women, the environment and sustainable development. Towards a theoretical synthesis. Zed Books in association with INSTRAW. Online: <http://www.un-instraw.org/en/special-collections/environment/women-environment-and-sustainable-development-towards-a-theoretical-synthesis/view.html>, 8th of July, 2009.

Informaworld TM (2009a). London: Informa plc.. Online: <http://www.informaworld.com/smpp/title~db=all~content=g910664789~tab=summary>, 4th of July, 2009.

informaworld TM (2009b). London: Informa plc.. Online: <http://www.informaworld.com/smpp/title~content=t713448481~db=arst~tab=summary>, 4th of July, 2009.

Wiley (2000-2009). John Wiley & Sons. Online: <http://www.wiley.com/bw/journal.asp?ref=0012-155X>, 4th of July, 2009.

Kassas, Mohamed (et al.) (1980): Foreword. In: IUCN; UNEP; WWF: World conservation strategy. Living resource conservation for sustainable development. IUCN; UNEP; WWF. Online: <http://data.iucn.org/dbtw-wpd/edocs/WCS-004.pdf>, 8th of July, 2009.

UNDP (2006): Millennium Development Goals. Goal 7. Ensure environmental sustainability. Online: <http://www.undp.org/mdg/goal7.shtml>, 29th of July, 2009.

WCED (1987): Our common future. Online: <http://www.un-documents.net/wced-ocf.htm>, 29th of July, 2009.

9.1.2 Journals

Adams, William M (et al.) (1997): Water, rules and gender. Water rights in an indigenous irrigation system, Markwet, Kenya. In: Development and Change, 28/4, 707-730.

Adger, W. Neil (et al.) (2001): Advancing a political ecology of global environmental discourses. In: Development and Change, 32/4, 681-715.

Agarwal, Bina (1997): Environmental action, gender and equity and women's participation. In: Development and Change, 28/1, 137-165.

- Alauddin, Mohammad (1989): Poverty, resource distribution and security. The impact of new agricultural technology in rural Bangladesh. In: *The Journal of Development Studies*, 25/4, 550-570.
- Amacher, Gregory S. (et al.) (1999): Nepali fuelwood production and consumption. Regional and household distinctions, substitution and successful intervention. In: *The Journal of Development Studies*, 35/4, 138-163.
- Anand, P.B. (2000): Co-operation and the urban environment. An exploration. In: *the Journal of Development*, 36/5, 30-58.
- Attfield, Robin (et al.) (2004): Sustainable development, sustainable livelihoods and land reform in South Africa. A conceptual and ethical inquiry. In: *Third World Quarterly*, 25/2, 405-421.
- Attiga, Ali Ahmed (1979): Global energy transition and the Third World. In: *Third World Quarterly*, 1/4, 39-56.
- Awad, Samir (1999): The political economy of oil. In: *Third World Quarterly*, 20/6 1221-1226
- Baark, Erik; Strahl Joseph (1995): The response if international organizations to the case of the UN Industrial Development Organization (UNIDO). In: *Development and Change*, 26/3, 441-468.
- Bailey, Richard (1979): Development and energy costs. A Third World perspective. In: *Third World Quarterly*, 1/4, 57-68.
- Bedunah, Donald J.; Schmidt, Sabine M. (2004): Pastoralism and protected area management in Mongolia's Gobi Gurvansaikhan National Park. In: *Development and Change*, 35/1, 167-191.
- Berhanu, Wassie (et al.) (2007): Diversification and livelihood sustainability in a semi-arid environment. A case study from southern Ethiopia. In: *The Journal of Development Studies*, 43/5, 871-889.
- Bertram, Geoffrey (1992): Tradeable emission permits and the control of greenhouse gases. In: *the Journal of Development Studies*, 28/4, 423-446.
- Biswas, Margaret R.; Biswas, Asit K. (1982): Environment and sustained development in the Third World. A review of the past decade. In: *Third World Quarterly*, 4/3, 479-491.
- Blair, Harry W. (1996): Democracy, equity and common property resource management. In: *Development and Change*, 27/3, 475-499.
- Bogale, Ayalneh; Korf, Benedikt (2007): To share or not to share? (Non-)violence, scarcity and resource access in Somali region, Ethiopia. In: *The Journal of Development Studies*, 43/4, 743-765.
- Boelens, Rutgerd; Zwarteveen, Margreet (2005): Prices and politics in Andean water reforms. In: *Development and Change*, 36/4, 735-758.
- Bohle, Hans-Georg; Fünfgeld, Hartmut (2007): The political ecology of violence in eastern Sri Lanka. In: *Development and Change*, 38/4, 665-687.

