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JUST CLIMATE?
POLITICS OF CLIMATE CHANGE AND
ENVIRONMENTAL JUSTICE

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Although climate politics raise numerous questions of justice, discussion on its ethical dimension is still scarce. In my Master's Thesis I discuss climate politics from the perspective of environmental justice, which as a broad concept directs attention to how environmental benefits and burdens are distributed among currently living people, among current and future people and among human beings and non-human nature, as well as how their views are taken into account in environmental decision-making. I concentrate on international environmental justice questions by examining how climate change is framed as a problem from the point of view of responsibility in the political statements of the Montreal Climate Conference in 2005. I analyse the research data with the help of frame analysis and Perelman's theory of argumentation thus looking for argumentation concerning responsibility, its underlying premises and techniques of argumentation. The results suggest that climate change is framed as a problem in two ways. In some statements (mainly developed countries) climate change is considered as a problem of greenhouse gas emissions. Here, describing climate change as a treatable global problem and highlighting economic aspects is typical. In other statements (mainly developing countries) climate change is represented as a problem of vulnerability and scarce resources. The perspective is local and statements emphasise climate change as a threat to the development efforts of these countries. The premises and techniques of argumentation differ between frames. In addition, there is struggle within frames; both frames encompass different claims about how responsibility should be distributed and what responsibility includes.

Avainsanat: environmental justice, responsibility, climate politics, Montreal Climate Conference, framing, rhetorical analysis

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1 INTRODUCTION

In recent years climate change has gained more and more ground in the international environmental politics as well as in the public debate. Currently there seems to be an expanding awareness about the problem, and the year 2007 seemed epochal in this sense. A sign of worldwide attention is, for example, the Intergovernmental Panel on Climate Change and Al Gore receiving the Nobel Peace Prize for their efforts within climate change. With growing interest, it has also become more obvious that climate change is an environmental problem with many aspects; it crosses the borders of environmental, social, political, economic, cultural and ethical spheres. As IPCC's Third Assessment Report states, climate change "is global, long-term (up to several centuries), and involves complex interactions between climatic, environmental, economic, political, institutional, social and technological processes. This may have significant international and intergenerational implications in the context of broader societal goals such as equity and sustainable development." (IPCC/WGIIIb 2001, 3.) Some aspects of climate change, however, appear to be more important and under wider discussion than others. For instance, the Finnish policy and news paper discussions have above all concentrated on the physical and economic issues but at the same time some other aspects have been left outside the discussion, in particular the ethical perspectives, although, as Brown (2003, 229) points out, *"because human-induced climate change will most hurt the poorest on the planet, seriously reduce the quality of life for future generations, and threaten plants and animals around the world, global warming must be understood to raise very serious and deep ethical questions"*. The absence of ethical consideration and discussion on justice in itself is thus morally dubious.

Justice is connected to the politics of climate change in several ways. The most explicit questions of justice relate to the causes and consequences of climate change as well as to the policymaking process. The causes of climate change urge to ask what states or people are the main sources of greenhouse gas emissions in terms of historical, current and future emissions, whereas the impacts of climate change forces to consider how climate change affects different regions, who are the most vulnerable ones, as well as who are the winners and who will suffer. In addition, it is important to discuss whether the decisions in climate politics are effective enough, whether everyone has an equal possibility to influence the decisions and

solutions, and furthermore, how these decisions affect different people. These are mainly questions about international and intra-national justice, but the far-reaching, prolonged, possibly disastrous impacts of climate change raise also questions about the rights of future generations and non-human nature to a globe with good living conditions, that is, intergenerational justice and biosphere justice.

Hence, the focus of this research is on the ethical aspects of international climate politics. Internationally climate change is governed through the United Nations Framework Convention on Climate Change (UNFCCC) which entered into force in 1994, and through its legally binding amendment, Kyoto Protocol, which came into force in 2005. The states negotiate these treaties and the future direction of international climate politics in annual Conferences of Parties (COPs). Therefore, in this research the questions of justice are examined through these annual Conferences, more specifically through the Conference of Parties held in 2005 in Montreal. In other words, what aspects are debated and dominate in international climate politics and moreover, what are their ethical positions?

1.1 Purpose and perspective of the study

The general purpose of my research is to *examine climate politics from an environmental justice perspective*. This includes describing climate change as an ethical, environmental justice problem, examining the ways climate change is constructed as a problem in climate politics and finally considering how these ethical aspects are reflected in the views within climate politics. This is a big challenge and I limit the scope of my research by focusing on distributive issues and on international aspects, that is, questions of justice between states, although the other elements of environmental justice such as future generations and non-human nature are discussed to some extent also. In addition, I highlight some aspects of environmental justice more by concentrating on one theme in the politics of climate change in particular, namely on responsibility. In order for me to examine how climate change is constructed as a problem in climate politics from the perspective of responsibility, I analyse political statements made by ministers and heads of delegation in the high-level segment of the Montreal Climate Conference in 2005 with the help of frame analysis and rhetorical analysis. Consequently, my research problem is: *“How is climate change framed as a problem from the point of view of responsibility in the political statements of the Montreal Climate Conference in 2005?”* I further divide this into three research questions:

- 1) *How do different parties perceive the content and distribution of responsibility in climate politics in the statements presented in the Montreal Climate Conference?*
- 2) *What are the premises underlying these conceptions?*
- 3) *What rhetorical techniques are applied to representing and explaining responsibility in climate politics?*

The research questions are answered with rhetorical analysis, with Perelman's theory of argumentation to be exact, while frames help in answering the research problem as a whole. The second and third research questions relate to the Perelman's theory of argumentation.

As a whole the perspective of my research towards climate politics is a cultural political one. Hajer (1996, 256) speaks of cultural political approach as a way to ask "what sort of society is being created in the name of protecting nature". According to him, environmental protection is not only about the environment - instead asking which 'social projects' are promoted under the name of environmental protection is essential (ibid. 1996, 247). In other words, environmental policies and environmental discourses also have broader cultural implications. According to Haila and Jokinen (2001, 280), cultural politics perspective regards environmental politics "as a set of demands which define actual problems". That is, as Hajer (1996, 256-257) points out, there is no coherent ecological catastrophe, not the same kinds of environmental problems to all, but story lines (images, priorities, causal relations, etc.) that focus on and problematise some particular changes in the physical and social reality. These story lines for Hajer provide also "cognitive maps and incentives for social action"; but when they make some aspects of reality, activities and solutions appear as plausible, they at the same time also exclude other framings of reality. This perspective also regards environmental problems as historical and having continued for a long time. According to Hajer (1996, 257): "the ecological dilemma of industrial society is almost constantly under discussion" and these discussions are about "the social relationships between nature, society and technology". In this sense the cultural politics approach examines the way nature, technology and society and their interrelationship is described in the prevailing story lines (ibid. 1996, 257). Consequently, this perspective helps to consider environmental problems as socially constructed and therefore it gives space to the discussion about alternative scenarios and ways of speaking; current environmental politics opens up to a debate. Moreover, if taken further, cultural politics perspective enables the discussion about what kind of society and nature people want. (Hajer 1996, 257-259.) As a result, environmental problems and politics constructed around them do not only deal with finding solutions to environmental problems but they also deal

with how to define the problem and by whom because different ways to define climate change as a problem may lead to different opinions about how to solve the problem (see Jokinen 2001b, 94-99 about defining environmental problems in Finnish agriculture). Furthermore, in a wider context environmental politics is also about how reality is defined ideologically (Laine & Jokinen 2001, 59). Hence, cultural politics perspective towards the politics of climate change directs attention to the ways of speaking about climate change, that is, how it is defined and framed as a problem but also to the perspectives of social reality connected to these definitions (see Haila & Jokinen 2001, 280). Thus, one purpose of the research is to critically discuss climate politics in order to reveal premises and commitments which operate so that some issues and scenarios seem relevant when at the same time alternative scenarios are excluded. A central question in the cultural politics approach according to Haila and Jokinen (2001, 281) is also the relation of environmental politics between social and political inequalities.

1.2 Ontological and epistemological premises

My research leans on the idea of environmental problems being socially and politically constructed without rejecting “the belief in a biophysically real world out there” (Forsyth 2003, 2). The starting point is that environmental problems, such as climate change, are not directly perceived as problems with certain solutions but they are constructed as problems by human activity in, for instance, science and politics. This implies that despite having detrimental, possibly disastrous impacts, climate change is not in itself an objective problem recognised by everyone. Instead, naming natural scientific changes to a problem, and furthermore, the meanings and the importance people attach to the problem, are essential (see Hannigan 1995, 30; 32-33), in addition to who gets to influence how the problem is framed. For this reason, I as a social scientist focus to the politics evolved around (numerous alarming phenomena, irregularities and changes observed in nature which are named) climate change, and examine the kind of problem climate change is constructed within the political sphere, what meanings climate change draws, how responsibility is outlined, and so on. Hence, my focus is on “human reality” after Alasuutari’s (2007) concept by which he means all reality “people experience and face”, including the reality studied by natural sciences. On the one hand, material reality restricts human activity by setting conditions but on the other hand, knowledge about material reality and its appliance affect the construction and renewal of human reality. However,

Alasuutari sees that material reality is discussed in social sciences only through the way it affects social activity, whether directly or indirectly. (ibid. 2007, 13-14.) Nonetheless, within climate change this material reality plays a considerable role because the issues that threaten human reality take place through environmental changes. The material reality relates also to questions of justice both within and between these two realities.

The notion that “one can both accept the idea that the world is composed of ‘real objects’ with independent properties and causal powers, alongside an understanding of the social construction of that world in different ways by human subjects” (Cudworth 2003, 25) is present at least both in critical realism and in moderate social constructionism. In environmental research the critical realist position means that there is an environment existing independently of human beings and our knowledge of it, but human-nature relation and their interaction depends on how the environment is perceived and conceptualised (Cudworth 2003, 13), which again is affected by, for example, culture, history and practice (Carolan 2005, 10). The social constructionist approach in environmental research emphasises “the social, political and cultural processes by which certain environmental conditions are defined as unacceptably risky” (Hannigan 2006, 29). Both of these approaches take a critical stand towards scientific results. Critical realism stresses that reality and knowledge claims about it are separate and therefore science is fallible (Carolan 2005, 1). Also social constructionism considers that “‘science’ is not ‘pure’ knowledge”, but “a product of the society in which it is developed, and different knowledges may be endorsed by groups with differentially vested interests” (Cudworth 2003, 22). Noteworthy is also the fact that the same scientific findings can be used for justifying conflicting notions. Therefore attention needs to be paid in who gets to present scientific results. Are all groups, then, represented in science? Forsyth (see 2003, 214-260) questions this by advocating the democratisation of scientific practise, and stresses also in his critical political ecology how science is not neutral but political; according to him science and politics are co-produced (ibid. 2003, 22). Furthermore, he suggests that specific environmental explanations cannot be extended to cover all cases, but instead they are “contingent upon social and political framings” and “cannot be transferred uncritically between different contexts” (Forsyth 2003, 263). In addition, both critical realism and social constructionism consider reality as socially constructed as well as acknowledge the power of language to construct images and interpretations about it. Delanty, for instance, notes (in Luoma 2002, 81) that the critical realist approach recognises the construction of social reality in communication (without constructivists conclusions). Similarly, Kuusela (2000, 26) sees that the social constructionist perspective considers language as action with consequences. Thus language is not

taken as neutral but on the contrary, language is used for legitimising and for constructing different concerns. Language and communication construct interpretation about reality which can have actual, material consequences by, for example, political decisions. Without fully committing to all of their aspects, choices or consequences in terms of carrying out research, these above mentioned perspectives are in the background of this research. Accordant with these ideas, both frame analysis and rhetorical analysis seem fruitful in analysing how climate change is constructed in political statements, with which techniques this is done, and which premises and consequences are attached to those constructions. In addition, both these approaches enable a critical stand towards society and furthermore, emancipative ideas.

1.3 Course of the research

The research is divided noticeably to theoretical and empirical parts. The second and third chapters set up the theoretical foundations of the empirical research. The second chapter deals with the environmental justice framework. Here, I discuss the origin of the concept and some issues of global environmental justice after which I outline the theoretical framework of environmental justice, and finally consider responsibility in relation to environmental justice. In the third chapter I discuss the politics of climate change and connect these questions to environmental justice framework. This chapter includes natural scientific basis of climate change, climate policy formation and states positions in it, climate discourses and also the environmental justice aspects towards the politics of climate change. On the other hand, the chapters four to seven deal with the empirical part of the research. In the fourth chapter I introduce the research data and the research methods, frame analysis and rhetorical analysis, in more detail and outline the way I have employed them. In addition, I describe how I have realised the empirical research. In the chapters five and six I, then, focus on discussing how climate change is framed in the research data and what kind of argumentation there is concerning responsibility, whereas in the chapter seven these questions are pondered in a more theoretical light. Finally, in the eighth chapter I discuss the main conclusions and also reflect the making of this research in general.

2 WHAT IS ENVIRONMENTAL JUSTICE?

Environmental justice encompasses various different issues. Cases of environmental injustices can be seen everywhere; in the local struggles between forestry and other livelihoods in Finland, in the export of toxic wastes from developed nations to developing as well as in the causes and consequences of climate change. As these issues suggest, also the research of environmental justice is diverse and ranges from everyday issues to mechanisms of control and power (see Lehtinen 2003, 31) and to more philosophical ideas about justice in general. Accordingly, the studies of environmental justice do not form a coherent theory, but instead, they appear as a loose framework and a way to conceptualise justice and environmental questions. The conceptual bases of current day environmental justice are on theories of social and political power and social movements, and unequal environmental risk has been explained by emphasising the role of race, gender and culture, social and political power, class or the logic of capitalism (Byrne et al. 2002, 4). Concepts such as environmental and ecological justice, fairness or equity are used inconsistently in the environmental literature. The way these concepts are used often overlaps, and their meaning is not specified. In this research I consider ‘justice’ as a broad concept which encompasses or equates with the other concepts.

2.1 Ambiguous nature of justice

Often a situation intuitively feels just or fair but when explaining why, issues become more complicated - what does justice actually mean? Björn (2003, 24), for instance, defines justice as “the fair distribution of rights and duties”. But then again, what is ‘fair distribution’, on what basis it is determined? The Concise Oxford Dictionary of Sociology defines social justice as “a central moral standard in social life” the essences of which are impartiality, distribution and due process according to suitable criteria (Marshall ed. 1994, 262). But what, then, are the suitable criteria? Actually, there are various criteria because different political ideologies encompass different principles of justice, for instance, those of desert, merit, entitlement, need, etc. (Marshall ed. 1994, 262). Anand (2004, 122), on the other hand, states, that: “Justice is not a static concept with a fixed definition. Rather, there is no one conception of justice and it may mean different things to different people, groups, countries and theorists.” Accord-

ingly ‘one justice for all’ does not exist; instead justice is a contested concept and thus can be – and is – defined in many different ways. For instance, different theories of justice hold different ideas and definitions. Dobson (1998) has analysed social justice literature and has identified four questions that any theory of justice should have an answer to (see also Herne & Jokela 2004, 31-32). These questions, needless to say, are answered in various different ways by the theories of justice. These four questions and thus dimensions of social justice are:

- 1) What is the community of justice?
- 2) What is the basic structure?
- 3) What is being distributed?
- 4) What is the principle of distribution?

The community of justice answers to the question of justice ‘from whom and to whom’; who should give something for whom, and thus contains both distributors and recipients of justice. *The basic structure* refers to whether the theory is a) impartial or substantive regarding the notion of good for human beings, b) procedural or consequential; whether the justice of a certain situation is judged by it arising through just procedures or by the justness of the outcome itself, c) universal or particular; are the norms considered to apply to all cultures and societies or merely to a particular culture because of its traditions. At its broadest, the question about *what is distributed* refers to benefits and burdens, but also, for instance, to intentionally produced environmental goods and bads. Finally, *the principle of distribution* refers to the principle on the basis of which something is distributed; these are the principles of needs, desert, entitlement, market value, equality, utility ‘to the benefit of the least advantaged’ and ‘depends on the mode of production/good in question’. (Dobson 1998, 62-84.)

2.2 Origin of the concept: environmental justice movement in the USA

Associating environmentalism and justice principles is a rather recent trend (Ikeme 2003, 197) and at the beginning their linkage has been considered mostly in regional and national contexts. Geographers have discussed socio-spatial justice in western countries since the 1960s, and for example, the concepts of ‘territorial justice’ and ‘geographical justice’ have been employed to study the distribution of social services (Low & Gleeson 1998, 105). However, the origin of the actual concept of environmental justice can be traced to the environmental justice movement, which developed in the USA as a grassroots struggle against ra-

cially discriminatory distribution of hazardous wastes and polluting industries during the 1970s. The participants were mostly urban African-American and Latino communities as well as native American peoples who saw that their environmental concerns had been left in the shadow of the ecological concerns of white, middle-class Americans (Low & Gleeson 1998, 107). According to Taylor (2000, 533-534), the environmental justice paradigm was fundamentally about people of colour redefining their relation to the environment and breaking free from oppression. Therefore autonomy, self-determination, access to resources, fairness, justice, and civil and human rights were essential concepts in framing this new paradigm. In the 1980s the environmental justice movement became more visible and powerful with the campaigns of people of colour against pesticide poisoning and the siting of detrimental facilities in their communities. Also others, like scholars and community activists, became interested about the possible connection between race and exposure to environmental risks. (Taylor 2000, 535.) Their cause was backed up by several studies and social scientific researches which indicated race to be “the central determining factor in the distribution of chemical hazard exposure in the USA” (Low & Gleeson 1998, 108). By the early 1990s the movement had expanded and now several thousands of groups opposed inequitable distribution of noxious land uses (Low & Gleeson 1998, 111). In 1991 the First National People of Colour Environmental Leadership Summit was arranged and the participants formulated 17 Principles of Environmental Justice which widened the movement’s focus from merely race to other concerns such as class, non-human species (ibid. 1998, 108), and gender (Taylor 2000, 537). According to Taylor (2000, 538) the Principles form an environmental ideological framework linking ecological, labour and social justice concerns which are local, regional, national, and international in scope. In the USA, the concerns of the environmental justice movement have being institutionalised in some way but Low and Gleeson detect indications that the movement has reached its political culmination point for the time being (in 1998) because of the so called ‘wise use’ campaign and the Republican political agenda, but opposition comes also from industry-sponsored research (Low & Gleeson 1998, 111).

2.3 Environmental justice at the global scale

In the turn of the 1980s and 1990s traces of environmental injustices had also been discovered worldwide (Byrne et al. 2002, 3) and the movement started to address the exploitation of people in developing countries (Hannigan 2006, 51). Hannigan (2006, 47) sees that as this

movement has become global it also has started to put more emphasis on the environment, whereas in the USA it is more about protecting people and civil rights. In addition to local resistance groups and scholars, questions of international environmental justice have also been advocated by well-known environmental organisations such as Greenpeace, Friends of the Earth and Third World Network (Byrne et al. 2002, 8-9). Global or international environmental justice relates mostly to the relationship between developed and developing countries, which has been uneven and imbalanced. As Kuronen (2003, 49) notes, the formerly colonised developing countries have suffered from local environmental injustices since the days of Columbus; the basis of colonialism was largely on the systematic use of natural resources and forced labour. In developing countries, Wagle observes (2002, 71), environmental justice movements have always concerned with the livelihoods of rural people and communities. The reasons for this are their dependence on local natural resources for their livelihoods as well as their vulnerability to disturbance from economic, social, political and technological impacts from outside (ibid. 2002, 71). No wonder, then, that the discussions about environmental justice in the South have a strong, structural tone, and the local environmental battles of the poor or minorities are also about recognising their rights (Kuronen 2003, 53).

Issues of international environmental justice have ranged from the exploitation of commons resources in developing countries to the shifting of environmental pollution from industrial to developing countries. (Byrne et al. 2002, 8-9.) 'Traffic in risk' is a term introduced by Low and Gleeson (1998, 121-129) by which they refer to the transport of unpopular and increasingly illegal hazard-producing activities and wastes from developed to developing countries involving both western waste-producing firms and western governments. The profits of these plants or products, however, mostly flow back to the countries of the operating firms. These activities portray a picture of the developing countries as mere suppliers of raw materials or waste dumps. According to Pellow et al. (2001, 433) the toxic trade continues to grow despite international treaties and domestic legislation trying to regulate or even prohibit it. The estimated amount is 3 million tons yearly leaving from industrialised countries (that produce 90% of the total volume of hazardous wastes) ending up mostly to developing countries. They continue, that Guinea-Bissau, for instance, was offered a payment equal to four times its GDP in return for allowing the dumping of toxic waste inside its borders, which it nonetheless rejected. Another example is Nigeria where highly poisonous waste was dumped illegally by an Italian chemical firm during the 1980s causing poisonous chemicals being released into the environment with various severe health impacts to the local population. (ibid. 2001, 433-434.)

Ecological imperialism and environmental colonialism are other concepts that describe environmental injustices as a result of global economic development and modernisation as well as historically imbalanced relations between people and nations ranging already from the era of colonialism. Ecological imperialism, according to Byrne et al. (2002), refers to the large and cumulative ecological impacts of international industrialisation. During the European colonisation the ecological changes of colonised places were caused by, for instance, exotic species and pests or new land uses but nowadays traces of ecological imperialism are seen in the business for genetically modified organisms and the trade of genetic resources from developing countries to the advantage of North and to the disadvantage of Southern indigenous communities. (Byrne et al. 2002, 11-12.) Environmental colonialism, on the other hand, refers to the idea of global economic development as “attempting to colonise not only the labour and resources of societies, but whole cultures and ways of life through an appropriation of the environmental conditions upon which communities depend” (ibid. 2002, 11). Under this concept Byrne et al. discuss the global commons resources such as the atmosphere and biodiversity, which are expected to have devastating impacts because of expanding modernisation. They see that the reason why global commons are turning into global environmental problems is the “historic patterns of exploitative practices by the industrial elite” while in most cases the consequences burden most heavily poorer communities. Developing countries are seen especially vulnerable to environmental change because of their lack of resources to respond to these changes as well as the greater dependence of their community livelihood on the health of natural environments. Byrne et al. continue that the protection of global commons is often carried out by “global management regimes based on an appropriation of these resources”, for they see that environmental agreements treat global commons as international properties which are managed with the principles of modern organisation and business management. In addition, in these international negotiations the developing countries are at risk of losing their autonomy to the interests of North by their ecosystems becoming conservation areas for long-term protection. (Byrne et al. 2002, 9-10.)