- Boyce, James K. (1992): Of coconuts and kings. The political economy of an export crop. In: *Development and Change*, 23/4, 1-25.
- Borgese, Elisabeth Mann (1982): Law of the sea. The next phase. In: *Third World Quarterly*, 4/4, 698-718.
- Breusers, Mark (2001): Searching for livelihood security. Land and mobility in Burkina Faso. In: *The Journal of Development Studies*, 37/4, 49-80.
- Brown, Frances; Hall Derek (2008): Finding a way forward. An agenda for research. In: *Third World Quarterly*, 29/5, 1021-1032.
- Calvert, Peter (2001): Internal colonisation, development and environment. In: *Third World Quarterly*, 22/1, 51-63.
- Campbell, Lisa M. (2002): Conservation narratives in Costa Rica. Conflict and co-existence. In: *Development and Change*, 33/1, 29-56.
- Cartwright, John (1989): Conserving nature, decreasing debt. In: *Third World Quarterly*, 11/2, 114-127.
- Chan, Gerald (et al.) (2008): China's environmental governance. The domestic-international nexus. In: *Third World Quarterly*, 29/2, 291-314.
- Charlton, Roger (1995): Sustaining an impact. Development NGOs in the nineties. In: *Third World Quarterly*, 16/3, 556-575.
- Clapp, Jennifer (1994): The toxic waste trade with less-industrialised countries. Economic linkages and political alliances. In: *Third World Quarterly*, 15/3, 505-518.
- Conca, Ken (1995): Greening the UN. Environmental organisations and the UN system. In: *Third World Quarterly*, 16/3, 441-458.
- Cooke, Fadzilah Majjid (2002): Vulnerability, control and oil palm in Sarawak. Globalization and a new era? In: *Development and Change*, 33/2, 189-211.
- De Haan, Arjan; Brock Karen; Coulibaly, Ngolo (2002): Migration, livelihoods and institutions. Contrasting patterns of migration in Mali. In: *The Journal of Development Studies*, 38/5, 37-58.
- De Madeiros, Leonilde Servolo (2007): Social movements and the experience of market-led agrarian reform in Brazil. In: *Third World Quarterly*, 28/8, 1501-1518.
- Devlin, John F (1994): Sustainable Development. Getting a good thing. In: *Third World Quarterly*, 15/1, 49-62.
- Dickinson, Debbie; Professor Webber, Michael (2007): Environmental resettlement and development, on the steppes of inner Mongolia. In: *The Journal of Development Studies*, 43/3, 537-561.
- Dodds, Klaus (2000): Geopolitics, Patagonian toothfish and living resource regulation in the southern ocean. In: *Third World Quarterly*, 21/2, 229-246.