Sachs and Santarius (eds. 2007) focus on the uneven distribution and use of natural resources and sinks. As they observe (2007, 39), resources are already distributed in an uneven manner around the world due to geographical and climatic conditions. For instance, most of the non-renewable resources (fossil fuels, metal ores and other minerals) are found in the developing countries. Even so, the developed countries consume a disproportionately high share of them as energy and raw materials. In addition, the average per capita ecological footprint of the industrial countries is 6.60 hectares, which is three times bigger than the world average

of 2.23 hectares. The equivalent numbers of the developing countries are 2.52 hectares in upper-middle-income developing countries, 1.81 hectares in lower-middle-income developing countries and 0.88 hectares in low-income developing countries (a grouping by Sachs & Santarius, see 2007, 37-38). These different environmental conditions and natural resource stocks have been managed with international trade for a long time. Generally speaking, the pattern is that the developing countries produce raw materials, the monetary value of which is low while the material volume is high. The newly industrialised countries produce heavy industrial goods, and the developed countries produce refined, processed high-value goods, which account for approximately three-quarters of total world trade in monetary terms. In addition, exchange of high-value goods takes place among the rich countries, exchange of goods with a lower monetary value takes place between poor and rich countries, but there is only a little exchange between the poor countries. (Sachs & Santarius 2007, 36-60.)

2.4 Theoretical framework of environmental justice

Evidently, the notion of environmental justice has been used to advocate various different issues. I follow the suggestion of Ikeme (2003, 200) to consider *environmental justice* as “the broad, overarching concept encompassing all justice issues in environmental decision-making”. As a theoretical framework I consider environmental justice to encompass distributive and procedural dimensions as well as three justice relations or specific issues of justice (see Figure 1.).

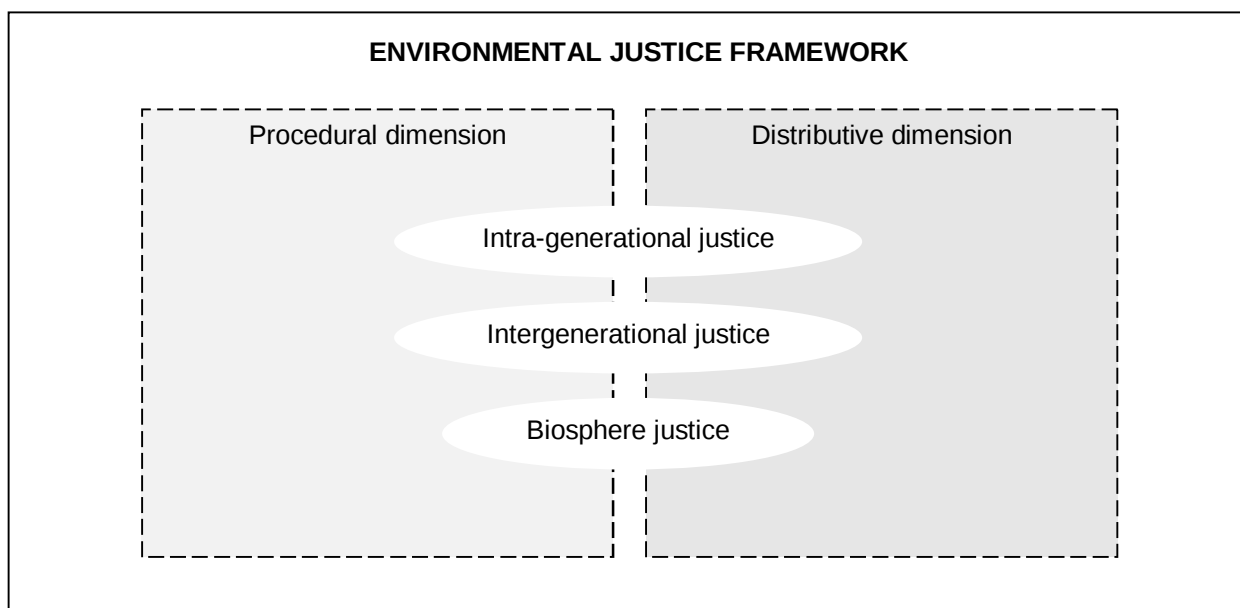


FIGURE 1. Environmental justice framework.

The justice relations refer to the question about community of justice (see Dobson 1998); among whom environmental quality and risks are to be divided and who are taken into account in procedures – who are discussed within justice. The community of justice includes the distributor (justice from whom) and the recipient (to whom). The studies and theoretical ideas of environmental justice refer to the community of justice in different ways. Here I discuss the environmental justice outlines of Low and Gleeson (1998), Sachs and Santarius (eds. 2007), Lehtinen (2003) and Sajama (2003). What is common within these outlines and classifications is that the distributors are portrayed as human beings. Indeed, it would be impossible to see an environmental justice case where the begetter of environmental harm is, for instance, an animal. However, they do vary in terms of who might be considered as an eligible recipient of justice. Of course, all of these outlines regard the currently living human beings as such.

Justice relations of environmental justice

Environmental justice, according to Low and Gleeson (1998, 2), refers to “justice of the distribution of environment among peoples”. In essence, environmental justice for them means the distribution of environmental quality and risk, or “good and bad environments” among human beings locally, nationally and internationally (ibid. 1998, 102-103). The basic idea is that people who produce environmental risks due to industrial activity and benefit from it are not the ones who have to suffer from those risks, at least not primarily. Instead, people who are also otherwise unfortunate, the ones who do not possess neither political nor economic power, are subjected to these environmental risks. Attention is thus directed to the social dimensions of environmental issues and debates (see Lehtinen 2003, 29). However, Low and Gleeson (1998, 2) see that environmental justice relates to another justice issue: to ecological justice which they define as “justice of the relationship between humans and the rest of the natural world”. They see that environmental and ecological justices are two sides of the same relationship although they admit that a good environment for human beings and good environment for non-human nature are not necessarily congruent with each other (1998, 2; 102).

Whereas Low and Gleeson make a distinction between environmental and ecological justice, others such as Lehtinen (2003) or Sachs and Santarius (eds. 2007) consider that environmental justice encompasses the notion of ecological justice. They also discuss intergenerational justice within the framework of environmental justice, an issue that Low and Gleeson have bypassed. Sachs and Santarius (eds. 2007, 26-28) consider environmental justice as threefold, comprising the dimensions of 1) biosphere justice, 2) intergenerational justice, and 3) intra-generational or resource justice. They see that environmental justice is becoming

more important as the ecological, bio-physical limits of biosphere are approaching or are already being exceeded. According to them the first two dimensions have been emphasised until now, whereas the third dimension has been hardly discussed. The first dimension of *biosphere justice* refers to the interdependence of all living beings and life-forms and recognises their value in spite of their worth to human beings. Human beings are seen as a part of “community of life”, and within this “community of biosphere, human claims to property and power are restricted by the rights of other living things” (ibid. 2007, 27), for example, the right of other life-forms to a healthy, non-polluted living space. However, Sachs and Santarius point out that although other living beings have rights, these are neither absolute nor prerogative of human beings. The second dimension, *intergenerational justice*, deals with “the relationship between people living today and future generations” (ibid. 2007, 27), and thus broadens the community of human beings in a temporal sense. This idea was popularised by the Brundtland Commission’s definition of sustainable development. The current generations are considered “trustees of a legacy” and should therefore pass on natural resources undiminished to next generations. The third dimension of *intra-generational or resource justice* directs attention to the uneven distribution of advantages and disadvantages of consuming the environment. The advantages such as property, profit and power and disadvantages such as pollution, privation and poverty, usually concentrate in “different social groups, in different places and perhaps at different times” (ibid. 2007, 28). That is, changes in the environment are not equally good or equally bad for all. (ibid. 2007, 19-28.) All these three dimensions aim at preserving the planet as viable by protecting the rights to existence and development of either non-human living things (biosphere justice), later generations (intergenerational justice) or disadvantaged people and countries (intra-generational justice) (ibid. 2007, 29).

These three dimensions of Sachs and Santarius (eds. 2007) are also represented in the outline of Lehtinen (2003), who identifies six perspectives within the environmental justice debate (or justice in using the environment in the Finnish discussions). These are 1) regional, 2) intergenerational, 3) gender, 4) class, 5) ethnical and 6) non-human nature perspectives. The *regional perspective* directs attention to local and regional equality as opposed to overlocal domination and control. The *intergenerational perspective* includes the rights of future generations accordant with the principle of sustainable development, but also the forgotten rights of the past generations. For instance, what is the role of elderly and children in environmental planning? The *gender perspective* highlights that producing, acknowledging and suffering from environmental harms is gendered and imbalanced; women are at a disadvantage. The *class perspective* refers to the question about whether environmental or environ-

mentally related decisions treat all parts of society equally. The *ethnic perspective* has been especially important in stimulating the whole discussion about the social dimension of environmental questions. It draws attention to cultural background and the role of minorities in environmental decision-making. Finally, the *non-human nature perspective* considers the rights and the (intrinsic) value of animals and other non-human nature. (see Lehtinen 2003, 24-30.) Also Sajama (2003, 84-85) discusses these three dimensions. He sees that an environmental justice perspective broadens the conventional idea of justice in terms of who is considered to be a member of the community of justice. According to him the traditional view is broadened by three dimensions: time, space and species. The dimension of time refers to future generations; their needs and living conditions. The dimension of space, on the other hand, concerns with responsibilities to people far away and considers whether these duties are as binding as to people close by. The dimension of species discusses the rights and interests of sentient and non-sentient animals. (ibid. 2003, 84-85.)

To sum up, the environmental justice of Low and Gleeson corresponds with the intra-generational dimension of Sachs and Santarius, dimension of space of Sajama as well as the regional, gender, class and ethnic perspectives of Lehtinen. The ecological justice of Low and Gleeson resemble the biosphere justice of Sachs and Santarius, the dimension of species of Sajama and also include the non-human nature perspective of Lehtinen. However, all the other authors appear to be discussing the rights of all living beings whereas Low and Gleeson consider to some extent also the value of non-living nature. In addition, Lehtinen, Sajama as well as Sachs and Santarius discuss intergenerational justice within environmental justice whereas from Low and Gleeson this aspect seems to be forgotten. Consequently, while there is no single universal definition of environmental justice, the concept can be regarded to encompass three justice relations: the relation between all human beings in the world living today, the relation between current and future human beings, and finally the relation between human beings and rest of the nature (called as non-human nature or biosphere etc.). The justice relations of environmental justice framework can be presented as following:

- 1) intra-generational (resource) justice
 - a. regional perspective (areal, national, global)
 - b. gender perspective
 - c. class perspective
 - d. ethnic perspective
- 2) intergenerational justice
- 3) biosphere (ecological) justice

Procedural and distributive dimensions of environmental justice

These above mentioned classifications mainly deal with the distributional dimension of justice; among whom should environmental quality be divided. However, in order to bring out the environmental concerns of all these human and non-human actors, the questions of procedural justice arise. Both Ikeme (2003, 195) and Schlosberg (2004, 517) see, that the notion of environmental justice has mostly been used in the sense of distribution of environmental harms and benefits. Schlosberg (2004, 517-518) thinks, however, that focusing solely on distributive aspects is insufficient, and sees that the activists, NGOs and communities that call for environmental justice actually require more than mere distribution. Usually environmental justice is considered as twofold, including both distributive and procedural dimensions (see for instance Tóth 1999, Ikeme 2003, Anand 2004, Paavola 2005, Paavola & Adger 2006). In other words, environmental justice can be realised through these dimensions of justice. Accordingly, it is equally important to address both questions of Low and Gleeson (1998, 2): “*who gets what environment – and why?*”.

The distributive justice refers to the beneficial and adverse effects of environmental decisions or action (Paavola 2005, 312) or to the distribution of environmental benefits and burdens, environmental quality and risk, (see e.g. Ikeme 2003, Anand 2004), or “environmental goods and bads” (Herne 2004, 37) within the community of justice. Hence, distributive dimension is concerned with outcomes (Brashear et al. in Ikeme 2003, 200), or more like whether these outcomes are considered as just. The distribution itself may refer to differing ecological footprints, environmental degradation with health consequences, ecological risks, mitigation of climate change, etc. According to Shue (1999, 531-532) the concept of fairness as an outcome is universal; everyone understands the question about ‘what would be fair’ or ‘which arrangement would be equitable’ when something is divided among two or more parties. There are, however, various contesting criteria on the basis of which the division can be made. Albin (2001, 8-12) separates between internal, external and impartial criteria: the internal (or contextual) criteria depend on the situation at hand, the external criteria refer to major principles of distributive justice, those of equality, proportionality, compensatory justice and need; and the impartial criteria which “delineate requirements which a negotiation process and an agreement must fulfil in order to be taken to be just and fair”. The arrangement can, of course, be measured by other means than by criteria of justice. If the standards of efficiency and fairness, for instance, do not lead to same outcomes, then a choice has to be made between them and the situation is further complicated.

The procedural dimension is concerned with procedures and processes; it refers to participation and being able to influence in decision-making process (Ikeme 2003, 197-200). This dimension is significant for several reasons. Anand (2004, 16), for instance, sees that procedural aspects, such as equitable voting procedures and decision-making structures, are important not only because they lead to laws and policies that allocate costs and benefits more fairly, but also because they encourage global cooperation without scepticism in solving global environmental problems. Paavola (2005, 314) adds that resolving distributive justice dilemmas satisfactorily for each party is difficult, and therefore procedural justice has an important role in justifying decisions to those parties whose interests and values are not realised while some other party's demands are. According to Paavola (2005, 314) procedural justice "encompasses issues such as recognition, participation and distribution of power in environmental planning, decision-making and governance". Recognition is the basis of procedural justice. Recognition does not necessarily demand participation, but the interests of certain groups and communities can be integrated in planning and decision-making by other means, too. For instance, guidelines for the preparation of National Adaptation Plans of Action (NAPAs) within the climate change regime require public consultation in the setting of national adaptation priorities. Recognition, however, is essential for being able to participate. Participation can have different degrees "from simply hearing affected parties to giving them power in decision-making" (Paavola 2005, 314). Paavola (2005, 314) considers public participation to include four procedural aspects discussed by Fitzmaurice (2003, 339), which are 1) public participation in environmental policy and law making, 2) right to information and to be heard during the policy and law making processes, 3) access to environmental justice including the right to seek remedies from environmental harm and from breaches of environmental regulations both at public and private levels, and 4) the right of individuals to call for a general review of government's performance in enforcing environmental laws. In addition, Paavola (2005, 314) pays attention to the distribution of power: "The solutions for recognition and participation, together with political-economic factors of a distributive nature, generate a particular distribution of power", he writes. The relative power of parties, according to him, determines the way their interests are considered and heard in environmental decision-making and governance, and thus in practice distributive and procedural justice are connected to each other while being separate fields of study.

2.5 Responsibility

Responsibility, or lack of it, is essentially connected with whether justice takes place. For instance, Rannikko and Lehtinen (2004, 22) discuss justice as the distribution of inter alia power, risks, pollution or responsibility accordant with one's merit, which is defined culturally and socially. Justice as an outcome is thus realised if responsibility is distributed fairly, in compliance with everyone's merits. Björn (2003, 24) defines justice as "the fair distribution of rights and duties"; here again justice means that duties or responsibilities are to be divided between parties fairly. In relation to sustainable development, which aims at reconciling ecological, economic and social sustainability, both justice and responsibility are seen as the pre-conditions of the dimension of social sustainability. For being in the long run meaningful, distribution of responsibility, for example, in terms of time or other investment for a common good should be done fairly. (Lehtinen 2004, 28.) Accordingly, considerations about responsibility at the same time also highlight some aspects of justice and describe how justice is understood. If responsibility is not seen as being distributed in an acceptable and satisfactory way within a community, then justice is not realised. As discussed earlier, unfair outcomes often relate to procedural justice and thus to the question whether every member of society has the same possibilities to decide upon how to share responsibility. Furthermore, things become more difficult when the community of justice encompasses also future generations and the environment. It is, however, essential to consider whether we have responsibilities towards future generations and non-human nature, and if we do, what these duties are. The controversial definition of sustainable development, for instance, refers to responsibilities towards future generations of human beings. In relation to international environmental justice, responsibility is visible, for example, in the polluter pays principle according to which polluting states are held accountable for the transboundary consequences of their pollution (Ashton & Wang 2003, 61).

But what does responsibility actually mean? The concept of 'responsibility' covers various different, though connected, ideas (Hart 1968, 211). One way to define responsibility is "the actor's power to influence something so that the activity promotes, maintains or violates some values or objectives" (Raitio & Rytteri 2005, 119). Responsibility can be divided in terms of the dimension of time. Birnbacher (2000, 9-10) distinguishes between *ex post* and *ex ante responsibility*; the former is retrospective and refers to answerability of an act or default in the past, whereas the latter is future oriented and refers to obligations and duties. For instance, the polluter pays principle is retrospective and urges countries to clean up the mess

they have caused, whereas examples of future oriented responsibility are the different obligations in the UNFCCC and the Kyoto Protocol. However, responsibility has been discussed and divided in other ways too. Raitio and Rytteri (2005) employ H.L.A. Hart's dimensions of responsibility in their article, which discusses the conceptions of different actors about the responsibility of the state-owner and the Finnish Forest and Park Service as the users of forests in Northern Lapland. These dimensions are (the names differ a bit with the ones Hart employ): 1) causal responsibility, 2) preconditions for responsibility, 3) role related responsibility, 4) moral responsibility, and 5) judicial or legal responsibility. *Causal responsibility* refers to causing or producing an outcome; someone has caused something by her or his actions. This is, of course, the foundation of responsibility. But what about if an outcome is not intentional or someone is forced to produce the outcome? The *preconditions for responsibility* mean that the actor has the purpose, the ability and the opportunity to do or not to do something. There are many criteria for responsibility ranging from psychological conditions to being able to choose freely. *Role-responsibility* considers that taking care of or controlling something is part of the role of, for example, business manager or a parent. These aforementioned dimensions refer to the formal premises of responsibility, whereas *moral responsibility* concerns with the content of responsibility; what kind of values responsibility is considered to encompass within a certain society. Moral responsibility does not necessary mean legal responsibility and sanctions; they do not always correlate with each other. Besides, there are diverse moral ideas within and between societies and cultures. *Legal responsibility*, on the other hand, refers to responsibility accordant with legislation; legal rules determine the liability. (Hart 1968, 212-230; Raitio & Rytteri 2005, 119-120.)

When transferred to environmental questions these dimensions relate to ecological restrictions to human behaviour for the sake of other human beings, future generations or the environment itself. In the end, it all comes down to legal responsibility and attesting it. In environmental issues this is particularly difficult: proving the amount of damage to someone or to the environment is not easy, and neither is proving someone or a company guilty. In addition, how to measure the damage to the environment? In Finland protected animals have been priced, and killing, for instance, a whooper equals to 2018 euros (see Rauhoitettujen eläinten...). However, it seems that within nature conservation or environmental offences the gap between moral and legal responsibility is quite wide. Kumpula (2004, 22) sees that there is a need for new kinds of concepts of responsibility and duties when discussing about the responsibility towards environment or future generations. This is because they do not deal with reciprocal responsibility of equal parties, but instead, the relationship is asymmetrical. She con-

tinues that even if it can be argued both morally and judicially, that future generations or animals have rights, realising or defending these rights depends at the moment on current people. Future generations and the non-human nature have to have human advocates within procedures.

Here, responsibility has mostly been discussed in relation to individual behaviour but responsibility can also be collective depending on the community of justice. Both the distributors and the recipients of justice (see Dobson 1998) may range from individual to nation and also to the whole world. The idea of Strydom (1999) is that (moral) responsibility is currently under change and it is expanding in terms of the dimension of space. Strydom (1999, 66-69) presents a three-fold typology of responsibility describing this change. First, individual responsibility, as employed by Durkheim and Parsons, applies within informal pre-institutional context as duties of loyalty, for instance, within friendship and family as well as within formal institutional contexts of marriage, family and occupational roles in a society characterised by the division of labour. The second one is post-traditional individual responsibility as exemplified by the work of Habermas; it refers to individual responsibility “due to their possession of special knowledge, abilities, judgement, power or influence in particular domains of social life”. Thirdly, the new concept of co-responsibility, presented by philosopher Apel, arises from a new universal and global situation with irreversible features that the humankind has to face. Due to the magnitude of the risk both in the dimensions of time and space, the moral norms that regulate face to face relations are not enough anymore. This co-responsibility is “articulated and organised discursively in both a social and political sense, and thus allows the participation of individuals, groups, collective agents and the public”. It is also of mobilizable form and assumes that all those who become concerned and involved “bear co-responsibility for the observed consequences and side-effects of collective activity”. Strydom (1999, 72-77) also sees responsibility as the new master frame structuring risk communication. The frame, however, is enabling and allows diverse practices and interpretations as well as discussing the survival of the planet and a more sustainable relation to nature. Could this co-responsibility correlate to Harvey’s (1999) search for universal environmental justice discourse which “unites the emancipatory quest for social justice with a strong recognition that social justice is impossible without environmental justice” and adopts “a politics of abstraction capable of reaching out across space, across the multiple environmental and social conditions that constitute the geography of difference in a contemporary world that capitalism has intensely shaped to its own purposes” (Harvey 1999, 184)?

2.6 Summary

The term ‘environmental justice’ originates from environmental justice movement in the USA, which highlighted the connection between race and exposure to environmental risks. Environmental justice movement has also broadened to address global issues, which often means focusing on the relationship between developed and developing countries. Global environmental problems – such as climate change – have further emphasised the need to focus on this international dimension (Byrne et al. 2002, 9). As a theoretical concept, environmental justice encompasses distributive and procedural dimensions as well as three justice relations. The distributive dimension refers to the distribution of environmental benefits and burdens (see e.g. Ikeme 2003). Regarding climate change this dimension relates, for instance, to inequity in the positive and negative impacts of climate change and to the distribution of burdens in managing climate change (Tóth 1999, 2). The responsibility for causing the problem and for dealing with the problem is also included in this dimension. The procedural dimension refers to participation and being able to influence in decision-making process (Ikeme 2003, 197-200). In terms of climate change this raises questions whether everyone has an equal opportunity to influence to the outcomes in climate politics. Now the main participants in climate politics are states, but what about humans and groups within states or future generations and animals – are they all represented in climate politics? This is what the justice relations discuss: among whom environmental benefits and burdens are divided and who are to be taken into account within the procedures – who are discussed within justice. The three justice relations in the environmental justice framework are: the relation between all the human beings in the world living today (intra-generational justice), the relation between current and future (as well as precedent) human beings (intergenerational justice), and finally, the relation between human beings and rest of the nature (biosphere justice). The inter- and intra-generational issues are considered to be of importance in climate change (Tóth 1999, 2; Paavola 2005, 313) but Paavola and Adger (2006, 602) see also that the concerns for non-human species should be taken into account. While I touch upon some questions of intergenerational and biosphere justice, I focus on intra-generational aspects, specifically on international questions and on the distributive dimension. In the next chapter I elaborate the environmental justice perspective towards climate change and climate politics.

3 POLITICS OF CLIMATE CHANGE AND ENVIRONMENTAL JUSTICE

This chapter connects environmental justice with climate change and international climate politics. The aim of this broad chapter is to describe climate change as a phenomenon and international climate politics itself as well as highlighting the many environmental justice questions between countries in the politics of climate change. First, I discuss some natural scientific basis of climate change and consider what kind of distributive justice questions the causes and consequences of climate change raise. Then I describe climate politics; how it has been formed and evolved around the problem and examine the way countries – the main actors in climate politics – are disposed towards climate change and its abatement. In addition, I describe discursive aspects by considering how climate change is discussed and constructed as a problem within climate politics. Then I turn to the environmental justice questions within climate politics which relate to mitigation and adaptation. I also consider procedural justice aspects within climate politics as well as describe the way responsibility is discussed in terms of climate change. Finally, I examine countries' environmental justice perspectives within climate politics.

3.1 Climate change – some natural scientific basis

Climate change science is very complicated and involves many scientific uncertainties. However, here I discuss what is currently known or assessed about climate change. Climate change relates to an important and natural phenomenon of atmospheric greenhouse effect that support life. Natural greenhouse gases such as carbon dioxide (CO₂), methane (CH₄), water vapour (H₂O), ozone (O₃) and nitrous oxide (N₂O) let solar radiation to the earth but keep some of the radiation from being emitted into space (Kasvihuonekaasut) and due to these gases that “act like a thick blanket surrounding the earth” the earth is some 33 °C warmer than without their greenhouse effect (Pittock 2005, 8-9). The concept of *climate change* itself is used in two ways: for the Intergovernmental Panel on Climate Change it refers to “any change in climate over time, whether due to natural variability or as a result of human activity”,

whereas the United Nations Framework Convention on Climate Change considers only changes directly or indirectly linked to human activity when using the concept (IPCC/WGI 2001, 2). The latter, used also by the general public, is referred as *enhanced or anthropogenic greenhouse effect*, too. Thus all these three terms refer to impacts caused by increased concentrations of natural and artificial greenhouse gases due to human activities (Pittock 2005, 9). Artificial greenhouse gases are human made, and the most significant ones related to climate change are chlorofluorocarbons (CFCs and HCFCs), fluorine compounds (HFCs, PFCs, SF₆) and bromine compounds (Kasvihuonekaasut). Although there are also natural changes and variability in climate resulting, for instance, from internal variability within the climate system as well as from external factors such as changes in solar output or explosive volcanic activity (IPCC/WGI 2001, 5), the IPCC's Fourth Assessment Report (IPCC/WGI 2007, 10) states that it is "very likely" that the increase in anthropogenic greenhouse gas concentrations have caused most of the observed increase in globally averaged temperatures since the mid-20th century whereas in the Third Assessment Report in 2001 the term was "likely". According to the IPCC's Fourth Assessment Report (IPCC/WGI 2007, 5) there are already increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising of global average sea level; these mean that warming of the climate system is unequivocal.

Greenhouse gases contribute to climate change on different scales. According to the IPCC's Fourth Assessment Report carbon dioxide has the most significant effect on climate from the anthropogenic greenhouse gases (IPCC/WGI 2007, 2). Methane is the second most important greenhouse gas. In addition, artificial greenhouse gases and nitrous oxide have a notable effect. (IPCC/WGI 2007, 4.) Anthropogenic increase in the atmospheric concentration of CO₂ comes primarily from burning fossil fuels (coal, oil, natural gas), destruction of forests and carbon rich soil, and the manufacture of cement (Pittock 2005, 9). Anthropogenic increase in CH₄ results from cultivating rice, fossil fuel production, animal husbandry (sheep, cattle) and burning and decay of biological matter (Pittock 2005, 9). The HFCs have been used in refrigerants and other industries but are replaced because they also are ozone-depleting gases. Other artificial greenhouse gases such as PFCs and SF₆ are used in solvents, fire fighting, electronic and electrical industries as well as in other industries (Pittock 2005, 9). Increases in N₂O stem from agricultural soils, chemical industry and cattle feed (IPCC/WGI 2001, 7). Some greenhouse gases, for example CO₂, N₂O, PFCs and SF₆ are long-lived and thus will continue to impact on climate and global warming for a long time

(IPCC/WGI 2001, 17). Roughly 80% of total greenhouse gas emissions come from the burning of fossil fuels (Porter et al. 2000, 113).

3.2 Environmental justice within climate change

Although climate science is becoming more and more accurate and understanding of climate change is improving, there are still uncertainties. Even if there is very high certainty that the atmospheric composition will continue to change in this century due to human activities, less confidence exists about exactly how climate will change in the future and even lesser confidence about what changes this will entail to natural and human systems (Dessai et al. 2007, 1). Dessai et al. (2007, 1) continue, that “given the wide range of uncertainties associated with future climate change, it is not surprising that debates within the two domains of human response to climate change – adaptation and mitigation – remain deeply contentious and irresolvable.”. Gardiner, however, sees (2004, 565) that it is important not to overplay the problem of uncertainty. Although he admits that there are “substantial uncertainties surrounding both the direct empirical evidence for warming and our theoretical understanding of the overall climate system”, he reminds that uncertainties cut both ways: impacts of climate change may be lesser than expected but they also can be more disastrous than anticipated. Here I discuss some justice aspects of the causes and consequences of climate change.

3.2.1 Causes of climate change

The justice concerns within the causes of climate change refer to the question ‘who has caused the problem’. As Adger (2004, 1712) sees it, “climate change is a fundamentally unjust burden, an externality from past and present polluters that use the global atmosphere as an open-access resource”. That is, certain countries, businesses and people have contributed to climate change historically as well as at present more than others. In addition, greenhouse gas emissions (at least carbon emissions) correlate closely with income levels (IPCC/WGIII 2001a, 87), and thus considerable emissions mean considerable economic benefits. Bluntly said, some countries and people have used excessively this limited global commons resource, the atmosphere, and benefited from it while depriving the same possibility from others that are living now or will live in the future. In addition, the number of biggest emitter countries is

relatively small, and in general they have large populations or high GDP, or both (Pittock 2005, 159). Internationally compared, in 2004 the Annex I countries of the UNFCCC accounted for 46% of global greenhouse gas emissions while their population accounted only for 20% of the world population (IPCC/WGIII 2007, 3). However, representing responsibility for climate change is not that simple but there are different ways to measure countries' greenhouse gas emissions and thus consider their contribution to climate change; for instance, countries' total amount of emissions is one way and per capita emissions another way. In addition, do we look at current emissions only or include also past emissions? Or do we take into account all greenhouse gases or just some of them? In general, developing countries such as African countries and India have low per capita emissions of greenhouse gases while developed countries, especially Australia and USA have high per capita rates of greenhouse gas emissions. China's total greenhouse gas emissions are second high (in 2005), but it has a population which is four times that of the highest emitter in 2005, the USA, which emits about a third of total global emissions. (Pittock 2005, 255-277.) The current emissions of developing countries are also defended as 'survival emissions', whereas the developed countries are said to produce 'luxury emissions' resulting from luxury items (Sachs et al. 1998, 72), although this kind of division seems quite black-and-white.

Figure 2. presents an example of the high diversity in countries' per capita CO₂ emissions, the most significant greenhouse gas, in 2002 as well as including countries GDP. It should be noted that there is only a sample of countries and thus a wide range of countries is left outside the figure. Measuring responsibility with per capita emissions can be justified with the idea that everyone is equally entitled to an atmospheric global commons resource. Sachs (2002, 27) has estimated that with a world population of 5.8 billion and the world's absorbing capacity in 2002 everyone could emit 2.3 tons of carbon dioxide without harmful consequences to the world. However, some countries use multifoldly their share of the emissions the world is capable of absorbing: an average US citizen produces 20 tons and an average German citizen 12 tons of carbon dioxide (ibid. 2002, 27). In addition, the world's absorbing capacity can not manage without changes and consequent effects if the whole global population would like to attain this kind of level of emissions, or more like the commodities and standard of living the emissions are connected to.

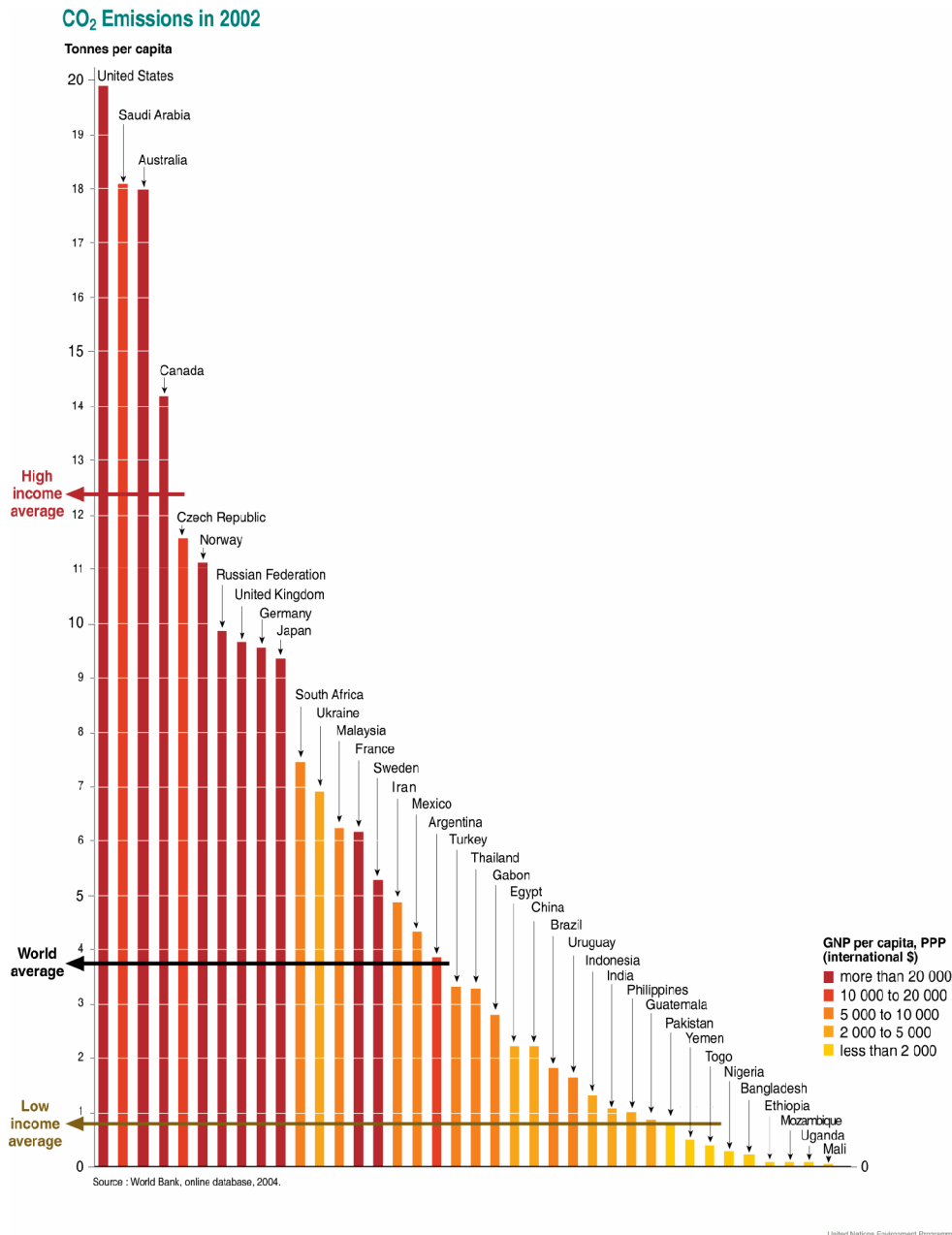


FIGURE 2. Some countries' per capita CO₂ emissions in 2002. Source: World Bank online database.

However, if measured with total CO₂ emissions the countries' contribution to climate change seems distinct. For example, in 2004 only 15 countries produced for about 70% of the global CO₂ emissions coming from fossil fuel burning. The main polluters in CO₂ emissions were USA (21%), China (17%), the Russian Federation (5%), India (5%) and Japan (4%). The ten other main emitters accounted for 17% (see Table 1.). These are the figures at the 21st Century but a historical comparison looks again a bit different. The UNEP has estimated (in Sachs et al. 1998, 72) that between 1800 and 1988 the developed countries have produced over 80% of the global increase in the atmospheric carbon dioxide.

TABLE 1. Fifteen countries with the highest fossil fuel CO₂ emissions in 2004.

<i>Country</i>	<i>2004 Total CO₂ Emissions (000 metric tons)</i>	<i>% of Global Total</i>
USA	1 650 020	20,86 %
CHINA	1 366 554	17,28 %
RUSSIAN FED.	415 951	5,26 %
INDIA	366 301	4,63 %
JAPAN	343 117	4,34 %
GERMANY	220 596	2,79 %
CANADA	174 401	2,20 %
UNITED KINGDOM	160 179	2,03 %
REPUBLIC OF KOREA	127 007	1,61 %
ITALY (inc. San Marino)	122 726	1,55 %
MEXICO	119 473	1,51 %
SOUTH AFRICA	119 203	1,51 %
IRAN	118 259	1,50 %
INDONESIA	103 170	1,30 %
FRANCE (inc. Monaco)	101 927	1,29 %
GLOBAL TOTAL	7 910 000	

SOURCE: Marland, G., T.A. Boden, & R. J. Andres (2007): In Global, Regional, and National CO₂ Emissions. In: Trends: A Compendium of Data on Global Change. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, U.S. Department of Energy, Oak Ridge, Tenn., U.S.A.

From the perspective of intra-generational justice countries and citizens have not contributed and are not contributing to climate change with same amounts of greenhouse gases. If the atmosphere is considered as a global commons resource then everyone is equally entitled to it – this again raises questions of responsibility over historical emissions as well as over current emissions. There are a number of suggestions about how to allocate emission rights, and some of these are discussed in the chapter 3.4.1 about mitigation. The intergenerational perspective, on the other hand, makes one to consider the rights of future generations to a healthy atmosphere and environment, but also to ask, whether the current generations can be held responsible for the activities of the past generations. Gardiner (2004, 578-579), however, comments that philosophical writers are surprisingly unanimous on the distribution of responsibility although they justify it in different ways: they see that the developed countries should take the lead and bear the costs of climate change while the less developed countries should be able to increase their emissions.

3.2.2 Consequences of climate change

Consequences in general

IPCC's Fourth Assessment Report predicts of about 0.2°C warming for the next two decades and about 0.1°C warming per decade if there is no increase in the concentration of greenhouse gases in the atmosphere from year 2000 levels. So even if greenhouse gas concentrations are stabilised, warming and sea level rise will continue for centuries due to the timescales associated with climate processes and feedbacks. However, a more substantial warming is expected in the future with growing global greenhouse gas emissions. According to the scenarios used in the Fourth Assessment Report the best estimate for globally average surface warming for the end of the 21st century for the *lowest emission scenario* is 1.8°C (likely range is 1.1°C – 2.9°C) and the best estimate for the *highest emission scenario* is 4.0°C (likely range is 2.4°C – 6.4°C). The lowest emission scenario would mean sea level rise of 18-38 cm and the highest emission scenario of 26-59 cm. The greatest warming is expected to happen over land and at most high northern latitudes, whereas the smallest warming is predicted over the Southern Ocean and parts of the North Atlantic Ocean. Furthermore, the projected consequences entail inter alia contracting snow cover, shrinking sea ice both in the Arctic and Antarctic, more frequent hot extremes, heat waves and heavy precipitation events; more intense tropical cyclones, and increases in the amount of precipitation in high-latitudes while decreases in most subtropical land regions. (IPCC/WGI 2007, 12- 17.)

How will climate change, then, affect ecosystems? To begin with, natural systems can be especially vulnerable due to their limited adaptive capacity and consequently, glaciers, coral reefs and atolls, mangroves, boreal and tropical forests, polar and alpine ecosystems, prairie wetlands, and remnant native grasslands are at risk. Some species may benefit from climate change and their abundance or range may increase, but some species will suffer as climate change increases the risk of extinction of some species and loss of biodiversity, and the greater the climate change is, the greater the damage. (IPCC/WGII 2001b, 4-5.) Furthermore, according to IPCC's Third Assessment Report (2001a, 238) 25% of the world's mammals and 13% of birds are already at significant risk of global extinction, and climate change with other pressures increases their vulnerability. The ecosystems of polar regions are particularly vulnerable and have low adaptive capacity for changes (IPCC/WGII 2001b, 16). In addition, the Fourth Assessment Report (IPCC/WGII 2007, 11) states that the combination of climate change, associated disturbances (e.g. flooding, ocean acidification, drought, insects, wildfire), and other global change drivers (e.g. overexploitation of resources, pollution, land

use change) will likely overburden the resilience of many ecosystems during this century. These gloomy ecological impacts raise fundamental questions about the non-human nature's right for existence as well as the non-monetary value of environment. This makes one to ask, what human beings (or some of them) are allowed to do to non-human nature, especially when these consequences are known beforehand and could at least in part be prevented. Are human beings allowed to cause suffering to animals and extinction of species? In addition, if avoiding extinction can not be justified with the intrinsic value of non-human nature, then it could be justified in Kantian way for the sake of all of us who want to protect the environment (see Sajama 2003, 85); our rights and concerns about non-human nature should be taken into account and not violated.

These changes in natural systems will, of course, affect human beings as well. However, human beings are affected in different scales. For instance, the daily nutritional needs of people in many parts of the world depend on wildlife, and not on the ready meals in grocery shops, and this subsistence hunting also has a cultural importance to communities (IPCC/WGII 2001a, 280). Moreover, the natural resource users in developing countries are considered to be among the biggest 'losers' due to the impacts of climate change (Thomas & Twyman 2005, 116). In addition, the human systems that are sensitive to climate change are water resources, forestry and agriculture (especially food security), coastal zones and marine systems, human settlements, energy sector, industry, insurance and other financial services and human health; these can be vulnerable depending on geographic location, time as well as social, economic and environmental conditions (IPCC/WGII 2001b, 5).

Regional impacts

The positive and negative impacts of climate change and their distribution – ecological, economic, social, cultural, etc – also raise questions of justice as the distribution of the projected impacts of climate change will not be even. In addition, the way climate change affects countries and populations is at variance with their historical responsibility for these impacts (Ikeme 2003, 200). One reason to this uneven distribution is the present climate or location of different countries. For example, the countries that are at low latitudes and have high average surface temperature as well as low-lying countries are prone to negative impacts in the early phases while mid- and high-latitude countries may gain in the early phase of climate change, though the negative impacts will increase with greater warming. Another reason for uneven distribution of impacts is countries' relative wealth and level of economic and technological development – rich and technologically advanced countries have more capacity to anticipate

and to adapt to changes. (Pittock 2005, 120-121.) Hence, countries are at different starting points in facing climate change because inequities exist within and between countries in incomes, opportunities, human welfare and capacities. There are thus various differences in the circumstances of the states, regions and people to deal with climate change: differences in poverty and income distribution (more than 1/5 of the global population lives at less than 1 US dollar per day and poverty is concentrated on developing countries), in capacity for collective action (due to, for instance, lack of transparency and weak administrative infrastructures), in access to technology and innovation, and in international debt (many countries are over-exposed and thus have less flexibility in policy options). (IPCC/WGIII 2001a, 87-88.) In short, the most devastating impacts are going to fall over developing countries that are also countries with the lowest capacity to foresee and to adapt to impacts.

According to O'Brien and Leichenko (2005, 8-9), studies on climate change vulnerability imply that inequities will be further increased by climate change, not diminished. The most vulnerable regions with low adaptive capacity of human systems are Africa, developing countries of Asia, Latin America, and small island states, but in addition to these regions, some groups and communities are also vulnerable, for instance, the indigenous peoples of Australia and New Zealand, North America and polar regions (IPCC/WGII 2001b, 14-17). The IPCC's Third Assessment Report states that economically speaking the impacts will be negative in many developing countries, and the higher the level of warming, the greater the losses will be while many developed countries will have both economic gains and losses up to a temperature increase of few degrees Celsius. According to the Report, this, then, will increase the disparity in well-being between developing and developed countries, and the disparities will grow with the increasing temperature. The Report projects that more people are going to be harmed than benefited by the global mean temperature increases even under few degrees Celsius. (IPCC/WGII 2001b, 8.)