- Doornbos, Martin (et al.) (2000): Forest lives and struggles. An introduction. In: *Development and Change*, 31/1, 1-10.
- Doyle, Timothy (1998): Sustainable development and agenda 21. The secular bible of global free markets and pluralist democracy. In: *Third World Quarterly*, 19/4, 771-786.
- Dressler, Wolfram H. (2006): Co-opting conservation. Migrant resource control and access to national park management in the Philippine uplands. In: *Development and Change*, 37/2, 401-426.
- Duffy, Rosaleen (2005): Global environmental governance and the challenge of shadow states. The impact of illicit sapphire mining in Madagascar. In: *Development and Change*, 36/5, 825-843.
- Dyson-Hudson, Neville; Dyson-Hudson, Rada (1982): The structure of east African herds and the future of east African herders. In: *Development and Change*, 13/2, 213-238.
- Elver, Hilal (2006): International environmental law, water and the future. In: *Third World Quarterly*, 27/5, 885-901.
- Farmer, B.H. (1979): The 'green revolution' in south Asian ricefields. Environment and production. In: *The Journal of Development Studies*, 15/4, 304-319.
- Fig, David (2007): Questioning CSR in the Brazilian Atlantic forest. The case of Aracruz Celulose SA. In: *Third World Quarterly*, 28/4, 831-849.
- Ghimire, Krishna B.(1994): Parks and people. Livelihood issues in national parks management in Thailand and Madagascar. In: *Development and Change*, 25/1, 195-229.
- Goldman, Mara (2003): Partitioned nature, privileged knowledge. Community-based conservation in Tanzania. In: *Development and Change*, 34/5, 833-862.
- Gordon, Todd; Webber, Jeffery R. (2008): Imperialism and resistance. Canadian mining companies in Latin America. *Third World Quarterly*, 29/1, 63-87.
- Gössling, Stefan (et al.) (2008): Consequences of climate policy for international tourist arrivals in developing countries. In: *Third World Quarterly*, 29/5, 873-901.
- Gross, Anthony (1990): Amazonia in the Nineties. Sustainable development or another decade of destruction? In: *Third World Quarterly*, 12/3, 1-20.
- Guha, Ramachandra; Gadgil, Madhav (1994): Ecological conflicts and the environmental movement in India. In: *Development and Change*, 25/1, 101-136.
- Guthman, Julie (1997): Representing crisis. The theory of Himalayan environmental degradation and the project of development in post-rana Nepal. In: *Development and Change*, 28/1, 45-70.
- Haftendorn, Helga (2000): Water and international conflict. In: *Third World Quarterly*, 21/1, 51-68.
- Harvey, Neil (2001): Globalisation and resistance in post-cold war Mexico. Difference, citizenship and biodiversity conflicts in Chiapas. In: *Third World Quarterly*, 22/6, 1045-1061.

- Hayami, Yujiro (et al.) (2006): Waste pickers and collectors in Delhi. Poverty and environment in an urban informal sector. In: *The Journal of Development*, 42/1, 41-69.
- Herring, Ronald J. (2007): The genomics revolution and development studies. Science, poverty and politics. In: *The Journal of Development Studies*, 43/1, 1-30.
- Ho, Peter (2006): Trajectories for greening in China. Theory and Practice. In: *Development and Change*, 37/1, 3-28.
- Ho, Peter; Vermeer, Eduard B. (2006): China's limits to growth? The difference between absolute, relative and precautionary limits. In: *Development and Change*, 37/1, 255-271.
- House, William (1980): Development strategy and the energy balance. An east African study. In: *Development and Change*, 11/, 17-31.
- Hoffman, Kurt (1980): Alternative energy technologies and Third World rural energy needs. A case of emerging technological dependency. In: *Development and Change*, 11/3, 335-365.
- Hoffman, Kurt (1985): The commercialization of photovoltaics in the Third World. Unfulfilled expectations and limited markets. In: *Development and Change*, 16/1, 5-37
- Hviding, Edvard; Baines, Graham B.K. (1994): Community-based fisheries management, tradition and the challenges of development in Marovo, Solomon islands. In: *Development and Change*, 25/1, 13-39.
- Ickowitz, Amy (2006): Shifting cultivation and deforestation in tropical Africa. Critical reflections. In: *Development and Change*, 37/3, 599-626.
- Jackson, Cecile (1993): Environmentalisms and gender interests in the Third World. In: *Development and Change*, 24/4, 649-677.
- Jasanoff, Sheila (1997): NGOs and the environment. From knowledge to action. In: *Third World Quarterly*, 18/3, 579-594.
- Jewitt, Sarah (2000): Unequal knowledges in Jharkhand, India. De-romanticizing women's agroecological expertise. In: *Development and Change*, 31/5, 961-985.
- Johnson (2004): Uncommon ground. The 'poverty of history' in common property discourse. In: *Development and Change*, 35/3, 407-434.
- Juma. Calestous (1985): Market restructuring and technology acquisition. Power alcohol in Kenya and Zimbabwe. In: *Development and Change*, 16/1, 39-59.
- Kaimowitz, David (1996): The political economy of environmental policy reform in Latin America. *Development and Change*, 27/3 433-452.
- Karshenas, Massoud (1994): Environment, technology and employment. Towards a new definition of SD. In: *Development and Change*, 25/4, 697-721.
- Kenney, Martin; Buttel, Frederick (1985): Biotechnology. Prospects and dilemmas for Third World development. In: *Development and Change*, 16/1, 61-91.