To begin with, *Africa* is likely to be the region most severely affected by climate change due to both the impacts and existing strains (Pittock 2005, 255). The main concerns in Africa include increasing water scarcity, diminishing food security, adverse effects on human health due to e.g. extension of ranges of infectious disease vectors and unsanitary conditions, increasing desertification, vulnerability of coastal zones to sea-level rise, and vulnerability of ecosystems and extinctions of plant and animal species. The *Small Island States* include atoll nations, islands with higher elevations, and island with both these characteristics. They are expected to be among those who are most seriously harmed by climate change. The concern is caused by issues of sea-level rise leading to coastal erosion, loss of land, increased risk from

storm surges, and threat of becoming uninhabitable; reduced water supplies; additional pressure to agriculture; and negative impacts to coral reefs, reef fish, and biodiversity of coastal ecosystems. These all are a threat to fisheries and tourism which are important sources of income for many Small Island States. Key concerns for *Asia*, on the other hand, are extreme weather events, decreases in agricultural productivity in some parts of Asia, vulnerability of coastal areas to sea-level rise and increases in the intensity of tropical cyclones, increased flood risks, decreases in water availability, threats to human health because of increased exposure to vector-borne infectious diseases and heat stress, and exacerbated threat to biodiversity. Key concerns for *Latin America* are more frequent floods and droughts, decrease in water supplies due to loss and retreat of glaciers and changes in rainfall patterns, more intense tropical cyclones, decrease in yields, threat to subsistence farming, adverse effects on health because of increases in vector-borne diseases and worsening urban air pollution in major cities, impacts of sea-level rise to human and ecosystems, and increased rate in biodiversity loss. Australia is, on the other hand, “almost certainly the most vulnerable developed country” to the potential impacts of climate change (Pittock 2005, 256). The areas of concern for *Australia and New Zealand* include stressed water resources (especially in Australia), more severe droughts, increase in the intensity of heavy rains and tropical cyclones, vulnerability of ecosystems and extinction of some species. In addition, climate change may increase yields for the first 2-3°C increase but drop after that. Main issues of consideration in *Europe* are increasing aridity in Southern Europe, more heat waves, increasing river flood hazards, increased risk of flooding, erosion and wetland loss in coastal areas; thawing of permafrost and melting of alpine glaciers; and vulnerability of species because of loss of important habitats due to upward and northward shift of biotic zones. Furthermore, agricultural productivity may increase in Northern Europe while it may decrease in Southern and Eastern Europe. The summer and winter tourism may also be impacted due to these changes. In addition to pressure to natural and human systems, there might be pressure for population movement from areas that are more adversely impacted by climate change from both within Europe and outside Europe. *North America*, however, is facing sea level rise and associated coastal erosion, flooding, loss of coastal wetland, and increased risk from storm surges; decrease in water supplies; increased aridity; increased frequency in major floods; threat to health due to expansion of vector-borne diseases, bad air quality, and heat stress; and risk to unique ecosystems. In addition, in some areas some crops may gain from modest warming, but further warming would mean declines in benefits. In *polar regions* climate change is projected to be among the largest and to advance in a fast rate. Some changes have already taken place; these include decrease in

extent and thickness of Arctic sea ice, thawing of permafrost, changes in ice sheets, coastal erosion, and changes in the number of species and their area of distribution. In addition, there are important drivers of climate change in polar regions, and if these are triggered then consequences, for example, on global ocean circulation and sea-level rise, would be long-lasting. (see IPCC/WGII 2001b, 14-17; Pittock 2005, 253-279.)

These impacts while highlighting the intra-generational dimension also refer to the inter-generational aspects, which, for instance, Grupp (1995, 472) considers being of central importance. According to Gardiner (2004, 595), climate change is caused mainly by burning fossil fuels, but the benefits and costs of it go to different groups – benefits are primarily of short or medium terms and are received by the present generation whereas costs, the impacts of climate change are of long term nature and fall on future generations. Gardiner thus fears that “the present generation will have strong egoistic reasons to ignore the worst aspects of climate change” (2004, 595). In fact, there is evidence of this as according to him (2006, 4-5), countries have known since 1990 when the First IPCC’s Report was published, that something should be done and therefore action on both mitigation and adaptation might have been expected. Nevertheless, so far the reaction to climate change has been weak in both issues, and, in fact, global emissions have risen sharply since 1990. The rights of future generations could be justified with, for example, ‘resources conservation’ according to which “each generation should hand down to the next a no less abundant share of resources than that which it inherited from previous generations” (Page 1999, 55). On the other hand, Gardiner (2006, 1-3) argues that future generations need protection for two other reasons: first, because they are vulnerable to their predecessors and secondly, because the current theories of intergenerational justice are inadequate but moreover, the dimension of time is not considered well in the theory that dominates world public policy, that is, the theory of cost-benefit analysis.

3.3 Climate politics

Negotiations on global climate change regime have been complicated and long-lasting. This is due to several reasons, such as scientific uncertainties, greenhouse gas emissions coming from multiple sources, dependence on not so exact science of climate modelling, but most of all due to the policy changes required for reducing emissions: switching from fossil fuels to renewable energy sources. Consequently, this raises politically difficult questions about who is going to bear the costs of the change but it also affects the powerful economic and political

interests behind fossil fuels. (Porter et al. 2000, 113.) No wonder, then, that advancing in the negotiations has been slow.

3.3.1 Discovery and waking up to the problem

Even if climate change has been on the top agenda only for a while, it is not a new issue within the scientific spheres; on the contrary, the research on the climate system and ideas about climate change have quite a long history. For instance, the scientific basis for greenhouse effect was discovered already in the 19th century and individual researchers considered the possibility of enhanced greenhouse effect due to carbon dioxide released from human activities already in the turn of the 19th and 20th Centuries (see Tirkkonen & Wilenius 1997, 175-176). Nevertheless, it wasn't until the end of 1950's and with the measurement of greenhouse gas emissions in the atmosphere that climate change started to attract wider attention. The interest also spread from the realms of natural sciences to the spheres of social sciences and economics (Tirkkonen & Wilenius 1997, 176). To the political spheres climate change rose for the first time in 1972 in Stockholm, Sweden, in the United Nations Conference on the Human Environment (Vehmas et al. 1998, 16). However, climate change was defined only as a local problem, and the countries were recommended to evaluate how they are affecting climate (Tennberg 2004, 31). The first international conference focusing on climate change, the First World Climate Conference, arranged by the United Nations Environment Programme (UNEP) and the World Meteorological Organisation (WMO), was held in 1979 in Switzerland, Geneva. The declaration of the conference urged governments to "foresee and to prevent potential man-made changes in climate that might be adverse to the well-being of humanity" (Vehmas et al. 1998, 16). However, climate change was not labelled as actual environmental question until in the end of the 1980s (Tirkkonen & Jokinen 2001, 74). In 1985 UNEP, WMO and ICSU (International Council of Scientific Unions) organised a scientific conference on climate change in Villach, Austria, where scientists reached a consensus of the climate change problem and it to be approached in political spheres (Vehmas et al. 1998, 16). In 1988 scientists and policy-makers gathered in the International Conference of the Changing Atmosphere: Implications for Global Security in Toronto, Canada, and for the first time the need for an international climate regime to reduce anthropogenic greenhouse gases was discussed. The statement recommended the governments of developed countries to diminish carbon dioxide emissions by 20% of 1988 levels by the year 2005, and later the emissions should be cut by

half. (Vehmas et al. 1998, 16-17; Ilmastopolitiikan historia ja... .) In the same year UN General Assembly considered climate change for the first time, and adopted a resolution 45/53 to protect global climate for present and future generations (Tennberg 2004, 31). In addition, the Intergovernmental Panel on Climate Change (IPCC) was established in 1988 by WMO and UNEP. Its role, also nowadays, is to assess peer reviewed scientific, technical, and socioeconomic literature on climate change, its impacts, and policy options. (About IPCC.)

The Second World Climate Conference was held in Geneva, Switzerland in 1990 with representatives of countries of ministerial level. The conference launched negotiations of an international framework convention aiming at addressing climate change, and the declaration urged developed countries to limit their anthropogenic greenhouse emissions. (Vehmas et al. 1998, 17.) In the same year UN General Assembly established the Intergovernmental Negotiating Committee on Climate Change to outline a framework convention, to the formation of which the first IPCC assessment report, completed in 1990, played an important role (About IPCC). During the process the initial leading states were Norway, Sweden, Finland and Netherlands, whereas the blocking coalition (veto states) consisted of USA, Soviet Union, China and Japan. Later it was only the USA and Soviet Union from the industrialised countries that refused any binding timetables and targets for emission reductions. The then European Community assumed a leading role in the formal negotiations to the framework convention. (Porter et al. 2000, 116-117.) The Group of 77 and China, on the other hand, had quite a low profile in the beginning; they held the industrialised countries historically responsible for the problem and thus refused to deal with it. They also argued for resources to create their own climate policies. Nevertheless, there were also some developing countries that were more active, for instance, AOSIS (the Alliance of Small Island States), some African countries who suffer from drought and the OPEC-countries (Organization of Petroleum Exporting Countries). On the other hand, Russia and Eastern-European countries had quite a low profile and emphasised their difficult economic and political circumstances. (Tirkkonen & Wilenius 1997, 179-180.) These state positions are discussed more in the next chapter.

3.3.2 Divisions and state positions in climate politics

As already mentioned, states, which are the primary actors in international climate politics, stand differently on measures against climate change. There are detectable alliances as well as divisions between states in the climate negotiations. Paterson and Grupp (1992, 295-298)

have identified four main fault-lines of conflict in the early climate negotiations, and it seems that they are still noticeable. These are divisions 1) between the North and the South, 2) between major energy producers and others, 3) between countries that are resilient to the impacts and countries that are vulnerable, and 4) in attitudes towards environmental impacts and the scientific uncertainties. The first divide between the North and the South appeared as central in the negotiations already during the early negotiations. The key questions between these countries are: how to share the burden of emissions reductions, whether the developed countries should show commitment and act first, how important the historical emissions are in relation to current emissions, whether emissions turn towards similar per capita levels in the long term, should technological and financial resources be transferred to help developing countries to respond, and to what extent climate change and wider questions of international political economy, such as Third World debt, are linked. Paterson and Grupp see that many developing countries consider climate change as a Northern issue, whereas the primary concerns of the developing countries are basic development and the alleviation of poverty. Many developing countries are not convinced that the developed countries are really committed to taking climate change measures and therefore see no reason to act themselves. In addition, the interest of many developing countries towards climate change comes only from the promise of financial and technological resources from the developed countries. In fact, the developing countries see that climate change is a problem caused mainly by the consumption patterns of the rich people of the North, whereas the developed countries see that their efforts are pointless without the participation of developing countries whose emissions and population are going to grow, too. The second division is between major energy producers and other countries that do not possess indigenous resources. The energy producers such as the OPEC countries and coal exporters are more likely to oppose mitigation efforts in the fear of negative economic consequences, whereas other countries are likely to be more receptive since mitigation enhances their balance of payment and reduces dependence on foreign producers. In addition, the development of countries like USA and China is mostly based on large and cheap domestic fossil resources and therefore they have strong domestic interests not to reduce domestic fossil fuel use. The third division between resilient and vulnerable countries interacts with the North-South divide. Those who are vulnerable to impacts and do not have resources to cope are likely to support mitigation measures. Paterson and Grupp see that this division is the least significant (at the time of the article) except for the low-lying island states but it can become more important in the future negotiations. The final, fourth division of attitudes is between countries that have strong tradition of scientific and environmental consciousness and thus

support precautionary action in climate change and countries whose scientific tradition is low and who, for their part, emphasise that actions are costly in comparison with relatively unknown and distant risks. (ibid. 1992, 295-298.)

Also Porter et al. (2000, 13) see that the positions of key participants in negotiations have closely correlated with their ideas about the costs of the regime rather than their vulnerability to the threat. In addition, the observed costs of climate change are related to a country's 'energy culture' which refers to its "historical experience with fossil fuels in relation to its economic growth". They thus distinguish three groups of states by their energy culture: 1) states that are quite dependent on imported energy but have managed to reduce fossil fuel use while maintaining high living standards (Japan, most Western European states such as Germany, Italy, France, Denmark, Finland, Sweden), 2) states that have abundantly cheap energy sources but their energy use is highly inefficient (USA, Russia, China, India, Brazil, Mexico), and 3) states that depend largely on fossil fuel exports for income (Arab oil states, Australia, Norway, UK). In general, it has been possible to predict the states' position in negotiations with their energy culture; whether they belong to the lead or the veto coalition but there have also been exceptions. (ibid. 2000, 113-114.) However, when the Framework Convention was negotiated a certain framework was shaped within the international climate negotiations with distinctive country positions. In addition to the European Union active party inside the developing countries block demanding binding commitments has been the Alliance of Small Island States. Japan, USA, Switzerland, Canada, Australia, Norway, and New Zealand have stressed the need of realistic targets and flexible ways to emission reductions, whereas the Group of 77 and China have put emphasis on the responsibility of industrialised countries to the climate change problem as well as on their need for economic growth. The Organization of Petroleum Exporting Countries has been worried about their possibilities, and Russia with the East European countries with economies in transition have appealed to their unstable economic and political situation. (Vehmas et al. 1998, 19-20.) The alliances in climate politics are further discussed in chapter 4.2.

3.3.3 United Nations Framework Convention on Climate Change

The United Nations Framework Convention of Climate Change (UNFCCC) was adopted in 1992 in the United Nations Conference on Environment and Development in Rio de Janeiro, Brazil, where it was signed by 154 countries. The ultimate objective of the Convention is to

stabilise “greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.” (UN/FCCC 1992, Article 2.) However, the Convention holds only general objectives and principles to reduce greenhouse gases, not legally binding commitments or timetables (Vehmas et al. 1998, 17). The first principle (Article 3.1) states that “the Parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities. Accordingly, the developed country Parties should take the lead in combating climate change and the adverse effects thereof.” The other principles (Articles 3.2-3.5) deal with consideration for the needs and circumstances of developing countries; precautionary measures to foresee, prevent and minimise the causes and consequences of climate change; cost-effectiveness; promotion of sustainable development and growth, and support for an open international economic system; measures to combat climate change should not disturb the operation of international trade. (UN/FCCC 1992.) Moreover, according to Bodansky (1995) (in O’Riodan et al. 1998, 374) the principles contained in the UNFCCC are intra- and intergenerational equity, differentiated responsibilities and respective capabilities, right to sustainable development, precaution, cost-effectiveness, and comprehensiveness.

The commitments of the Convention are stated in article four, but as said earlier, they are not binding. The commitments vary between parties, which are divided into three main groups: *Annex I, Annex II and non-Annex I parties*. Annex I parties include industrialised countries that were OECD members in 1992 and countries with economies in transition (the EIT parties). Annex II parties are the OECD members of Annex I and they have committed to support developing countries and EIT parties in measures against climate change. Non-Annex I parties are mainly developing countries. The Convention also gives special consideration to Least Developed Countries (LDCs); altogether there are 48 LDCs as Parties to the Convention. (Parties and observers.) Commitments to all parties to the Convention (taking into account their common but differentiated responsibilities) deal with inter alia developing and updating national greenhouse gas inventories; formulating national and regional programmes which discuss measures to mitigate climate change; cooperating in preparing for adaptation; and promoting education, training, and public awareness related to climate change. Specific commitments for Annex I parties include among others reducing greenhouse gas emissions to

1990 levels. (Tirkkonen & Wilenius 1997, 180-181; UN/FCCC 1992.) Articles 4.3-4.10 discuss the commitments of Annex II countries to developing countries. These commitments include providing financial resources for developing countries to comply with their commitments; assisting particularly vulnerable countries with the costs of adaptation; promoting, facilitating or financing transfer of environmentally sound technologies and know-how; and effective implementation of the commitments. The articles also discuss the right of developing countries to primarily aim at economic and social development as well as poverty eradication, and the special concerns of the developing countries to be taken into account, especially the concerns of the least developed countries. (UN/FCCC 1992.)

The Framework Convention entered into force on 21.3.1994 after 50 states had ratified it (Vehmas et al. 1998, 17). Currently (February 2008) 192 states have ratified the Convention (Status of ratification/Convention). Two subsidiary bodies were established by the Convention to give advice to the Conference of Parties: Subsidiary Body for Scientific and Technical Advice (SBSTA), which offers real time advice on scientific, technical and methodological matters; and Subsidiary Body for Implementation (SBI), which helps with all matters concerning the implementation of the Convention. (Convention Bodies.) The annual Conference of Parties (COP), association of all countries that are parties to the Convention, is the highest decision-making authority of the UNFCCC. In COPs states that have ratified the Convention are represented by their delegations, which consist of representatives from ministries, industry, research institutes, and also from non-governmental organisations in the delegations of some countries. (Ilmastopolitiikan historia... .) As a whole, the biggest achievement of the Convention was launching a long-term process in international law in order to mitigate climate change (Tirkkonen & Wilenius 1997, 181). On the other hand, a concrete result from the UNFCCC and other environmental treaties signed in Rio was the development of international financial mechanisms needed for the implementation of the treaties, and this was realised through Global Environmental Facility (Vehmas et al. 1998, 19).

3.3.4 Towards a legally binding amendment: Kyoto Protocol

In 1995 in Berlin, Germany hosted the first Conference of Parties, where the commitments of industrial countries were stated inadequate because of not being binding. As a result, the parties agreed on the Berlin Mandate, which obliged them to negotiate on quantitative emission reductions which would be legally binding only for Annex I parties. COP 1 established thus

an Ad Hoc Group of the Berlin Mandate for negotiating these emission reduction objectives and measures needed for attaining those objectives. (Vehmas et al. 1998, 20-21.) At this phase the EU supported substantial reductions but the new veto coalition of JUSCANZ (Japan, USA, Canada, Australia, and New Zealand) opposed any emission reductions (Porter et al. 2000, 182). On the other hand, the positions of AOSIS and the so called green group of central developing countries were close to the EU (Tirkkonen & Wilenius 1997, 182). The Second Conference of Parties was arranged in Geneva, Switzerland in 1996. COP 2 adopted the Second Assessment Report of IPCC which stated that the earth's temperature has already increased and that there is noticeable human impact on climate (Porter et al. 2000, 118). In this meeting USA announced to support binding emission targets. The Conference resulted in a declaration according to which the most important objective of the negotiations is to achieve a binding emission reduction protocol. (Tirkkonen & Wilenius 1997, 183.)

COP 3 was held in Kyoto, Japan, in 1997. Here the differences between lead and veto states become wider, and USA with New Zealand, for instance, demanded the developing countries to formally control their emissions. However, finally the parties agreed on a supplementary protocol. (Porter et al. 2000, 119-200.) The Kyoto Protocol is significant because it is legally binding, and thus strengthens the Convention. The reduction targets, however, are low (for instance, when compared to the calculations of IPCC), but the purpose is to make emission limits gradually stricter. In addition, many details were left to be discussed in the following conferences. In order to the Protocol to entry into force at least 55 parties, that represent at least 55% of the emissions of industrial countries in 1990, should ratify the Protocol. The industrial countries are obliged to reduce their overall greenhouse gas emission by at least 5% in the commitment period 2008-2012. Targets range from nation to nation from -8% to +10% of the countries' individual 1990 emissions levels, though some EIT countries have other baseline than 1990. The EU has a community specific target, which it distributes "in a bubble", a scheme under the Protocol, between its member states. The targets cover emissions from carbon dioxide, methane and nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulphur hexafluoride. If a party does not meet its reduction targets, it has to compensate the missing amount of reductions in the next commitment period with an additional reduction of 30%. In addition, the party cannot participate to emission trading. No legally binding targets were set for developing countries. (Kyoto Protocol; Kiotoon pöytäkirja.)

The Protocol established three 'flexibility mechanisms' that aim at cost effective emission reductions: joint implementation (JI), clean development mechanism (CDM), and emission trading. Under the joint implementation the Annex I parties have the possibility to

gain emission reduction units by implementing projects in other Annex I countries. The clean development mechanism, then, equates with joint implementation between the Annex I parties and developing countries. From these projects an adaptation fee of 2% is collected and is used to support the adaptation of developing countries to climate change. Under the emission trading those parties with emission reduction targets may buy and sell or deposit reduction units, which should direct emission reduction to where it is the most profitable. The emission reductions may be offset by carbon sinks, that is, processes that bind carbon dioxide to forests and land. Using these sinks is, however, restricted by a country specific maximum. The eligible sink activities are afforestation, reforestation, and deforestation (defined eligible by Kyoto Protocol); forest, cropland, and grazing land management and revegetation (defined eligible by Marrakech accords). (see Kyoto Mechanisms - Background; Joustomekanismit.) The Protocol also includes a fund to provide financial and technological assistance for energy efficiency and renewable energy projects (Porter et al. 2000, 122).

3.3.5 Making Kyoto Protocol operational

The Conferences of Parties in 1998-2003 mainly dealt with the content and the form of the Protocol. The main objective of COP 4 in 1998 in Buenos Aires, Argentina, was to define rules for flexibility mechanisms but also funding was discussed. Controversies were caused by USA demanding 'voluntary' emission reductions from developing countries. COP 5 in 1999 in Bonn, Germany continued with the same themes, mostly technical issues, but the most controversial issues were not discussed. Next year COP 6 in Hague, Netherlands, considered among others monitoring the compliance with the treaty, reporting emission trends, and funding to developing countries. The conference aimed at finishing the negotiating process started in Kyoto, but it ended without results and thus the conference was suspended for half a year. COP 6 continued in 2001 in Bonn, Germany, where the ministers accepted a package solving the major disputes concerning flexibility mechanisms, developing countries, and compliance with the Protocol. The conference therefore decided to establish three new funds in order to support developing countries, and their sufficiency would be evaluated annually. In addition, several industrial countries volunteered to contribute to the funding. However, the most difficult question was how to monitor the compliance with the Protocol; it was agreed that there would be legally binding consequences for not meeting agreed emission targets. COP 7 in Marrakech, Morocco, in 2001 agreed on monitoring as well as on punishment

for those states that do not reach their emission targets. Also rules for Kyoto's flexibility mechanisms were created: the reduction units from emission trading could be used in future commitment periods without limitations; in other words, the reduction units from clean development mechanism and joint implementation could be transferred to next commitment periods at most 2,5% of each country's allowed emission quota. Russia, however, almost doubled its sink quota by threatening otherwise not to ratify the Protocol. COP 8 in 2002 was arranged in New Delhi, India. The discussions should have dealt with objectives in the second commitment period, but these were cut off. However, some of the difficult issues, such as the commitments of developing countries to emission inventories and reports – developing countries wanted to leave commitments to reporting as loose as possible whereas developed countries connected reporting with funding – were settled in the high-level segment. COP 9 in Milan, Italy, in 2003 polished the last, unsolved, mostly technical issues of the Kyoto Protocol. In 2004 in COP 10 in Buenos Aires, Argentina, it was already confirmed that the Kyoto Protocol would enter into force because Russia had decided on ratification. The negotiations almost headed for a deadlock when EU suggested that discussions about the second commitment period would be started in 2005, which was opposed by the USA. In addition, the Conference agreed on an adaptation programme pushed by developing countries. (YK:n ilmasto-kokoukset).