- Klare, Michael; Volman, Daniel (2006): The African 'oil rush' and US national security. In : Third World Quarterly, 27/4, 609-628.
- Kneese, Allen V. (1979): Development and Environment. In: Third World Quarterly, 1/1, 84-90.
- Kyle, Steven C.; Cunha, Aercio S. (1992): National factor markets and the macroeconomic context for environmental destruction in the Brazilian Amazon. In: Development and Change, 23/1, 7-33.
- Lai, Hongyi Harry (2007): China's oil diplomacy. Is it a global security threat? In: The World Quarterly, 28/3, 519-537.
- Larmuth, John (1979): Desert and man. A future? In: Third World Quarterly, 1/3, 104-111.
- Larson, Bruce (et al.) (2006): Unravelling the linkages between the Millennium Development Goals for poverty, education, access to water and household water use in developing countries. Evidence from Madagascar. In: The Journal of Development Studies, 42/1, 22-40.
- Laurie, Nina (2005): Establishing development orthodoxy. Negotiating masculinities in the water sector. In: Development and Change, 36/3, 527-549
- Leach, Melissa; Fairhead, James (2000): Fashioned forest pasts, occluded histories? International environmental analysis in west African locales. In: Development and Change, 31/1, 35-59.
- Leach, Melissa (2007): Earth mother myths and other ecofeminist fables. How a strategic notion rose and fell. In: Development and Change, 38/1, 67-85.
- Little, Peter D. et al. (2001): Avoiding disaster. Diversification and risk management among east African herders. In: Development and Change, 32/3, 401-433.
- Little, Peter D. et al. (2006): 'Moving in place'. Drought and poverty dynamics in south Wollo, Ethiopia. In: The Journal of Development Studies, 42/2, 200-225.
- Livingstone, Ian (1986): The common property problem and pastoralist economic behaviour. In: The Journal of Development Studies, 23/1, 5-19.
- Locke, Catherine (1999): Constructing a gender policy for joint forest management in India. In: Development and Change, 30/2, 265-285.
- Mawdsley, Emma (2004): India's middle classes and the environment. In: Development and Change, 35/1, 79-103.
- Mc. Robie, George (1979): Intermediate technology. Small is successful. In: Third World Quarterly, 1/2, 53-86.
- Melchert, Luciana (2005): The age of environmental impasse? Globalization and environmental transformation of metropolitan cities. In: Development and Change, 36/5, 803-823.
- Meen-Chee, Hong; Narayanam, Suresh (2006): Restoring the shine to a pearl. Recycling behaviour in Penang, Malaysia. In: Development and Change, 37/5, 1117-1136.