Kyoto Protocol came into force in 16.2.2005. Nowadays (in February 2008) it has been ratified by 176 countries and the emissions of the industrial countries in the Protocol add up to 63.7% (Status of ratification/Kyoto Protocol). From the developed countries Australia ratified the Protocol in the end of 2007 but United States has no intention of ratifying it. Montreal, Canada hosted the 11th Conference of Parties to the Framework Convention and the first, historical Meeting of Parties to the Kyoto Protocol in 2005 since the Kyoto Protocol had entered into force. The Conferences had a shared ministerial segment during 7.-9.12.2005 with about 100 ministers. In total the Conferences had about 10 000 participants, and it was the largest conference since Kyoto in 1997. (United Nations Climate Change Conference.) UNFCCC press release announces that the Conferences adopted more than 40 decisions, and were among the most productive Conferences ever. There were 189 parties attending to COP 11 and 157 Parties to MOP 1. Within the UNFCCC the parties decided to launch a dialog on cooperative action to respond to climate change. They also adopted a five-year work programme on adaptation, important especially to the developing countries. Within the Protocol the Marrakech Accords were adopted and the parties also agreed to initiate discussions on future commitments. (UNFCCC press release). In 2006 the climate conferences (COP 12 and

MOP 2) were held in Nairobi, Kenya, where the future of the Protocol and the Convention were discussed with quite poor results. In 2007 the conferences (COP 13 and MOP 3) were arranged in Bali, Indonesia, where it was decided, for instance, to review both the Protocol as a whole and the emission reductions of industrialised countries after 2012. (YK:n ilmastokokoukset).

3.3.6 Discourses in climate politics

How is climate change, then, discussed and constructed as a problem within climate politics? Tirkkonen (2000) examines these questions through climate discourses. He (ibid. 2000, 14-15) sees that in climate politics the hegemonic climate discourse, developed in the end of the 1980s, is based on scientific knowledge about climate change and its management through international environmental politics; it concerns with carbon balances underlining natural scientific changes as well as international politics and treaties to limit the greenhouse gas emissions. In his dissertation Tirkkonen (2000) analyses the relation of Finnish climate politics to international climate politics from the framework of ecological modernisation, and he identifies several linkages between the hegemonic climate discourse and ecological modernisation. These are, for instance, the preventive aspects in climate politics, international management of the problem, market centricity and the idea of combining both environmental protection and economy, known as the idea of a positive sum-game (ibid. 2000, 203-204). Also Hajer (1996, 248) recognises that climate change and other global environmental threats are managed with “a regulatory approach that starts from the assumption that economic growth and the resolution of ecological problems can, in principle, be reconciled.” In this sense, it differs from previous discourses that emphasised either “demodernisation” (Järvikoski no date), some kind of radical social change or end-of-pipe solutions (Hajer 1996, 248). According to Järvikoski (no date) the basic ideas of ecological modernisation are that modernisation continues and environmental problems can be solved within current institutional structures; the markets, enlightened consumers, science and technology are the forerunners of this development and eventually ecological problems are solved by promoting production and production methods that are not that detrimental from the ecological point of view. Society, in fact, by further modernising itself, avoids ecological catastrophes (Hajer 1996, 249). Furthermore, Hajer (1995, 26) points out that ecological modernisation includes a utilitarian logic, that pollution prevention pays and is worthwhile because it advances economic growth. He sees that

“most notably ecological modernisation frames environmental problems combining monetary units with discursive elements derived from the natural sciences” (1995, 26). Ecological modernisation also dominates in the other areas of Western environmental politics. According to Hajer (1995, 25-30) in the beginning of the 1980s in Europe and in Japan the ecological modernisation discourse begun to dominate the way problems and solutions are conceptualised in the sense that it became “the most credible way of talking Green” in environmental politics. Also Laine and Jokinen (2001, 64) argue that it has become a broad western environmental discourse. Furthermore, the hegemonic discourse has gained strength alongside with the formation of climate politics and in terms of scientific knowledge it has been institutionalised in the work of IPCC (Tirkkonen 2000, 202). In terms of international environmental politics the hegemonic discourse has been institutionalised in the United Nations Framework Convention on Climate Change and at the Conferences of Parties of the Convention. The milestones of the institutionalisation of international environmental politics Tirkkonen (2000, 15) sees in the agreement of the UNFCCC in Rio 1992 and in the COP 3 in Kyoto. These culmination points of institutionalisation have also been situations where hegemonic discourse has been redefined or challenged by counter or alternative discourses (ibid. 2000, 16). Following this idea, the newest IPCC Reports, the Russian ratification of the Kyoto Protocol and following year the Protocol coming into force can be considered as the newest culmination points of institutionalisation. The hegemonic discourse and the western coalition behind it, however, still remain the same.

The hegemonic climate discourse is largely founded on natural sciences. Demeritt (2001, 328-329), however, is critical of the role of science in framing climate change as a problem and calls for a more reflexive understanding of science as social practice (while not denying climate science altogether). He suggests that “the prevailing scientific construction of global warming embodies other important and yet also potentially contentious judgments, assumptions, and practices” such as anthropogenic climate change as a global-scale environmental problem as opposed to it being a political or economic problem, climate change as caused by greenhouse gases as opposed to ethical failings or underlying political structures, mathematical models to be scientifically the best way of understanding climate change, the most likely scenarios to be the focus of modellers as opposed to the most extreme outcomes, experts to be the best persons to evaluate the legitimacy and credibility of these practices, etc. In short, science is not neutral but participates to climate discourses in different ways. Nor is there a neutral discourse about climate change. As Brown (2003, 229) points out, the scien-

tific and economic arguments as well as policy options of climate change that appear as ethically neutral in fact contain important ethical considerations and positions.

In addition to the hegemonic climate discourse, there are also counter and alternative discourses. The counter discourses oppose the hegemonic discourse while still using the same framework (Tirkkonen 2000, 13). According to Tirkkonen (2000, 14-15) the counter discourses in climate politics are structural discourse and adaptation discourse. The main claim in the structural discourse, used, for example, by the developing countries, is that climate change is not merely about emission reductions, but it refers to a deeper global political, moral, economic, and cultural crisis (Wynne 1994 in Tirkkonen 2000, 15). The adaptation discourse, on the other hand, emphasises the need to face climate change impacts instead of concentrating on mitigation. Both counter discourses are constructed from the premises of the hegemonic discourse; they do not question the scientific basis of climate change or the international environmental politics organised to address the problem, but they do question the measures the hegemonic discourse promotes. On the contrary, the structural discourse sees climate politics in a wider social context, and thus would primarily aim at reconstructing unjust economic structures and supporting developing countries, whereas the adaptation discourse would allocate resources to adaptation to avoid climate change impacts. Tirkkonen also discusses two alternative discourses, that is, discourses that are not as dependent on the framework of the hegemonic discourse as the counter discourses. The first one questions the foundations of the hegemonic discourse, either climate change itself as a (natural scientific) phenomenon or the grounds of international climate politics, or both. Another alternative discourse frames the concern about climate change as solely power politics or competition on research financing. Tirkkonen furthermore considers that the hegemonic discourse and its counter discourses have grown more powerful, whereas the alternative discourses have become more marginalised. (Tirkkonen 2000, 13-15.)

3.4 Environmental justice within climate politics

3.4.1 Distributive justice issues: mitigation and adaptation

Mitigation

The IPCC's Third Assessment Report (IPCC/WGIII 2001a, 87) notes that the challenge of climate change mitigation from the point of view of justice, is "to ensure that neither the impact of climate change nor that of mitigation policies exacerbates existing inequities both within and across nations". However, some impacts will take place and effective policies are needed. Thus an important question within climate politics is, how much warming, how big changes and how vast impacts, especially in terms of human victims, will be allowed. In other words how effectively climate change will be dealt with and how fast greenhouse gas emissions will be reduced. This question is connected with the intra- and intergenerational as well as with biosphere justice. For instance, the EU alone has considered 2 degrees Celsius to be the objective, the upper limit of global warming. Nevertheless, the long-lasting global and regional, human, environmental, social and economic impacts of this amount of warming are usually not discussed. Zero warming has not been considered as an option within political discussions. Still, is it fair that countries and people are not doing their utmost to stop climate change and minimise its consequences while being aware of these catastrophic impacts and while there is knowledge and means to act more effectively? It seems that the effectiveness of the global response comes down to the economic effects of current mitigation and adaptation policies and measures versus future environmental, social and economic impacts.

Climate change mitigation is negotiated and regulated within the UNFCCC and the Kyoto Protocol. As discussed in the previous chapter, currently the developing or non-Annex I countries do not have emission reduction obligations, whereas the developed or Annex I countries that have ratified the Protocol have agreed to binding emission reductions in the period 2008-2012. However, because the reductions of the developed countries together are only about 5% below of their emissions in 1990, much more is needed for halting climate change. In addition, USA, the biggest emitter, has not ratified the Protocol. The way mitigation is currently taking place makes one to wonder whether more should be done as a matter of urgency and by every Annex I country. Again, is it fair that these countries are not doing their utmost to prevent the disastrous impacts, especially when they have committed to pursue the ultimate objective of the Convention? However, at some point aggregate emissions reductions will be

needed as the emission reductions of 1.3 billion people in Annex I countries may become inadequate compared to the growing emissions from 4.7 billion people in non-Annex I countries (IPCC/WGIII 2001a, 89). Also in the Conferences of Parties there is a growing pressure on the developing countries to undertake emission reductions. How, then, the burden of mitigation should be divided? What would be a just distribution of the atmosphere if the world's absorbing capacity will be taken as the upper limit of greenhouse gas emissions?

The IPCC's Third Assessment Report (IPCC/WGIII 2001a, 90-91) discusses four alternative justice perspectives in the literature on mitigation based on 1) rights, 2) liability, 3) poverty, and 4) opportunity. The *rights-based* approach refers to equal rights to the atmosphere, a global commons. Consequently, emission permits are considered to be allocated on per capita basis but this could also include geographical area, historic use, economic activity, or a combination of these. The underlying idea is that those countries which do not use all their emission permits (mainly developing countries) could sell excess permits to those countries which exceed their quota (mainly developed countries). This would result in incentives to reduce emissions in all countries, provided that permits are a scarce commodity, as well as economic transfers from developed to developing countries. In contrast, the *liability-based* approach leans on the right of people not to be harmed by the actions of others without suitable compensation. The approach concentrates on the damage caused by overusing the atmospheric commons as well as on mechanisms, for instance, financial instruments such as insurance, through which those who are to blame are penalized and the victims are compensated for the damage. The starting point of the *poverty-based* approach, on the other hand, is protecting the poor and vulnerable against climate change and policy impacts. The consumption levels of poor and vulnerable people do not pose a threat to climate but they do not have the flexibility to adapt to climatic changes or global political agreements. Discussed solutions include aggregate emission targets for the rest of the world while investments in capacity building and empowerment of the poor and vulnerable. Lastly, the *opportunity-based* approach refers to the right of people to have the possibility to achieve a same standard of living than those with greater access to the atmospheric commons. The approach focuses on the relationship between the states and it resembles in many ways the compromise solutions in the actual negotiations. Thompson and Rayner (1998, 318; also Rayner et al. 1999, 21-26), on the other hand, discuss three basic ethical positions on distributive issues; 1) egalitarian, 2) libertarian, and 3) contractarian. The *egalitarian perspective* is equivalent with the rights-based approach of the IPCC Report but also the liability-based approach could be contained within this approach. The egalitarian perspective relies on parity as the principle of gains, equal

shares to all – also in the case of emission rights. Thus the emission permits would be allocated on per capita basis, and the common suggestions are contemporary and historical per capita allocations. The perspective can also be nature-centric, and some would extend egalitarian principles to non-human nature. The principle for losses in the egalitarian perspective is based on strict fault; those who are responsible for the problem are also considered as responsible for the costs. This is also known as the polluter pays principle. In contrast, the *libertarian view*, outside the justice perspectives of the IPCC's Report, calls for allocation based on priority through successful competition. In climate change this would mean allocating emission rights on the basis of countries' GDP or in proportion to their current emissions; historic emissions would not be added in. Allocation according to this view takes place through markets by preference or the ability to pay. The priority principle is defended by claiming that global welfare has increased by the industrial development of the North. The *contractarian perspective* is based on proportionality where benefits are allocated according to, for instance, contribution or need. The poverty- and opportunity-based approaches of the IPCC's Report could be included within this perspective. It seeks to transcend the parity and priority claims allowing for economic efficiency while subordinating it to some larger goals, for example, considering that human beings are trustees of the Earth, and that some things are beyond price. Emission rights allocation suggestions are some kind of combinations, for instance, combining population size, GDP and current emissions. The contractarian principle for losses aims at maintaining stability and welfare and thus relies more on symmetrical principles.

Adaptation

The less debated half of how to deal with climate change is adaptation to it (Paavola 2005, 315), although adaptation to changing climate is necessary because some warming and impacts will take place in the future according to the IPCC's Fourth Assessment Report (IPCC/WGI 2007). The already vulnerable populations both in the developed countries as well as in the developing countries are particularly at risk, and these vulnerable groups across the world have no other possibility than to adapt "to climate changes to which they have not contributed" (Paavola 2005, 315). Sokona and Denton (2001, 120) suggest that justice in this aspect of climate change refers to ensuring that "vulnerable people in the remotest outposts of the world do not become imprisoned in perennial cycles of destitution and impoverishment, at the mercy of climate change". Adaptation will take place on local, national and international levels by different sectors. The proactive responses, which mean anticipation and planning to minimise impacts, and reactive responses, measures after climate change impacts, comple-

ment each other, but not in a way that would lead to a perfect adaptation and thus some residual impacts will take place (Paavola 2005, 315). In addition to proactive and reactive responses, inaction is also a possible choice of response (Paavola & Adger 2006, 597). Adaptive measures, then, include investments in transport systems, water storage capacity, flood protection, adapting food production, etc. but most often changes in the behaviour of affected household, such as switching of crops or migration, are involved (ibid. 2006, 596).

The distributive justice implications of adaptation refer to the adaptive responses producing certain positive and negative effects (benefits and costs) as well as to the scale and distribution of residual climate change impacts (Paavola & Adger 2006, 597). The main distributive justice dilemmas in adaptation to climate change according to Paavola and Adger (2006, 595; 597) are: 1) what is the responsibility of developed countries to climate change due to their greenhouse gas emissions?, 2) how much should developed countries give assistance to developing countries for adapting to climate change and how should the burden be distributed among developed countries? Paavola and Adger regard this question as independent of the first one because assistance can be based on both the capacity to assist and the responsibility for the harms, and 3) how should assistance be distributed between recipient countries and adaptation measures? Thomas and Twyman (2005, 116), however, are cautious about labelling the whole developing world as merely passive victims; discourse that undervalues people's potential and actions against climatic disturbances may have a disempowering effect (Few 2003 in Thomas and Twyman 2005, 116). Therefore, Thomas and Twyman (2005, 116-117) see that justice in climate change outcomes relates to a variety of issues, such as "decision-making process – who decides, who responds; frameworks for taking and facilitating actions; relationships between the developed and developing world; and also to relationships between climate change impacts and other factors that affect and disturb livelihoods", and thus there is a strong procedural aspect included, too. Next, these procedural questions are discussed.

3.4.2 Procedural justice

So, how does the climate regime addresses questions of procedural justice? Procedural justice "encompasses issues such as recognition, participation and distribution of power in environmental planning, decision-making and governance" (Paavola 2005, 314). These kinds of justice considerations in climate regime primarily concern the international level (IPCC/WGIII

2001a, 91). It appears, however, that there are still many issues to be considered; countries and communities do not have the same possibilities to have their opinions heard nor to influence on the outcomes. For instance, Najam et al. (2003, 222) see that the concerns of the developing countries have always been marginal to the UNFCCC, and the road to the Kyoto Protocol marginalised their concerns even more because of persuading reluctant Annex I countries to ratify the Protocol. Within the UNFCCC parties are treated as formally equal sovereign nations (Paavola 2005, 318). Lovio (2004, 47) sees this UN model to be a good one; every country has an equal right to participate. However, according to Paavola (2005, 318) in practice the developing countries do not have the same possibilities to participate in negotiations and actions than the developed ones have; their lack of capacities result in small delegations and thus they are not able to participate in simultaneous meetings. This differential negotiating capacity of countries is a key problem of procedural justice for O'Brien & Leichenko (2005, 7). In addition, the use of English language as the working language is a barrier for many negotiators (Paavola 2005, 318). The UNFCCC aims at addressing these issues, inter alia on the part of the participation of the Least Developed Countries and women (Paavola & Adger 2006, 599) but according to Paavola (2005, 318) the measures are modest compared to the difficulties. Furthermore, Agarwal et al. (2002, 173-174) refer to a not so common perception; uneven starting point of the negotiations between developed and developing countries due to the availability of scientific expertise. They see that the UNFCCC is very science-driven and because developing countries mainly depend on the scientists and institutions of the developed countries, it has been possible for the developed countries to use science "to implicate developing countries, either by showing their future GHG contributions as increasing and counterproductive to developed country action, or by making no distinction between 'survival emissions' of the South and the 'luxury emissions' of the North" (2002, 174). Moreover, they argue that it is the interests of the developed countries that have shaped the climate change research agenda, and thus their concerns are considered most, whereas the concerns of the developing countries are of low priority. Consequently, the climate science itself may be distorted and uneven.

Other than international procedural justice questions have received less attention in the Convention. Non-state actors have received limited participation as observers in the Conferences of Parties. Local interests have received some attention; the Convention has established guidelines for preparing NAPAs (National Adaptation Programmes of Action) requiring multidisciplinary and public consultation, but according to Paavola (2005, 318) these are insufficient. Also O'Brien & Leichenko see that the abilities of different national groups to influ-

ence on decisions are of relevance. For instance, “Who has a voice in national decisions about emissions targets and who decides how emissions targets are met?”, they ask highlighting the fact that Kyoto is negotiated between national governments, and therefore the views of dissenting or marginalized groups within different nations are not necessarily taken into account. (O’Brien & Leichenko 2005, 7.)

To conclude, Paavola (2005, 310) states that “the climate regime does not enable equal participation of all countries or fair participation of affected parties across levels of governance”. In addition to these deficiencies in intra-generational procedural justice, the situation of intergenerational and biosphere justice is worse; the position of future generations and non-human nature compared with current generations is weak. O’Neill (in Paavola & Adger 2006, 602) observes that because future generations and non-human beings are not represented effectively, their interests and concerns are not taken into account in outcomes of decisions.

3.4.3 Responsibility within climate politics

Responsibility is a concept and a theme often discussed in the literature about justice in the politics of climate change and it is regarded as an important aspect when considering measures against climate change. Ikeme (2003, 200), for instance, sees the distribution of responsibility as a major environmental justice issue in the climate change debate. He does not, however, specify the meaning of responsibility. In a Pew Center report article on equity in climate change, Ashton and Wang (2003, 64), on the other hand, discuss responsibility as one of the dimensions of equity, the others being equal entitlements, capacity, basic needs and comparability of effort. They see that “In many circumstances, equity boils down to an allocation of responsibility.” Furthermore, they refer to the intrinsic fairness of the polluter pays principle which requires the party which is responsible for the harm to repair it and bear the costs, but in practice, it is harder to prove responsibility in environmental questions. Responsibility in climate change is usually mentioned when discussing about historic emissions and the historical responsibility of the developed countries for climate change due to their greenhouse gas emissions during centuries as compared to the emissions of the developing countries. It is thus referred to as *ex post* responsibility (see Birnbacher 2000, 9-10). For example, Gardiner (2004, 583) discusses responsibility for past emissions and sees it as a justice issue of practical and theoretical importance. Paavola and Adger (2006, 595) and Paavola (2005, 310) con-

sider the question of the responsibility of developed countries for climate change impacts as one of the main justice dilemmas in terms of adaptation to climate change. Adger (2001, 923-924), too, discusses responsibility in this historic sense, but also in relation to current and future activities. He sees that “Justice within mitigation issues surrounds both the historical responsibility for enhancing atmospheric concentrations of the main greenhouse gases and in allocating present and future responsibility for action” (ibid. 2001, 923). This, then, refers to *ex ante* responsibility, to obligations and duties (see Birnbacher 2000, 9-10), and responsibility is thus something to be shared in relation to current and future mitigation and adaptation policies. Distribution of burdens in managing climate change encompasses, for instance, emission reductions (Tóth 1999, 2).

The UNFCCC and the Kyoto Protocol have many references to responsibility. Even if these both are legal treaties, only the Protocol is legally binding with lawful sanctions. The Convention and the Protocol and their commitments are already discussed to some extent earlier (chapters 3.3.3 and 3.3.4), but in short, the developed countries bear the main responsibility both in mitigation and in supporting other countries in their measures.

There is reference to the historical responsibility of the developed countries at the outset of the UNFCCC: “the largest share of historical and current global emissions of greenhouse gases has originated in developed countries” (UN/FCCC 1992). However, it is also stated that “per capita emissions in developing countries are still relatively low and that the share of global emissions originating in developing countries will grow to meet their social and development needs” (UN/FCCC 1992), which could refer to growing responsibility of the developing countries due to their increasing emissions. In addition, the Convention reminds countries about “the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction”. However, are not many countries still violating this responsibility all the time with their greenhouse gas emissions? Equity is recognised in the UNFCCC as its guiding principle (Article 3.1) as well as a criterion in defining differing commitments to the parties (Article 4.2 a) (Haukkala 2001a, 1). Therefore, the commitments vary between parties both in the Convention and the Protocol. The Kyoto Protocol Article 3.14 commits Annex I countries to meet their emission reduction targets in order to minimise adverse social, environmental and economic impacts for developing countries, and thus discusses the responsibilities of Annex I countries regarding adaptation (Paavola and Adger 2006, 598) as well as regarding mitigation. Otherwise, Haukkala (2001b, 19) sees that the Protocol includes justice only in a

minor role, and for instance, the emission reduction obligations were set without considering what is equitable.

The biggest justice question, according to Paavola (2005, 317), is the responsibility of the developed countries for the impacts of their greenhouse gas emissions. Although there is reference to the historical responsibility of developed countries in the Convention, Paavola and Adger (2006, 598), however, see that the UNFCCC has no clear stance towards this question. Responsibility would require compensation from developed countries to developing countries for the adverse effects of their emissions. One argument against developed countries assuming their responsibilities is that the impacts of climate change cannot be traced back to activities that caused them. Another one deals with the question whether current human beings can be held responsible for the actions of their ancestors. Paavola and Adger, however, see some reference to responsibility in Article 2, where the parties are required to ensure that climate change and its impacts do not exceed the adaptive capacities of ecosystems, food production nor economic systems; dangerous anthropogenic interference with the climate system is to be avoided, which requires stabilising greenhouse gas concentrations in the atmosphere. In addition, the order in which the various systems are mentioned is worth of consideration; it is notable that responsibility to ensuring natural adaptation of ecosystems is prioritised before food production and sustainable economic development. (ibid. 2006, 598.) However, this Article 2 that announces the ultimate objective of the Convention does not commit only the developed countries but also other parties to the Convention accordant with their common but differentiated responsibilities.