- Mittelman, James H.(1998): Globalisation and environmental resistance politics. In: Third World Quaterly, 19/5, 847-872.
- Mol, Arthur P. (2006): Environment and modernity in transitional China. Frontiers of ecological modernization. In: Development and change, 37/1, 29-56.
- Mollinga, Peter P. (2007): Beyond benevolence? Looking for the politics of social transformation in the *Human Development Report* 2006 on water. In: Development and Change, 38/6, 1235-1243.
- Moore, Niamh (2008): The rise and rise of ecofeminism as a development fable. A response to Melissa Leach's earth mothers and other ecofeminist fables. How a strategic notion rose and fell. In: Development and Change, 39/3, 461-475.
- Moore, Mick (1984): Political economy and the rural-urban divide. In: The Journal of Development Studies, 20/3, 5-24.
- Morton, J.F. (1996): Land resources in Darfur region, Sudan. Prisoners' dilemma or coase outcome? In: The Journal of Development Studies, 33/1, 63-80.
- Mosse, David (1997): The symbolic making of a common property resource. History, ecology and locality in a tank-irrigated landscape in south India. In: Development and Change, 28/3, 467-504.
- Mosse, David (et al.) (2002): Brokered livelihoods. Debt, labour migration and development in tribal western India. In: The Journal of Development Studies, 38/5, 59-88.
- Mulrennan, Monica; Scott, Colin (2000): Mare nullius. Indignous rights in saltwater environments. In: Development and Change, 31/3, 681-708.
- Munslow Barry (1999): Angola. The politics of unsustainable development. In. Third World Quaterly, 20/3, 551-568.
- Munslow, Barry; Fitzgerald, Patrick (1994): South Africa. The sustainable development challenge. In: Third World Quaterly, 15/2 227-242.
- Munslow, Barry; O'Keefe, Phil (1984): Energy and the southern African regional confrontation. In: Third World Quaterly, 6/1, 25-42.
- Murphy, Laura (1997): Poverty and prosperity among migrant settlers in the Amazon rainforest frontier of Ecuador. In: The Journal of Development Studies, 34/2, 35-66.
- Neumann, Roderick P. (1997): Primitive ideas. Protected area buffer zones and the politics of land in Africa. In: Development and Change, 28/3, 559-582.
- Norgrove, Linda; Hulme, David (2006): Confronting conservation at Mount Elgon, Uganda. In: Development and Change, 37/5, 1093-1116.
- Nygren, Anna (2000a): Environmental narratives on protection and production. Nature-based conflicts in Río San Juan, Nicaragua. In: Development and change, 31/4, 807-830.
- Nygren, Anja (2000b): Development discourses and peasant-forest relations. Natural resource utilization as social process. In: Development and Change, 31/1, 11-34.

- Olvier, Hongyan He; Ortolano, Leonard (2006): Implementing cleaner production programmes in Changzhou and Nantong, Jiangsu province. In: *Development and Change*, 37/1, 99-120.
- Ostergard, Robert L. Jr.; Tubin, Matthew; Altman, Jordan (2001): Stealing from the past. Globalisation, strategic formation and the use of indigenous intellectual property in the biotechnology industry. In: *Third World Quarterly*, 22/4, 643-656.
- Özerdem, Alpaslan; Barakat, Sultan (200): After the Marmara earthquake. Lessons for avoiding short cuts to disasters. In: *Third World Quarterly*, 21/3, 425-439.
- Pandey, Rita (2005): Estimating sectoral and geographical industrial pollution inventories in India. Implications for using effluent charge versus regulation. In: *The Journal of Development Studies*, 41/1, 33-61.
- Parayil, Govindan (1996): The 'Kerala model' of development and sustainability in the Third World. In: *Third World Quarterly*, 17/5, 941-958.
- Pardo, Arvid (1984): Third World lecture 1984. Ocean space and mankind. In: *Third World Quarterly*, 6/3, 559-572.
- Peluso, Nancy Lee (1992): The political ecology of extraction and extractive reserves in east Kalimantan, Indonesia. In: *Development and Change*, 23/4, 49-74.
- Peng, Zhaoyang; Martin, Will (1994): Oil price shocks and policy responses in the post-reform Chinese economy. In: *The Journal of Development Studies*, 31/1 179-200.
- Pendse, D.R: (1979): The energy crisis and Third World options. In: *Third World Quarterly*, 1/4, 69-88.
- Perz, Stephen G. (et al.) (2007): Unofficial road building in the Amazon. Socioeconomic and biophysical explanations. In: *Development and Change*, 38/3, 529-551.
- Platteau, Jean-Philippe (1989): The dynamics of fisheries development in developing countries. A general overview. In: *Development and Change*, 20/4, 565-597.
- Platteau, Jean-Philippe; Nugent, J. (1992): Share contracts and their rationale. Lessons from marine fishing. In: *The Journal of Development Studies*, 28/3, 386-422.
- Rap, Edwin (2006): The success of a policy model. Irrigation management transfer in Mexico. In: *The Journal of Development Studies*, 42/8, 1301-1324.
- Redclift, M.R. (1984): 'Urban bias' and rural poverty. A Latin American perspective. In: *The Journal of Development Studies*, 20/3, 123-138.
- Redclift, Michael (1986): Sustainability and the market. Survival strategies on the Bolivian frontier. In: *The Journal of Development Studies*, 23/1, 93-105.
- Ribot, Jesse C. (1998): Theorizing access. Forest profits along Senegal's charcoal commodity chain. In: *Development and Change*, 29/2, 307-341.