The regime does commit developed countries to assist developing countries (Paavola 2005, 310). The duty of industrialised countries to provide assistance to developing countries is expressed in general terms in the Convention, but how much and how the burden of assistance is shared remains vague. Article 3.1 indicates that assistance is based on the principle of common but differentiated responsibilities and respective capabilities, and thus “the duty to assist comes with the capability to assist and the right to assistance is based on limited capability to deal with climate change” (ibid. 2006, 598). The UNFCCC Article 3.2 directs attention to the special circumstances and needs of highly vulnerable developing countries and commits all parties to take precautionary measures on the causes and consequences of climate change, but Article 3.3 highlights the fact that the responses should be cost-effective. Furthermore, Article 4.3 commits Annex I countries to provide financial resources to cover the costs of the obligations of non-Annex I countries, for example, in preparing national inventories. In addition, the particularly vulnerable developing countries are to be assisted in adapta-

tion (Article 4.4). (Paavola & Adger 2006, 598-599.) All in all, the UNFCCC urges developed countries to assist the developing ones by covering costs, establishing funds, and other distributive justice issues between states but according to Paavola (2005, 317) these commitments have not been fulfilled. This is because the current contributions are voluntary (Paavola & Adger 2006, 599).

3.4.4 Environmental justice perspectives of states

What about the perspectives of countries towards justice and responsibility in the politics of climate change, how do they, then, address these questions? Anand (2004, 43; 126) sees that the developed and the developing countries frame the problem of climate change and responses to it in different ways, and that in this situation it is hard to imagine justice being realised. According to her (2004, 126-127) these countries have different notions of justice as well as ecological and developmental agendas. Also Ikeme (2003, 200) discusses the environmental justice conceptions of the South and the North that he has identified by a literature survey and sees that their ideas about environmental justice differ also in terms of mitigation responsibilities. How, then, the developed and the developing countries see the problem of climate change, what kind of issues they emphasise, and what are their ideas about environmental justice?

According to Ikeme (2003, 200) the developed countries focus on the “most economically efficient path for minimising climate impact and delivering global ecological health and stability”. They put little emphasis on historic emissions and their constraints on the development of developing countries; instead their ideas of burden sharing include allocation based on equal emission reduction, equal net welfare change across nations, net welfare change proportional to GDP per capita, opportunity to abate, and ability to pay. Furthermore, the Northern environmental justice perspective on climate protection is that “costs and benefits should be shared in such a way as to minimise overall costs while maximising total welfare across the globe”, which means that emissions are reduced where it is most cost effective and where there are greatest emission reduction opportunities. This also means that the North accepts that in terms of costs they should bear greater burden than the poor countries, and that the transfers of technology, wealth, scientific knowledge, management and adaptation skills to the developing countries are accepted, not because of historic emissions, but because of an ethical duty to help the poor, a sense of charity. This was also the spirit of Kyoto targets; the histori-

cal emissions did not weight much, but instead the ability of countries to meet reduction targets due to economic circumstances was the main issue. Ikeme also sees that the starting point in the Northern perspective is at the present moment. However, the procedural justice claims are of less relevance to North, thus the means to the goal are not that important. Ikeme concludes that “the orientation of the North in international climate protection processes is purely consequentialist as it emphasises the rightness or effectiveness of outcome rather than the justness of the steps towards it.” (ibid. 2003, 202-203.) Anand (2004, 127), on the other hand, notices that in most cases the Northern countries acknowledge that their economic activities and resource use has lead to environmental degradation but they also think that the South should participate in environmental protection since they will be the future polluters. The perspective of the North is thus also on the future development and emissions.

The developing countries, according to Ikeme (2003, 200) concentrate on equality, distributive justice and corrective justice for historical emissions. According to him (2000, 201-202) the developing countries put emphasis on three notions. Firstly, they seek for corrective or compensatory justice; the past matters and historical emissions should be taken into account in addressing present entitlements. The idea of historical emissions legacy can be justified with, for instance, the polluter pays principle according to which it is the responsibility of the developed countries to deal with climate change because they are responsible for the phenomenon and its impacts. In addition, environmental justice from the point of view of developing countries includes compensating them with transfers of wealth for using the atmospheric global commons excessively and gaining wealth and high standard of living from it. Secondly, the developing countries call for “immediate equal rights to GHG emission to be accorded to each individual in the world” which has to do with distributive justice. That is, their idea of burden sharing is based on equal per capita entitlements. Thirdly, they also stress procedural justice issues; increased participation in the climate change negotiations. To date the developing countries have had low representation in the IPCC and other agencies of climate protection. (ibid. 2003, 200-202.) Anand (2004, 43-44) again sees that the developing countries oppose the agenda setting of the developed countries in several levels: in terms of agenda items and organisational setting the developing countries criticise “the dominance of western science and research and the inadequacy of their own scientific expertise, the imposition of the environmental priorities of the developed countries, the inadequate consideration of the issue of responsibility and the handicapped negotiating position of the developing countries during treaty negotiations” (Anand 2004, 44). At the highest level concerning the ideological basis of the organisations, the developing countries consider issues such as “the

non-democratic character of negotiations and the conditionality attached to developing countries getting aid or transfers of technology from the North” (ibid. 2004, 44). The South does not form a completely uniform position to climate politics, but these countries agree on several issues. Anand (2004, 44) presents Dasgupta’s (1994) summary of the consensus position of the developing countries, that is, the Group of 77 and China: the developing countries do not want to agree on any specific emission reduction commitments but prefer voluntary compliance, they feel that because the North is caused climate change it should also bear the primary responsibility for climate change measures, the North should transfer new technologies to South to compensate the old ones, and financial resources and technology transfers should be managed by the Conference of Parties.

The North and the South thus agree that the Northern countries should bear a greater burden for climate protection and that transfer of resources should be allowed to South although they base their conceptions on distinct reasons and moral positions (Ikeme. 2003, 203). The conceptions of the North and the South differ in terms of time; the Southern countries consider the past and present times, whereas the Northern view is on present time and the future. In addition, the emission reduction principles are completely different and so is the importance they attach to procedural justice issues.

3.5 Summary

In this chapter I have aimed to describe the politics of climate change from various aspects with the purpose of highlighting its complexity and to represent the environmental justice perspectives involved within climate change and climate politics. This chapter also lays foundation for the empirical research. The environmental justice perspective questions certain matters and existing ways of thinking in the politics of climate change and also brings out alternative viewpoints and thus alternative measures and solutions to the problem. The environmental justice conceptions of states can be regarded through North-South perspective but as discussed, there are also other alliances within and between this simplified division. Hence, climate politics includes conflicts and struggles about which states and alliances get to define climate change as a problem with needed measures, responsibilities, and timetables, etc., in other words, whose climate discourses dominate. The annual international UN climate conferences are an important arena for these conflicts to take place because at these conferences states present their official opinions about what to do to climate change and by whom. As a

consequence, the statements presented at the climate conferences, like the research data in this research, are a means to participate to these conflicts of definition and their analysis reveals the discursive side of this battle. Both frame analysis and rhetorical analysis contain the idea of language having the power to construct reality. In addition, they enable acknowledging that there are various perspectives towards same questions and thus differing truths (see Luoma 2002, 87; Wessberg 2007, 55). Therefore these two methodologies can be employed for analysing the way climate change is described and constructed as a problem – especially as an environmental justice problem – within the statements. What kind of image of climate change and related responsibilities the states produce with these statements? In the next chapter I describe these methods, research data and analysis in a more detail manner.

4 RESEARCH DESIGN, DATA AND METHODS

4.1 Research questions and research design

The general purpose of my research is to examine climate politics from an environmental justice perspective. In the empirical part I focus on distributive dimension and intra-generational aspects within environmental justice, specifically on responsibility from an international viewpoint due to practical reasons; the way climate politics is organised (negotiation between states) and the research data (statements of states). My research problem is “*How is climate change framed as a problem from the point of view of responsibility in the political statements of the Montreal Climate Conference in 2005?*” This is further divided into three research questions:

- 1) How do different parties perceive the content and distribution of responsibility in climate politics in the statements presented in the Montreal Climate Conference?
- 2) What are the premises underlying these conceptions?
- 3) What rhetorical techniques are applied to representing and explaining responsibility in climate politics?

Figure 3. illustrates the research design of this research. I aim at realising the purpose of the research with the help of both literature and empirical research. Furthermore, my purpose is to answer the research problem with the help of research questions and the idea of frames, and here I focus on the whole research data and thus compare the statements in general. Finally, the research questions stem from both the purpose of the research and the analytical framework used in this research, where Perelman’s theory of argumentation has an essential part. In my research, the emphasis is on the second and third aspects of Perelman’s theory; the premises and justification (that is, the techniques of argumentation), which I consider to be the most relevant for my research problem. Here, then, I focus on argumentation concerning responsibility within the research data. In the background of the whole research is cultural political perspective.

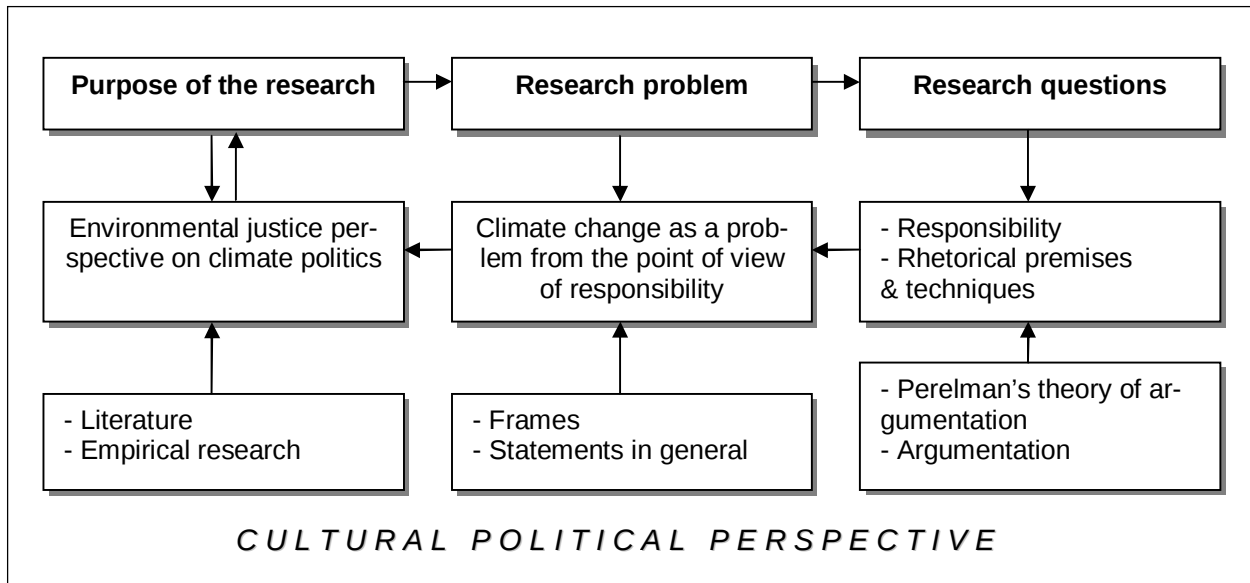


FIGURE 3. Research design.

4.2 Research data and data collection

The research data consists of political statements made by ministers and heads of delegation in the high-level segment of the Montreal Climate Conference in 7.-9.12.2005. The Montreal Climate Conference was significant and historical because in addition to the eleventh Conference of Parties to the United Nations Framework Convention, it also served as the first Meeting of Parties to the Kyoto Protocol since it came into force in 16.2.2005. Montreal Climate Conference was important also because it was one of the most productive conferences as well as the largest intergovernmental climate conference with some 10 000 participants since the adoption of Kyoto Protocol in 1997 (United Nations Climate Change Conference). There were also statements from heads of United Nations bodies and specialised agencies as well as from observer organisations; from intergovernmental and non-governmental organisations in this high-level segment, but I limited my research to cover only the statements made by parties to the Convention or to both the Convention and the Protocol, that is, statements from states or groups of states.

While the UN tradition is to organise parties into five regional groups (namely African States, Asian States, Eastern European States, Latin American and the Caribbean States, and the Western European and Other States), these are usually not used in the climate conferences to present the interests and objectives of the parties. Instead, there are other groupings not related to countries' location that are more important in the climate negotiations. (Party groupings.) The parties thus negotiate through interests groups with common negotiating positions.

The *Group of 77 and China* is an interest group the developing countries generally work through. The G-77 and China was founded in the context of the UN Conference on Trade and Development already in 1964. The group, however, is very large and diverse with over 130 members, and therefore individual developing countries as well as groups within the G-77, such as the Alliance of Small Island States or the group of Least Developing Countries, sometimes have differing opinions about climate change issues. (Party groupings.) In the beginning of climate negotiations, the G-77 had quite low profile (Tirkkonen & Wilenius 1997, 179). Furthermore, the group has emphasised their low per capita emissions, the responsibility of the developed countries as well as their need to develop economically (Vehmas et al. 1998, 20). The *Alliance of small Island States (AOSIS)* consists of 43 low-lying and small island countries, and most of them are also members of the G-77. These countries are especially vulnerable to sea level rise, and this threat unites them in climate negotiations. (Party groupings.) The coalition has been active in climate politics and demanded this from others, too; it has also been in favour of considerable and binding emission reductions (Vehmas et al. 1998, 20). The 48 *Least Developed Countries (LDC)*, classified as such by the United Nations, are given special consideration under the Convention due to their scarce capacities to adapt and to respond to climate change (Parties and observers). They have also become increasingly active in climate politics (Party groupings). At the time of Montreal Climate Conference the *European Union (EU)* had 25 members while today it already has 27 members by Romania and Bulgaria joining the EU in 2007. The EU countries meet in private before climate conferences to agree on common negotiation positions. Also the European Community is a Party to the Convention as a regional economic integration organisation. (Party groupings.) Within climate negotiations the EU has worked actively with concrete objectives (Vehmas et al. 1998, 19). The *Organization of Petroleum Exporting Countries* has 13 members. Also these *OPEC* - countries have been active insisting that climate politics disturbs the operation of oil industry (Vehmas et al. 1998, 20). In addition to these groupings, which are the most visible ones in the negotiations, there are also four other groups. These are: the *Umbrella Group*: a loose coalition of non-EU developed countries which is usually composed of Australia, Canada, Iceland, Japan, New Zealand, Norway, the Russian Federation, Ukraine and the USA; the *Environmental Integrity Group (EIG)* which is a recently formed coalition consisting of Mexico, the Republic of Korea and Switzerland; the *Central Group* (Bulgaria, Croatia, and Romania), as well as a *group of countries of Central Asia, Caucasus, Albania and Moldova (CACAM)* (Party groupings).

The research data consists of 120 statements in total, comprising statements on behalf of the Group of 77 and China, the European Union, the Least Developed Countries, the Alliance of Small Island States, and on behalf of the Annex I parties to the Conventions that are member states and observer states of the Arctic Council as well as including 115 individual statements from states that are parties either to the Convention or both to the Convention and to the Protocol. The number of statements within different groups is presented in the Table 2. Some of the groups can be overlapping, for example, a state can be a party to the G-77 and China as well as to the AOSIS and LDC. In addition, the Former Yugoslav Republic of Macedonia, Turkey, Monaco, Israel and Belarus are outside any of these groups.

TABLE 2. The number of statements within groups.

G-77 & China	LDC	EU	AOSIS	Umbrella Group	OPEC	EIG	Central Group	CACAM
73	25	23	12	10	9	3	3	2

Every state that presented a statement in the Conference was and is naturally a party to the UNFCCC, and the majority of them, 108 states, had also ratified the Kyoto Protocol at the time of the Conference. Those states that had not ratified the Protocol when the Montreal Climate Conference was held in 22.11.-9.12.2005 were: Australia (entry into force 11.3.2008), USA (indicated not to ratify the Protocol at all), Libya (entry into force 22.11.2006), Gabon (entry into force 3.12.2007), Kazakhstan, Angola (entry into force 6.8.2007), Zambia (entry into force 5.10.2006), Croatia (entry into force 28.8.2007), Nepal (entry into force 12.12.2005), Turkey, Monaco (entry into force 28.5.2006), and Ivory Coast (entry into force 22.7.2007). As discussed earlier in the chapter 3.3.3, the Parties are divided into three main groups after their commitments within the Convention. Annex I parties include industrialised countries that were OECD members in 1992 and countries with economies in transition (the EIT parties). Annex II parties are the OECD members of Annex I and they have committed to support developing countries and EIT parties financially and technologically in measures against climate change. Non-Annex I parties are mainly developing countries. (Parties and observers.) The commitments in both the Convention and the Protocol are strictest and broadest with Annex II parties, then with Annex I parties while the non-Annex I parties have least commitments. Most of the statements, 81 of them, were from states belonging to non-Annex I parties while 39 statements were from Annex I parties.

Data collection

The statements are found as webcast in the web site of the UN Framework Convention on Climate Change (www.unfccc.int). I listened the statements and at the same time transcribed them. A few statements were in the Internet as a text, but I still listened them in case the speakers did not use the text word for word. Due to the speakers (mainly their pronunciation), technical issues (recording, my audio devices) and my English skills there were phrases or words I did not hear or understand, which I marked as question marks or empty spaces in the statements. After having transcribed all the statements, I still listened them once more to revise and to make corrections to the texts. In total there were 118 sheets of data, that is, about 1 sheet per statement. The fact that some of the statements were interpreted in English in the Conference might have changed some of the original meanings and emphasis. However, the analysis of the data is based on general and recurrent findings and themes, not on individual words, phrases or ideas, and thus analysis is not 'word for word specific'. My original idea was to analyse this large amount of data with Atlas.Ti, and therefore in the beginning I studied and processed the data with this programme. However, in the course of the research I found that Atlas.Ti, although helping with becoming acquainted with the research data, would not be practical in using the actual research methods. As a consequence, I analysed the research data in a conventional way with a mass of paper sheets and pens.

Political statements as material

What are these political statements like as research material? What can they tell about climate politics and environmental justice perspectives within it? The statements made by states present the official view and position of the country and thus exclude the diverse voices by for example, individuals, civic organisations or indigenous peoples. Moreover, the statements represent the state as a one unanimous actor even though the state operates within different policy sectors with diverse and competing objectives and interests, and even though the state has committed itself to different and conflicting duties towards, for example, economic actors and individuals, as Jokinen (2001a, 80-81) notes. Accordingly, statements are compromises, but here they are treated as the official voice of countries accordant with unitary actor model, where states are considered to have a consistent set of objectives and values (Porter et al. 2000, 19). In addition, it is hard to say internationally how and by which actors and interest groups these statements are prepared (who get their voice heard) but according to Tirkkonen and Jokinen (2001, 74-75) the responsible for the decision-making concerning climate politics, that is, also the preparation of statements, in Finland since 1998 has been a governmental

ministerial working group on climate politics, though to support the working group a new climate committee was established with members from different Ministries and representatives from interest groups and non-governmental groups.

Political statements are actually a part of political activity; “in politics words are acts, and politics is made by speaking” (Laine & Jokinen 2001, 57). Furthermore, Laine and Jokinen (2001, 47) describe political activity as “discussions, disputes, and struggles about the content of social solutions”. Political affairs deal, then, with questions that are open to interpretations and have no single correct solution (ibid. 2001, 57). In this light, the statements in the Montreal Climate Conference aim at influencing the substance of climate change management, that is, what issues are discussed in the context of climate change, how to handle the problem and by whom, how extensive impacts are acceptable, can climate change be addressed properly in the context of current political and economic structures, etc. Further, politics contains conflicts and power struggles as well as consensus and policies, and even if parties agree on some policies the struggles remain in the background (Laine & Jokinen 2001, 51-52). Also in climate politics parties have agreed or compromised on the Framework Convention and the Kyoto Protocol, but the struggle about the current and future direction of climate politics is apparent. However, the context, Climate Conference, and the institutionalisation of the Framework Convention and the Kyoto Protocol can be considered to structure, shape and set the conditions for making statements. These statements can be, then, regarded as attempts to “participate in a certain kind of discussion, where argumentative framework is given” (Tuulentie 2001, 37). In addition, Alasuutari (2007, 224) speaks of routines, matters of course, which construct presumptions about the possible ways to behave and speak in a certain situation. Climate politics can also be regarded to consist of routines and this can be seen to affect the statements, too. It seems that terminology and themes in the statements are quite fixed, and there are some phrases or principles from the Convention text, for example, “common but differentiated responsibilities” which are repeated in the statements.

4.3 Research methods: rhetorical analysis and frames

In this research I use two research methods to analyse and interpret the statements. Rhetorical analysis, in my research the Perelman’s theory of argumentation, forms the basis of the empirical textual analysis and the main part of the whole analysis, whereas frame analysis operates more as an interpretative method both to the research data and to the results of rhetorical

analysis. These are also to a certain extent overlapping; some parts of Perelman's theory also function as framing devices.

4.3.1 Rhetorical analysis and Perelman's theory of argumentation

Rhetoric has a long history, starting as early as 400 BC in Syracuse (Summa 1995, 72). It is no wonder, then, that rhetoric has numerous definitions. Some of these definitions associate rhetoric with persuasion or with any type of instrumental expression, others with eloquent language or with argumentation (Gill and Whedbee 1997, 157). Rhetoric cannot be understood as a one single doctrine but, on the contrary, it has a number of diverse traditions and it is used in various different ways (Palonen & Summa 1996, 7). To comprehend the meaning and the history of rhetoric, I present two classifications, one of Puro and the other of Palonen and Summa. Puro (2005, 7) divides the sphere of rhetoric into six waves after cultural history, geography and time. He sees that the concept of 'wave' is a good metaphor for portraying how rhetoric has sometimes been at the top of interest, sometimes forgotten. These six rhetorical waves are: 1) antique, 2) Christian rhetoric, 3) the rhetoric of French, British and German language regions, 4) American rhetoric, 5) new rhetoric, and 6) social philosophical rhetoric. In general, these waves portray rhetoric as a means of influencing as well as analysing how and with which techniques the influencing is done, but whether the emphasis is on content, form or the objectives of the sender of the message, has varied during different periods. (ibid. 2005, 7-10.) Palonen and Summa, on the other hand, classify rhetoric by the level of language in focus. They separate between three different levels: 1) rhetoric of speech and presentation, 2) rhetoric of argumentation, and 3) rhetoric of tropes. The first level refers to presentation skills and thus examines presentations such as speeches or images as a whole and analyses how skilfully they are prepared or what is their effect to an audience. The second level of argumentation emphasises either the rhetorical aspects, that is, examining the means to convince the audience or the formal aspects, which means examining the validity or competence of arguments. The third level refers to research of tropes as a means of argumentation, as a specimen of one's skill, or as a means of researching typical manners and styles of a writer or of an epoch. (1996, 10-11.) Hence, the sphere and history of rhetoric is broad and rich. Nonetheless, Gill and Whedbee (1997, 157) identify two themes appearing with regularity throughout the history of rhetoric: the close link between rhetoric and politics, and rhetoric as a form of in-

strumental discourse, that is, aiming at responding to, reinforcing, or altering the conceptions of an audience.