- Robins, Steven; Van der Waal, Kees (2008): 'Model tribes' and iconic conservationists? The Makuleke restitution case in Kruger National Park. In: *Development and Change*, 39/1, 53-72.
- Rowlands, Ian H. (1993): Achieving sustainable development. Getting a good thing. In: *Third World Quarterly*, 14/2, 385-393.
- Sampath, Rajan K. (1992): A farm-sizewise analysis of irrigation distribution in India. In: *The Journal of Development Studies*, 29/1, 121-147.
- Sanders, Richard (1999): The political economy of Chinese environmental protection. Lessons on the Mao and Deng years. In: *Third World Quarterly*, 20/6, 1201-1214.
- Sanders, Richard (2006): A market road to sustainable agriculture? Ecological agriculture, green food and organic agriculture in China. In: *Development and Change*, 37/1, 201-226.
- Saunders, Clare (2008): The stop climate chaos coalition. Climate change as a development issue. In: *Third World Quarterly*, 29/8, 1509-1526.
- Schmidt-Soltau, Kai (2003): Conservation-related resettlement in central Africa. Environmental and social risks. In: *Development and Change*, 34/3, 525-551.
- Selby, Jan (2005): The geopolitics of water in the Middle East. Fantasies and realities. In: *Third World Quarterly*, 26/2, 329-349.
- Sonnenfeld, David A. (2002): Social movements and ecological modernization. The transformation of pulp and paper manufacturing. In: *Development and Change*, 33/1, 1-27.
- Spoor, Max (1998): The Aral Sea basin crisis. Transition and environment in former Soviet central Asia. In: *Development and Change*, 29/3, 409-436.
- Struthers, John J. (1990): Nigerian oil and exchange rates. Indicators of 'Dutch Disease'. In: *Development and Change*, 21/2, 309-341.
- Stonich, Susan C. (1991): The promotion of nontraditional agricultural exports in Honduras. Issues of equity environment and management. In: *Development and Change*, 22/4, 725-755.
- Sundar, Nandini (2000): Unpacking the 'joint' in joint forest management. In: *Development and Change*, 31/1, 255-279.
- Swain, Ashok (1996): Environmental migration and conflict dynamics. Focus on developing regions. In: *Third World Quarterly*, 17/5, 959-974.
- Swift, Jeremy (1982): The future of African hunter-gatherer and pastoral people. In: *Development and Change*, 13/2, 159-181.
- Tang, Shui-Yan; Zhan, Xueyong (2008): Civic environmental NGOs, civil society, and democratisation in China. In: *The Journal of Development Studies*, 44/3, 425-448.
- Third World Quarterly (1980): Information for a better world environment. A brief report. In: *Third World Quarterly*, 2/1, 131-133.

- Thorburn, Craig C. (2001): The house that poison built. Customary marine property rights and the live food fish trade in the Kei islands, southeast Maluku. In: *Development and Change*, 32/1, 151-180.
- Turnbull, Jane (2003): South Pacific agendas in the quest to protect natural areas. In: *Development and Change*, 34/1, 1-24.
- Utting, Peter (1994): Social and political dimensions of environmental protection in Central America. In: *Development and Change*, 25/1, 231-259.
- Warhurst, Alyson (1985): Biotechnology for mining. The potential of an emerging technology, the Andean Pact Copper Project and some policy implications. In: *Development and Change*, 16/1, 93-121.
- Welford, Richard (et al.) (2006): Environmental reform, technology policy and transboundary pollution in Hong Kong. In: *Development and Change*, 37/1, 145-178.
- Western, David (1982): The environment and ecology of pastoralists in arid savannas. In: *Development and Change*, 13/2, 183-211.
- Wiberdink, Ange; Van Ketel, Arjen (1988): Institutionalization of an environmental programme in a Third World country. The establishment of an environmental institute in Nicaragua. In: *Development and change*, 19/1, 139-257.
- Williams, Marc (1993): Rearticulating the Third World coalition. The role of the environmental agenda. In: *Third World Quarterly*, 14/1, 7-28.
- Williams, Paul A. (2007): Markets cycles, power politics and the latest north-south energy trade conflict. In: *Third World Quarterly*, 28/1, 45-58.
- Wood, Geof (1999): Private provision after public neglect. Bending irrigation markets in north Bihar. In: *Development and Change*, 30/4, 775-794.
- Wynne, Bryan (1989): The toxic waste trade. International regulatory issues and options. In: *Third World Quarterly*, 11/3, 120-146.
- Zawahri, Neda A. (2006): Stabilising Iraq's water supply. What the Euphrates and Tigris rivers can learn from the Indus. In: *Third World Quarterly*, 27/6, 1041-1058.
- Zhao, Jimin (2006): Whiter the car? China's automobile industry and cleaner vehicle technologies. In: *Development and Change*, 37/1, 121-144.

9.2 APPENDIX 1 - ENGLISH SUMMARY

Using Jäger's methodological approach of critical discourse analysis, this study is an attempt to explore the extent to which the academic field of development studies has incorporated environmental issues and concerns into their work, from the 1970s until the year 2008.

In the beginning of this work I develop the argument that there is a reason for development studies (that emerged out of different theories and traditions of the social sciences) to be concerned with the theme of environment/ nature. This can easily be explained by looking at one of the main issues of interest in development studies: the livelihoods of poor people. Every society, independent of its geographical location and level of development (however the latter might be explained), is dependent on natural resources such as energy, wood, air, or plants. Healthy livelihoods are therefore based on healthy environments that provide natural resources.

According to the results of the discourse analysis which I applied in the course of this work, scholars of development studies have indeed recognized the need for approaching the theme of environment. What seems to be missing though is a systematic approach to address environmental issues and socio-natural relations.

This work has two main targets. Using articles from three well-known development journals, it identifies the main environmental topics/ discourses that were addressed by scholars from development studies from the 1970s until now: natural resource management and conservation; energy; urbanization and environment; women, gender and the environment; sustainable development; and last but not least political economy and political ecology.

At the same time, my interest also lay in exploring possible future outlooks for development studies that offer a systematic way of dealing with socio-natural relations and environmental issues in the context of development. The analysis revealed that scholars from development studies have been operating quite a lot – knowingly or unknowingly - within political ecology in order to address different livelihood themes. Political ecology is an interdisciplinary field that offers a good way for approaching socio-natural relations from a political point of view.

Incorporating political ecological research into the work of development scholars to better understand development issues – that are far more complex and inclusive of social and natural systems - seems to be a plausible outlook for the future of development studies.