My research comes under the title of *new rhetoric* by the classification of Puro (2005) and under the level of *rhetoric of argumentation* focusing on rhetorical aspects by the classification of Palonen and Summa (1996). I use rhetorical analysis in the sense of discussing “how some versions of reality are strived to present themselves as convincing and acceptable and how the listeners, readers or interlocutors are made to commit themselves to them” (Jokinen 1999, 126). Puro (2005, 13) describes new rhetoric as a revolution in the history of rhetoric. This is because the basis of classical rhetoric, the speaker, the topic, the speech, and the audience, is interpreted in a new way. In addition, advising or giving instructions, one characteristic of classical rhetoric, is not accepted in new rhetoric; instead the purpose of rhetoric is to analyse and to interpret (ibid. 2005, 107; 109). According to Summa (1995, 71) the point of departure of new rhetoric is that “facts do not speak for themselves”, thus it is essential to analyse how arguments are made credible. Summa also refers to the “process outlook” of truth; current opinions of truth are constructed in discussion processes and thus can be questioned. For Luoma (2002, 87) rhetoric holds the idea of a discursive area, where different truths appear instead of pursuing a single unambiguous truth. As a result, rhetorical perspective enables the critical analysis of, for instance, political texts (Summa 1995, 71). Rhetorical viewpoint in practice means analysing how linguistic techniques, expressions, concepts, etc. are used to create and normalise knowledge concerning society and human activity (ibid. 1995, 71). Furthermore, both the factual content of the text and the linguistic and textual means of influencing are important in rhetorical analysis. Rhetorical analysis covers also the broader social context of a speech or a text. Kakkuri-Knuuttila refers to this with the concept of rhetorical situation which contains the speaker, the audience and the forum. (Kakkuri-Knuuttila 1998, 234-235.) In addition, Kakkuri-Knuuttila discusses rhetorical analysis as a part of cultural research. Argumentation and linguistic or textual means of influencing are an essential element of social communication, and therefore their analysis can bring out social values and beliefs as well as their mutual relations. (ibid. 1998, 239-240.) Rhetoric is nowadays used for analysing many kinds of material, ranging from scientific research to advertisements (Jokinen 1999, 126) but it is regarded especially suitable for analysing political material (see Summa 1995, 71; Jokinen 1999, 126). In addition, as Gill and Whedbee (1997, 157) state, even though definitions of rhetoric vary, the idea of political arena as a centre of rhetorical practice is usually connected to rhetoric. Thus using rhetoric as a method for analysing political statements in my research is justifiable.

In my research I employ the concepts and tools developed around the new rhetoric of Chaïm Perelman. The Perelman's theory discusses the general principles of making claims credible and worth of committing oneself to as well as presents different techniques of argumentation (Summa 1995, 76-77). Furthermore, the theory considers rhetorical argumentation as a process of deduction but with a clear distinction to formal logical or mathematical deduction; rhetorical argumentation uses natural language, the premises of which can be questioned in contrast to formal logic or mathematic (Aro 1999, 19). The starting point of Perelman's rhetoric is the ambiguous nature of issues as argumentation is "rhetorical rather than logical or valid" (Arnold 1982, xi). For example, a claim can seldom be said to be self-evidently true, but instead it is made to appear truthful and thus credible. This means that there is no ultimate truth; claims can always be contested. (ibid. 1982, xi-xii.) There are three central aspects in the new rhetoric of Perelman connected to the nature of argumentation: 1) the relationship to audience, 2) the premises of argumentation and 3) the techniques of argumentation (Summa 1995, 77-84; Kuusisto 1996, 275-288; Tuulentie 2001, 45).

Relationship to audience

The speaker's relationship to audience means that argumentation is essentially argumentation for someone (Jokinen 1999, 128). As Perelman (1982, 11) states: "Argumentation is intended to act upon an audience, to modify an audience's convictions or dispositions through discourse, and it tries to gain a meeting of minds instead of imposing its will through constraint or conditioning." In other words, it is important for the speaker to have the approval of the audience; the speaker would not argue if forcing would be possible (Kuusisto 1996, 275). Consequently, the speaker chooses words, justification, style, etc. according to the audience in question (ibid. 1996, 275) with the aim of persuading the audience to accept a claim or to act in some way. Perelman (1982, 14) defines the audience as "the gathering of those whom the speaker wants to influence by his or her arguments" which refers to a mental structure about how the claim should and could be justified, not to an actual audience (Summa 1995, 77). Furthermore, Perelman separates between a universal and a specific audience. A universal audience is undefined and consists of everyone who is able to follow the speaker's argumentation, whereas a specific audience is its opposite, it is known beforehand and argumentation can thus be adjusted according to its interests (Perelman 1982, 17; Summa 1996, 67). The concept of universal audience as a criterion of a universal, good argument – as Perelman sees it – is commonly criticised, but as Summa points out, the concept of audience in general is useful and productive when considering the argumentation theory of Perelman as a research

method (Summa 1995, 78). What does the relationship to an audience mean, then, in concrete research? For example, in her research about the actors and arguments in the Finnish climate politics, Perimäki (2001, 11) noticed that the representative of industry, one actor of Finnish climate politics, aimed to persuade the audience about the burden sharing in EU by referring to authority, emphasising his unselfishness, and demonstrating that he advocates everyone's issues. In Kuusisto's research (1996, 276-277) about the rhetoric in the statements of United States, Great Britain and France on the Gulf War and the conflict in Bosnia, the means of getting the approval of the audience included, for example, using the pronoun "we" while referring to different groups of people, for example, "we the French", "we the EU", and "we the government". Also using passive was frequent, especially when the speakers did not want to emphasise the actor in a negative light.

Premises of argumentation

The premises of argumentation are connected to the first aspect of audience. As Perelman (1982, 23) states: "To adapt to an audience is, above all, to choose as premises of argumentation theses the audience already holds." In other words, the premises refer to some areas of unanimity between the speaker and the audience to which the speaker can base the justifications of argumentation; they are one means of constructing convincing claims (Summa 1995, 78; 1996, 69). In fact, the premises are the basis of argumentation that can be taken for granted. Every audience accepts certain issues and the speaker adjusts her/his speech with these premises (Kuusisto 1996, 277). Moreover, the speaker tries to transfer the support accorded to the premises or "points of agreement" to the conclusions (Perelman 1982, 21). In a broad sense the premises deal with prevailing values in a society in a certain time (Tuulentie 2001, 48).

Perelman distinguishes between *premises that relate to reality* and *premises that relate to preference or preferable*. The former refers to facts, truths and presumptions which are associated with the idea of normality, whereas the latter refers to values, hierarchies and the locus of the preferable. (1982, 23.) The *real* constitute arguments which address the universal audience whereas the *preferable* address particular groups (Noe 2005, 424). The premises relating to reality refer to what is obvious, certain or at least highly probable to an audience (Kuusisto 1996, 277). However, as Summa (1995, 79) points out, Perelman's idea is that issues which are accepted as 'a truth' or 'a fact' can always end up on the subject of argumentation and thus be questioned. In her research about rhetoric on the Gulf War and on the conflict in Bosnia, Kuusisto (1996, 278) found that premises related to reality were mostly issues

without justifications, for example, phrases starting with “we all know”. However, premises can also be very controversial; Kuusisto (1996, 278) sees that presenting problematic issues as an obvious starting point both prepares the audience to accept the claims that are to be stated and clarifies who is the target audience. Similarly, in the research of Perimäki (2001, 11) on rhetoric in the Finnish climate politics, premises related to reality used by the representative of industry were culturally accepted “truths”, for instance, economic growth, higher rate of employment and welfare.

The premises relating to preference or preferable refer to the important or desirable values and value hierarchies shared by the speaker and the audience (Summa 1995, 79; Kuusisto 1996, 278). Kuusisto (1996, 278-279) argues that from the speaker’s point of view the value hierarchies often are more important than individual values, especially if a choice has to be made between certain activities and values related to them. However, there are different kinds of values. Perelman separates between positive and negative values (good and bad) and mentions also universal values such as truth, goodness and justice. He further distinguishes abstract values, such as justice, from concrete values, such as “La France”, and sees that reasoning based on concrete values is typical of conservative societies, whereas abstract values are used more like in criticising current circumstances. Argumentation also draws support from value hierarchies which can be made between concrete (human beings are superior to animals) or abstract values (cause over effect), between homogenous (quantity: preference to the greatest quantity of a positive value or to the smallest quantity of a negative value) or heterogeneous values (qualitatively different values). (ibid. 1982, 26-29.) The Perelman’s concept “locus” describes the general grounds of evaluating the preferable (Summa 1995, 79). Loci are not dependent on the content of argumentation but they are typical and customary, and the audience recognises and accepts them beforehand (Kuusisto 1996, 278). According to Perelman, in the end, all loci can be reduced to the loci of quantity and quality (Summa 1995, 79). The locus of quantity refers to claiming “that what is good for the greatest number is preferable to what profits only a few” (Perelman 1982, 30). This means that claims concerning values are justified on quantitative grounds, such as greater number or bigger size (Summa 1995, 79). Democracy and common sense, for instance, are examples of quantitative locus. Behind the power of quantitative locus is the idea that the amount or the quantity determines the value in whatever issue; the normal becomes a norm and good as well as valuable in contrast with the exceptional. (ibid. 1995, 79-80.) The locus of quality refers to preferring something that is unique or irreplaceable, that is, the exceptional is valued over the normal (Perelman 1982, 30). Examples of qualitative loci are appealing to transience or saying

that something is endangered (Summa 1995, 80). In addition to the quantitative and qualitative loci, values can be justified by appealing to order, essence or existence (Summa 1995, 80) or, for example, to human worth (Kuusisto 1996, 279), but according to Perelman these all are ultimately founded on the quantitative and qualitative loci (Summa 1995, 80). In her research Perimäki (2001, 11) sees that the premises related to preferable used by the representative of industry were patriotism and the responsibility of decision-makers as well as the quantitative locus of democracy. In Kuusisto's research (1996, 278-279), on the other hand, the statements appealed to values such as courage, determination, and patience; and value hierarchies like "justified war is better than (gutless) peacefulness"; as well as to the loci of quantity (repeating good acts and initiatives made by "own side"), the loci of quality (uniqueness) and the loci of human worth (the suffering of civilians).

Techniques of argumentation

The third aspect of Perelman's theory, the techniques of argumentation, discusses also the ways to convince an audience. Whereas the premises can be regarded as already accepted general justifications, the techniques of argumentation aim at justifying certain conclusions (Summa 1995, 80). Perelman distinguishes between *arguments that are given in the form of a liaison* which allows for "the transference to the conclusion of the adherence accorded the premises" and *arguments in the form of dissociation* which aim at "separating elements which language or a recognised tradition have previously tied together" (Perelman 1982, 49), that is, the course of argumentation is either associative or dissociative (Summa 1995, 81).

Perelman examines three kinds of liaisons: 1) quasi-logical arguments, 2) arguments that are based on the structure of reality, and 3) arguments which establish the structure of reality. The *quasi-logical arguments* draw their credibility from the form of logical, formal deduction. In these arguments non-formal elements and deduction are presented as formal. Furthermore, it is typical that the elements are quantified and they resemble mathematical quantities with simplified relations. (Summa 1989, 107.) Examples of quasi-logical argumentation are comparing Hussein to Hitler in the research of Kuusisto (1996, 280) and comparing Finland to other countries in the research of Perimäki (2001, 11-12). However, quasi-logical arguments often lack credibility and thus need support from arguments based on the structure of reality because of the difficulty of reducing a problem only to its formal and quantitative aspect (Perelman 1982, 80).

Arguments based on the structure of reality "depend on liaisons which exist among the elements of reality" (Perelman 1982, 50). This kind of argumentation tries to show the in-

terdependence of an accepted element and another, not accepted element. In general, these arguments appeal to liaisons of succession or liaisons of coexistence. The former links elements of same level, for example, through causality. (ibid. 1982, 81.) Causal relationship can be created by connecting an act and its effects or an objective and the means for obtaining it (Kuusisto 1996, 282). The so called pragmatic argument links the objective and means or cause and effect (Summa 1995, 81); the value of the objective or effect is transferred to the means or to the cause (Perelman 1982, 82-83). The latter, liaisons of coexistence, forms a link between realities on unequal levels, on essence and its manifestation, for instance, connecting a person and her/his acts or a symbol and what it represents (ibid. 1982, 81; 89-90). For example, in the research of Perimäki (2001, 11) the representative of industry linked the implementation of climate objectives, that is, pro-environmental attitudes, with negative impacts on economic growth which on its part would further have a negative effect on employment and welfare thus presenting a liaison of succession, a causal relationship. Also in the research of Kuusisto (1996, 282-284) causality was used, for example, in linking the Gulf War to the thirst of power of Hussein, whereas associating the evilness of Hussein to all of his acts and vice versa served as argumentation appealing to the liaison of coexistence.

Arguments which establish the structure of reality advance by arguing with specific cases, such as examples, illustrations or models, or with analogy and metaphor. Arguing by specific cases in general implies that the specific case represents a general rule. *Arguing by example* tries to indicate regularity; it implies that the example is not an exception but portrays a general rule. When *arguing by illustration* it is assumed that a rule is already accepted and it is simply to be illustrated. (Perelman 1982, 106-110; Summa 1995, 82.) *Arguing by model* refers to the attraction of an example which is worth of imitating; the goal is to invoke action accordant with the model or action contrary to the antimodel (Perelman 1982, 110-113; Kuusisto 1996, 284). *Analogy* is based on indicating a similarity or a similarity of relationship between a familiar element and an unfamiliar element or reality, that A is to B as C is to D. Analogy thus emphasises and transfers a desired feature from the unfamiliar subject to the familiar one. (Perelman 1982, 114-115; Summa 1995, 82.) *Metaphor* is a condensed analogy, and like all analogies, it is based on equating two separate issues. The power of metaphors lies in their tendency of becoming detached from their origin and developing into ordinary manners of expression. A dormant metaphor is especially powerful; it has become so detached from its original meaning that it is not recognised to link two separate issues but instead, a dormant metaphor has a stable and established way to be interpreted. (Perelman 1982, 120-125; Summa 1995, 83.) In the research of Kuusisto (1996, 284-286) the statements included,

for example, individual incidents as examples, Hussein as an antimodel, and metaphors of gamble, business or sports.

Arguments in the form of dissociation aim at separating concepts or elements of reality generally linked together by language or prevailing tradition which leads to perceiving reality in a new way. Dissociation is done with the help of philosophical pairs, such as apparent and real; opinion and knowledge; theory and practice; effect and cause; means and end, etc. When issues are considered as comparable with established philosophical pairs, it is possible to attach or lower the value of an aspect depending whether it corresponds to the term 1 (apparent, illusory, of lower value) or to the term 2 (real, norm, more important). A way of dissociation is also referring to “true democracy” which implies at the same time that there are also apparent democracies. (Perelman 1982, 126-137; Summa 1989, 109-110 and 1995, 83-84.) Tuulentie (2001, 49) sees that dissociative techniques relate essentially to resistance and opposition by questioning obviousness and opening issues under discussion. In Perimäki’s research (2001, 12) the representative of industry used contrast pairs such as emission reduction objectives and jobs or emissions and heating in households as dissociative techniques, whereas in Kuusisto’s research (1996, 287) they were mainly concerning what the conflicts are not dealing about.

4.3.2 Frames as methodological and interpretative tools

The origin of the concept of framing comes from cognitive psychology and anthropology, where it has spread to the fields of sociology, economics, linguistics, social-movement research, policy research, communication science, political communication, public-relations research, and health communications; often with a shift in meaning of the concept (Van Gorp 2007, 60). In sociological research the concept of frame comes from Erving Goffman (1986) who used frames in the meaning of schemes of interpretation through which people observe, recognise and name different events and activities; the frames give sense and meaning to these events (Väliverronen 1996, 106). Goffman’s (1986, 10-11) own definition, however, is quite vague and obscure; “...definitions of a situation are built up in accordance with principles of organization which govern events – at least social ones – and our subjective involvement in them; frame is the word I use to refer to such of these basic elements...”. According to Eder (1996, 166) frames “refer to stable patterns of experiencing and perceiving events in the world which structure social reality.” He sees (ibid. 1996, 166) that people apply frames

for sorting the world; they help to direct attention only to some significant events and thus reducing the continuous stream of episodes and experiences. Frames are thus definitions of an event; hence frame analysis means to study these frames, how the experiences of people are structured (Horsti 2005, 49). Peräkylä (1990, 156-157) has interpreted frames to refer to two issues: 1) what people do, i.e. their activities, and 2) how these people define the situation through and as a result of their activities. The idea of diversity is essential; in most events many issues take place simultaneously, but moreover, people may interpret and frame the same event in different ways (Horsti 2005, 49). Goffman and Peräkylä, as many others, have used frame analysis to examine the interaction of people face to face in different situations. However, it has also been applied in a broad sense to the research of social problems and movements, journalism (Välvirronen 1996, 108) as well as to the research of environmental social science. Frames and framing have also been used in various different ways sometimes with no linkage with the original idea of Goffman (Saaristo 2000, 43).

Välvirronen (1996, 108-109) describes frames and framing as a way to form an entity of separate issues. In his research on public discussion about the forest damages in Lapland Välvirronen (1996, 19) combines concepts from various methods such as discourse analysis, semiotics and rhetoric for his textual analysis, but at the same time he also identifies broader entities from the texts, called as frames, where the ways and contents to think and write about forest damages becomes condensed. This is how I use frames in this research; frames are essentially practical methodological and interpretative tools for answering my research problem: “How is climate change framed as a problem from the point of view of responsibility in the political statements of the Montreal Climate Conference in 2005?” Frames as a methodological device also resemble the concepts of discourse or interpretative repertoire (Saaristo 2000, 43). When speaking of ‘framing climate change’ framing, for me, refers to constructing climate change, ways of speaking about climate change or story lines (Hajer 1996) about climate change. Frames, as I use them, relate also to the cultural politics perspective. The idea is that climate change is not the same kind of problem for every state, but there are different versions of it which emphasise but also leave out different questions and measures. In addition, different ways to define the problem within climate politics lead to different ideas about what should be done to the problem, but also more broadly about what is the preferred social-environmental order like (see Hajer 1996). A frame thus embodies a shared understanding about climate change as a problem but also a shared understanding about the social world and values within it. This is evident in the similar rhetorical techniques and premises the parties employ in their statements. As Price et al. (2005, 181) see it, “In the political world, multiple

frames emerge naturally in the course of public debate. People on different sides of an issue understand it differently, focus on different aspects of the problem, and actively promote their perspective in arguing for favoured courses of action.” Goffman likewise underlines the connection of frames with culture; “Frames are a central part of a culture and are institutionalised in various ways” (1981, 63 in Van Gorp 2007, 62). Culture, according to Van Gorp (2007, 62), besides referring to “an organised set of beliefs, codes, myths, stereotypes, values, norms” that are shared in a group’s or a society’s collective memory, also includes frames. He proposes (2007, 62-63), that there are more frames than only those that are currently applied; there are alternatives which again may lead to different definitions of issues. This follows that transcending the currently applied frames, their normality and unchallengeability is needed.

How is frame analysis, then, performed? How can frames be identified? Classifying frames from the research data, Horsti observes (2005, 51), is about interpretation which is often equivocal. According to her, one of the basic problems of frame analysis has been the question how to separate between frames and themes – this is open to interpretation. However, she continues, that as analysis of frames is a qualitative method some ambiguousness pertains to frame analysis, and instead of unanimity in the results she emphasises recurrence and dominance in the analysis of frames. (ibid. 2005, 51.) In spite of this, some researchers have developed systematic steps and techniques for identifying frames. Gamson and Modigliani (1989, 3-4), for instance, separate between framing devices (metaphors, exemplars, catchphrases, depictions and visual images) and reasoning devices (roots, consequences and appeals to principle) in their model of frame analysis used in media discourses. Framing devices “suggest how to think about the issue”, whereas reasoning devices “justify what should be done” about the issue. In her dissertation about how the media frames multiculturalism and immigrants, Horsti (see 2005, 71-77) employs framing devices accordant with a model of Gamson and Modigliani as a methodological means of frame analysis. For this she analyses metaphors, exemplars, comparisons, catchphrases, naming, as well as images and depictions in the media coverage. The model of Eder to the frame analysis of public discourse, on the other hand, is threefold and consists of framing devices which “are the means for constructing frames” and symbolic packages which “provide the means for communicating such constructions” (see Luukkanen 1994, 89; Eder 1996, 166-169). Although I do not follow these models in my research in an exact manner, I do lean on them in my own way of analysing frames by combining rhetorical and frame analysis. In my research the techniques and premises of argumentation within Perelman’s theory, although not being exactly the same as these framing and reasoning devices or symbolic packaging, are considered to function as such. That is to

say, the techniques and premises of argumentation while being ways to justify and construct convincing claims, also construct frames. The premises and techniques of argumentation, however, are a mixture of these tools. When compared to the framing devices and symbolic packages of Eder (1996), it is not possible to distinguish the content or subject matter (framing devices) from the way actors use and present them to others (symbolic packaging) in Perelman's theory of argumentation where the starting point is that argumentation is addressed to someone and aims to convince the audience; it always holds some symbolic packaging. Similarly, the framing and reasoning devices of Gamson and Modigliani (1989) cannot be differentiated in Perelman's rhetoric: some of the framing devices (e.g. metaphors, exemplars) as well as the reasoning devices (e.g. roots referring to causal analysis) are the same as the techniques of argumentation while also reasoning devices such as roots and appeals to principle can be considered alike the premises of argumentation. Hence, I consider both the premises and techniques of argumentation as means to construct frames; within frames these are common ways of justifying or base certain conclusions on. Different frames may encompass same premises and techniques but in different packages and proportions. In this research I call the premises and techniques of argumentation simply as framing tools.