9.3 APPENDIX 2 - GERMAN SUMMARY

Anhand einer kritischen Diskursanalyse, welche sich auf Artikel von drei bekannten Journals im Bereich Entwicklung stützt, untersucht diese Diplomarbeit inwiefern WissenschaftlerInnen aus dem akademischen Bereich der Entwicklungsstudien während des Zeitraums von 1970-2008 das Thema Umwelt aufgegriffen und in ihre Arbeit miteinbezogen haben.

Obwohl Entwicklungsstudien vor allem von Einflüssen der Sozialwissenschaften geprägt sind, wird argumentiert, dass die Auseinandersetzung mit dem Thema Umwelt/ Natur in diesem Bereich sehr sinnvoll ist. Wird einer der wichtigsten Inhaltspunkte der Entwicklungsstudien näher betrachtet, nämlich die Existenz- und Lebensgrundlage von in Armut lebenden Menschen, so ist diese Argumentationslinie leicht zu erläutern. Unabhängig der geographischen Lage oder dem Entwicklungsgrad (wie auch immer dieser definiert wird) basieren Gesellschaften auf der Grundlage natürlicher Ressourcen wie zB Energie, Holz, Luft, oder Pflanzen. Eine gesunde Lebensgrundlage basiert daher auf einer gesunden Umwelt.

Laut den Resultaten der durchgeführten Diskursanalyse, haben EntwicklungsforscherInnen das Thema Umwelt auf verschiedene Art und Weisen in ihre Arbeit miteinbezogen. Was scheinbar fehlt, ist jedoch eine systematische Herangehensweise, die es erlaubt, das Thema Umwelt/ Natur sowie die Beziehung zwischen Mensch und Umwelt/ Natur in Bezug auf entwicklungsspezifische Themen zu analysieren.

Diese Diplomarbeit orientiert sich an zwei Zielen. Einerseits werden anhand der Diskursanalyse die bedeutendsten Umweltthemen identifiziert, welche von EntwicklungsforscherInnen während des Zeitraumes von 1970 bis 2008 thematisiert wurden: Management natürlicher Ressourcen und Naturschutz; Energie; Urbanisierung und Umwelt; Frauen, Gender und Umwelt; nachhaltige Entwicklung; sowie politische Ökonomie und politische Ökologie.

Andererseits wird eine Zukunftsperspektive gegeben, welche es EntwicklungsforscherInnen ermöglicht, Umweltthemen systematisch in ihre Arbeit miteinzubeziehen. Diesbezüglich hat die Diskursanalyse ergeben, dass das Feld der politischen Ökologie immer wieder, ob bewusst oder unbewusst, von EntwicklungsforscherInnen genutzt wurde, um verschiedene Entwicklungsthemen näher zu beleuchten. Das interdisziplinäre Feld der politischen Ökologie bietet die Möglichkeit, Verhältnisse zwischen Mensch und Natur von einer politischen Perspektive aus zu analysieren. Diese Forschung könnte daher einen wertvollen Beitrag im Bereich der Entwicklungsforschung darstellen, deren komplexes Beschäftigungsfeld sich weder auf soziale noch auf natürliche Systeme reduzieren lässt.

9.4 APPENDIX 3 – CURRICULUM VITAE

Name: ANDREA KOBLER
Geburtsdatum: 22.11.1982
Geburtsort: Wien

Universitäre Ausbildung

2008-2009: Diplomandin der Internationalen Entwicklung an der Universität Wien
2005-2007: Absolvierung zahlreicher Kurse an der Universität für Bodenkultur in Wien und am Institut für Soziale Ökologie (IFF Wien).
2003-2007: Studium der Internationalen Entwicklung an der Universität Wien (Spezialgebiet: Soziale Ökologie, nachhaltige Entwicklung, Umwelt und Entwicklung)

Praktische wissenschaftliche Erfahrungen

Februar 2008: Praktikum am Institut für Soziale Ökologie (IFF Wien)

Fremdsprachen

Deutsch: Muttersprache
Englisch: fließend in Wort und Schrift
Spanisch: fließend in Wort und Schrift
Französisch: mittlere Kenntnisse
Italienisch: mittlere Kenntnisse