There are similarities between frame analysis and rhetorical analysis which increases their compatibility as two partially consecutive and partially overlapping steps of analysis. Frame analysis embodies the idea of the power of language to construct reality (Horsti 2005, 60), as new rhetoric does. In addition, using frame analysis, as Wessberg (2007, 55) observes, enables acknowledging that there are differing points of view towards issues, differing truths, which do not necessarily exclude one another. This resembles the idea of Luoma (2002, 87) of the discursive area of rhetoric where different truths appear. These methodologies, from my standpoint, are comforting since they suggest that different perspectives towards climate change are possible, which in turn opens current climate politics for change.

4.4 Analysis of data

The methods in textual research, as Horsti states (2005, 48), develop in relation to the research data and the questions one asks from the data. This is also valid in my research. In addition, choosing methods and the way to use them in analysis has not been straightforward. The analysis of data with the two methods consists of several steps or phases that are also partly overlapping. During the analysis I concentrated on two main issues when reading the

statements; 1) what kind of problem the statements construct out of climate change, and 2) what kind of argumentation the statements contain about responsibility in climate politics. Roughly speaking, the analysis and interpretation can be described in three phases.

Phase 1: preliminary observation. First, I paid attention to the way climate change is discussed by the states in general; how climate change is framed as a problem. The frames in this research, as with Väliaverronen (1996, 111), are the result of concrete empirical research, not the basis of it. As I started to be familiar with the research material, I began to distinguish roughly two ways of speaking about climate change. Framing thus encompasses reading the statements as a whole. In practice, framing meant asking what are the main issues or perspectives related to climate change that differ in the statements. More precisely, I compared the ways to speak about climate change in the statements for the purpose of my research problem. The research problem is thus answered partly with the research questions and partly with the other aspects of the statements, and the most prevalent and important features of these are included in the frames to shape more generalised ideas about climate change as a problem. The frames hold shared ways to speak of, understand, construct and justify the problem. However, the frames can also contain different claims about the distribution of responsibility.

Phase 2: systematic use of analytical framework. Secondly, in order to answer the research questions I searched argumentation concerning responsibility in climate politics with the help of analytical framework (Figure 4.). I followed the idea of Tuulentie (2001, 47) and used the rhetoric of Perelman as a “tool box” for the concrete analysis of my research data. The claims concerning the content and distribution of responsibility answered my first research question. There were rarely claims “ready” in the statements; instead forming them was largely about interpretation. For the second and third research question I considered what kinds of premises underlie these claims and what kind of justifications support them. The premises and the techniques of argumentation are salient in how arguments are presented as credible, but as framing tools (see 4.3.2) they also construct climate change as a problem; they thus relate to both methods. I further combined individual premises and techniques of argumentation to broader entities and grouped these claims (and thus states) by their content into coalitions. In total, I formed several different claims but accepted only the most common and interesting of them as results. To put it simple, when searching and forming argumentation I read the statements with these ideas in mind: who should take responsibility according to the statements, what measures responsibility means, what is the main concerns within statements for the sake of which measures are demanded, and how the statements justify these issues, how they rationalise and what kind of reasons they give to support their causes.

Figure 4. represents the analytical framework which I used when reading and analysing the research data. This figure is inspired by a figure presented by Perimäki (2001, 5) in her study about the actors and arguments in the Finnish climate politics (see also Best 1987, 102 for a similar type of figure to Perimäki's). I chose to construct this kind of figure because it includes issues that are important when considering argumentation; it connects the social context or rhetorical situation (see Kakkuri-Knuuttila 1998) with the aspects of argumentation as understood by Perelman. It is also helpful in systematic analysing of data as well as being useful in presenting the results in a visual way making them thus easier to understand. The forum, the speaker, and the audience refer to the social context of the statements, the rhetorical situation. The speaker and the audience also relate to the first aspect of Perelman's theory, the relationship to audience. The premises are the second aspect in the theory of Perelman. They can be either reality based; premises that relate to reality, or preference based; premises that relate to preference or preferable. Justification refers to the third aspect of Perelman's theory, the techniques of argumentation, which are divided into associative (quasi-logical arguments, arguments that are based on the structure of reality, and arguments which establish the structure of reality) and dissociative techniques. The conclusion refers to the claim.

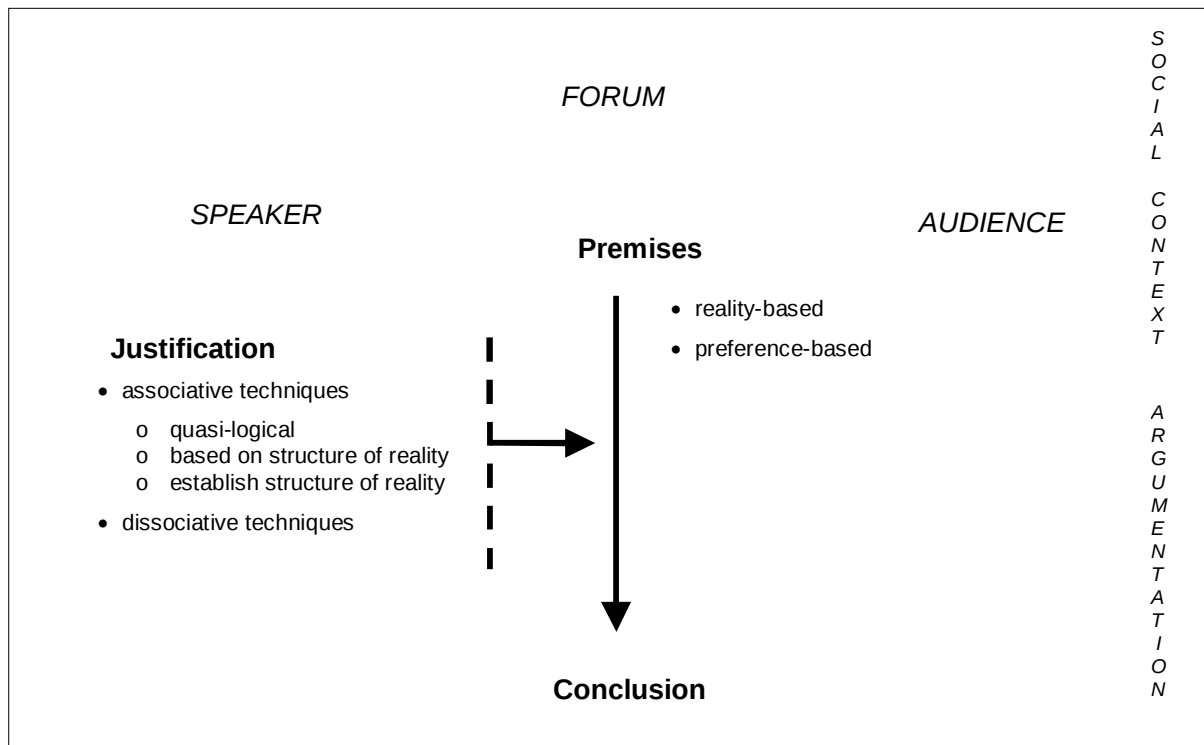


FIGURE 4. Analytical framework: social context and argumentation.

The research data consists of 120 political statements made by ministers and heads of delegation in the high-level segment of the Montreal Climate Conference in 2005. The *forum of the rhetorical situation* is thus Montreal Climate Conference held 28.11.-9.12.2005, and the *speakers of the rhetorical situation* are the ministers and heads of delegations representing the states. The Conference contained four meetings: 11th Conference of the Parties to the UNFCCC, 1st Meeting of the Parties to the Kyoto Protocol as well as 23rd session of subsidiary bodies, the Subsidiary Body for Scientific and Technological Advice and the Subsidiary Body for Implementation. There were about 9500 participants in total in the sessions of which 2800 were members of official delegations, 5800 representatives of observer organisations and 800 reporters (Berghäll 2005, 5). This is the concrete *audience of the rhetorical situation*. However, the concept of audience is not restricted only to the audience in attendance, but the audience can be global through media. There were 189 parties to the UNFCCC and 157 parties to the Kyoto Protocol at the time of the Montreal Climate Conference and these meetings had a joint high-level segment (Berghäll, 2005, 5). The relationship to an audience is considered only from the point of view of states. For me, the most interesting aspects in this respect are the interrelationship of statements and the use of “we –rhetoric”. The interrelationship of statements refers to the statements being directed towards other states; the statements address states by presenting or responding to claims. The social context discussed earlier also relates to this; knowing the historical and social context as well as the actors and their positions is important. The arguments in the statements can thus be considered as a debate even if they are not presented in that kind of form. Because of the large number of statements I did not aspire at a very detailed analysis of statements in their entirety. For example, the concrete speaker itself and how she/he aims at making herself/himself credible is not discussed. However, it is important to notice when the speaker aims at convincing the audience of the relevance and responsibility of the state. It is also important to consider what is not said in the statements, what is passed without a mention. As Gill and Whedbee (1997, 160) point out referring to Burke’s (1966) and Derrida’s (1982) ideas, that “every text, in focusing on some things, in making some things present to an audience, at one and the same time obscures something else”.

Phase 3: combining the results and interpretation. On the third phase I aimed at forming a coherent way to represent the results as a whole. This also included verifying my ideas and thus returning to the research data to see whether the data still supports the results. Interpretation has been carried along in all three phases, but in this third phase interpretation essentially relates to the aspects of environmental justice within climate change.

4.5 Discussion within the statements in general and about responsibility

The 120 statements presented at the Montreal Climate Conference included various different issues ranging from the existence of climate change to deforestation and to the low-carbon future of societies. Here no one, however, denied the existence of climate change but instead its already visible impacts and it being an ongoing phenomenon were emphasised. Urgency was a key tone within most of the statements. Although countries emphasised different questions within their statements, in general the statements considered issues such as mitigation and adaptation, development and transfer of clean technologies, funding, deforestation, and the development of flexibility mechanisms. Through these statements most countries highlighted the legitimacy of UNFCCC as the only forum for addressing climate change. Measures both within the Convention and the Protocol were referred to, except for USA who did not mention the Protocol at all.

Hence many questions were addressed within the statements. There were, however, different views about these issues, about what should be done about them. A commonly discussed issue was what should be done in the future especially in terms of mitigation and by whom. *Should cooperation be continued within the UNFCCC with or without a Kyoto Protocol extension or, for instance, within informal partnerships between countries?* In addition, *what countries should take part in mitigation?* Australia and USA, countries that had not ratified the Protocol, did not consider Kyoto extension to be a good way to cooperate, expressing this either directly or indirectly. Most statements emphasised the need for deeper emission reductions and also otherwise more extensive regime, and they were thus in favour of future climate change regime after the first Kyoto period 2008-2012. However, within these statements differences appeared in terms of what to do within the Protocol; is it only the commitments of Annex I countries under the Kyoto Protocol that are considered (Article 3.9) or is the Protocol reviewed as a whole, which would mean considering the commitments of the developing countries, too (Article 9.2) (see Berghäll & Siikavirta 2005, 30-32). In other words, *what countries should have legally binding emission reduction targets?* Many Annex I countries supported a more global framework and broader participation whereas many non-Annex I countries underlined the main responsibility of developed countries in current and future mitigation, the greater impacts of climate change to the already vulnerable developing countries and that absolute emission reduction targets are not appropriate for them. However, there were also statements of developing countries discussing their possibilities to engage more and to increase their measures with voluntary commitments, as well as statements from devel-

oped, mainly EU countries, stressing the developed countries taking the lead in emission reductions. In terms of mitigation, some developing countries expressed to wait concrete emission reductions to what the Annex I countries of the Protocol have committed to.

Technology was also a generally discussed issue; the role of cleaner technologies in cutting greenhouse gas emissions was highlighted in the statements of both developed and developing countries. However, while the developed countries discussed the significance of technology in general, the developing countries considered the importance of technology for them in order to them to participate in mitigation as well as to adapt. They emphasised the problems in technology transfers and the need to promote both transfers of technologies and funding; the barriers to these two issues should be overcome.

In general, all countries presented themselves as responsible by listing measures they have accomplished regarding climate change. However, there was an accusing tone within the statements of developing countries about whether the developed countries have done everything they have committed to within the availability of clean technologies and funding as well as within emission reductions.

4.6 Trustworthiness and soundness of the study

Evaluating the validity and reliability of the research is important. However, within qualitative research there seems to be confusion and disagreement over the criteria by which qualitative research should be assessed. Here I discuss some criteria, both quantitative and new concepts, proposed to consider the soundness of qualitative research. I also discuss how these criteria apply in my research.

Validity in qualitative research, according to Pyörälä (1995, 15) refers to two issues: to a well-designed research frame and to the tenability of interpretation. She thus sees that the researcher has to prove that the research frame and the target group used in the research are exactly those through which the research questions can be answered. In addition, the researcher has to confirm the accuracy of interpretation within the whole research data and within the setting one has aimed to research, and also to evaluate how the results can be generalised and applied to social reality. *Reliability* in qualitative research, on the other hand, refers to trustworthiness within data processing and interpretation. These should be opened up in the research report in order to the reader to follow and criticise the researcher's reasoning (the criterion of evaluation) and the reader to assess whether arriving at those results and in-

terpretation is credible (criterion of credibility). (ibid. 1995, 15-16). Lincoln and Guba (in Marshall & Rossman 1999), on the other hand, propose four alternative ‘criteria or constructs of soundness’ that are better suitable for qualitative research and the premises within it. These are credibility, transferability, dependability and confirmability. *Credibility* refers to how well the interpretation corresponds to reality and the original ideas; this is demonstrated by describing the subject, setting, process, etc. thoroughly. In my research I see this as the question of how well I have captured the different problem framings and ‘truths’ about climate change and responsibility. I have aimed at increasing credibility by describing the different phases of analysis and presenting excerpts from the research data in results. In addition, I chose to analyse all the 120 statements and not a sample of them. I have also worked with the research subject for two years and spent sufficiently time to learn the subject to at least some extent. I did not, however, describe the progress of analysis and interpretation in a very exact manner; I could have been more precise. *Transferability* stands for the extent of usefulness of the findings and to the extent they can be applied to other similar research situations. However, the burden of demonstrating their applicability rests more with those who want to utilise the results. In contrast, the researcher’s task is to describe the informants and their circumstances. In my research this is quite obvious: questions within climate politics cannot be transferred elsewhere than to climate politics. What is helpful is that climate politics operates in public and the states that are the ‘informants’ of my research announce their positions towards climate politics openly. In addition, the research data is public and available in the internet. *Dependability* is based on the ideas of reliability and replication of results within traditional methodological discussion. In qualitative research it refers to the researcher attempting to “account for changing conditions in the phenomenon chosen for study and changes in the design created by an increasingly refined understanding of the setting” (Marshall & Rossman 1999, 194). If I comprehend this correctly, in my research this means that I have learned more about this subject in the two years I have worked with it, and that this has resulted in changes in the initial research design and content of the research; thus some issues and premises have been left outside. However, if I would repeat the research again, I would have more knowledge at the beginning, which would certainly lead to different interests and choices. *Confirmability*, on the other hand, is comparable to the traditional concept of objectivity, whereas the qualitative criterion is asking, does “the data help confirm the general findings and lead to the implications?” (Marshall & Rossman 1999, 194). In my research I have aimed at confirmability, as I understand its meaning, by presenting excerpts from the research data in results. Regarding the traditional concept of objectivity as neutrality or detachment I can say that my

personal ideas and opinions have changed somewhat in the course of the research and now it seems that I am able to understand but also to criticise the actions of a wider range of states. Yet, the concern over the impacts of climate change remains. However, the environmental justice framework has a certain prejudiced tone suggesting somewhat simplified and biased North-South relations, which is also present in climate politics as Annex I and non-Annex I parties. I have aimed at dependability and confirmability also by describing the choices and phases of analysis as well as interpretation to some extent. (Marshall & Rossman 1999, 192-195; Parrila 2002, 180-185.)

4.7 Summary

In this chapter I have aimed to describe the empirical part of my research; I have discussed the research data and the discussion within it, research methods, the course of the research and the analysis of data. The results suggest that from the point of view of responsibility climate change is framed as a problem in two different ways: in some statements climate change is considered as a problem of greenhouse gas emissions (mostly developed countries) while in other statements climate change is discussed as a problem of vulnerability (developing countries). Within these frames, however, there are different perspectives about responsibility of the problem. Differences appear in terms of how responsibility should be divided among states as well as in terms of the content of responsibility. The content of responsibility refers, then, to moral responsibility; what kind of values should be taken into consideration; (Raitio & Rytteri 2004, 119) – what responsibility includes. Accordingly, here the content of responsibility refers to what kind of values the states should be responsible for. In the next three chapters the results of the empirical research are considered in more detail with the help of figures. The numbers inside the figures representing the analytical framework indicate the amount of statements that include and employ the premises or techniques of argumentation in question.

5 CLIMATE CHANGE AS A PROBLEM OF GREENHOUSE GAS EMISSIONS

Climate change is considered as a problem of greenhouse gas emissions from the point of view of responsibility in the statements of the developed countries and most countries with economies in transition, that is Annex I parties, as well as in the statement of China. Climate change is seen as a treatable problem, in other words, it can be managed. While in some statements climate change is described with some local evidence, most of these statements discuss climate change from a *global perspective*: climate change is seen as a shared, global problem with global impacts. This global emphasis can also be a way to construct sense of community so that all countries would participate in climate politics, which would create the needed global solution. Here the statement of Norway illustrates this perspective:

”The challenges of climate change are truly global. All countries, all economies, all people face an increased risk from the negative impacts. To limit temperature rise to 2 degrees Celsius, the world has to cut emissions by more than half – in a matter of decades.” (Norway)

Also the metaphors, the framing tools within this frame construct climate change as a problem that is global and common to all; all states have to face it equally and all have to act against it. Typical features are metaphors such as *world* (world needs, world expects, world action) and *war* (battle against climate change, combating climate change) which construct unity among nations. While highlighting global aspects is typical, some statements also refer to the severe impacts climate change will have to the developing countries. Here the statement of Japan illustrates this:

”While climate change affects the world, it hits the developing world severely. In view of this immense challenge the Kyoto Protocol is a small first step. Yet this first step is really an important step in facing the huge challenges.” (Japan)

Typical of this frame is also the *role of technology* in dealing with the problem; new environmentally friendlier technologies are considered as the solution. As climate change is considered as a problem of too much greenhouse gases, the solutions, the measures that take care of the problem are emission reductions with the help of new environmentally friendlier technol-

ogy and “clean development”. China and Luxembourg, for instance, discuss their role like this:

”Thirdly, emphasis must be placed on the important roles played by science and technology. After all, science and technology are our ultimate hopes in meeting the challenges posed by climate change.” (China)

”So combating the greenhouse effect is not only a tremendous challenge to preserve ecosystems on our planet but it is also a magnificent opportunity for the development of new technologies that are environmentally friendly. There is no contradiction between enhancing growth and economic development on the one hand and more rational and more economic use of natural resources on the other hand. In an appropriate incentives framework we must direct our economies towards a more sustainable development by (in particular) encouraging research and technological innovation and the dissemination of existing environmental technologies. This is particularly true in this field of energy supply at a time when the consumption of hydrocarbons is increasing sharply.” (Luxembourg)

Some statements also discuss a more profound change as a solution – disconnecting emissions from economic growth in general with the development of societies towards a path similar to ecological modernisation; economic growth without environmental harms with the help of technology. Market mechanisms and the flexible mechanisms of the Kyoto Protocol are considered to deliver these changes. While some statements speak of revolution, new development model or structural changes, they do not question existing structures and values but instead, they refer to a more sophisticated and developed emission-free society that is ‘green washed’. The statements of Spain represent this as follows:

“We believe firmly that instruments such as the clean development mechanism are and will be key factors making possible to track capital to a development model based on the generalisation of what is today the exception, so that we can generate a true impact on the global scale reducing the rate of growth of emissions. We are convinced of the need for strategic commitment of medium and long-term by the entire international community. We believe that dialog, the complementarity of our efforts and increase in the markets for carbon are key tools to generate a development model which is more responsible, more intelligent and more healthy. We have taken a timid first step but one of great importance. We have put out a signal to markets and to our citizens that carbon emissions come with a price, the price of not acting. There can be no going back. The sooner we put out full message the lower the prices of impacts and cost of adaptation.” (Spain)

In addition, typical of this frame are reality-based premises underlying the claims. These discuss what is obvious, certain or at least highly probable to an audience; they are comments that are automatically considered as truths, facts or normal presumptions (Kuusisto 1996, 277; 1999, 49-50). The most common of these premises refer to factual issues such as obviousness or scientific results, and to economic motives, for instance, to lower costs or positive signals to markets or producing economic growth. Economic reasoning in climate change activities is also common; for instance, not acting against climate change is seen to be more expensive

than acting (see statements of Finland and France). As shown by these framing tools *economy and economic discourse* play an important role in the statements.

"Mr President, addressing climate change is often considered costly. But, as Prime Minister Martin has pointed out, not acting is even costlier. While being mindful of the need for cost effectiveness, we must communicate of the benefits of climate policies. Addressing climate change will contribute to sustainable economic growth, and sustainable development." (Finland)

"The cost of action – how seemingly considerable – remains significantly lower than those of doing nothing. Devastating natural disasters, conflicts surrounding energy resources, climate refugees... the bill could rapidly become far too high. (...)The time has come to rise above the illusory incompatibility between growth and the fight against climate change, something which the Kyoto Protocol, with its quantified commitments, its incentives to cooperation and market mechanisms has already begun to do. This necessary alliance of political, economic and environmental concerns must lie at the very heart of your work on the international system to combat climate change beyond 2012. " (France)

Furthermore, climate change measures or environmental friendlier activities are seen as compatible with economic growth (statement of Sweden) or they are even considered to generate economic growth (statement of Austria). Also the dissociative techniques as framing tools support this: they discuss that there is no conflict between growth and environmental protection or that climate change is both a challenge and an opportunity. This equates to the hegemonic climate discourse discussed by Tirkkonen (2000) where many aspects resemble the idea of ecological modernisation, especially the idea of a positive sum-game: combining both environmental protection and economy.

"Recent development in Sweden demonstrates that it is indeed possible to decouple economic growth and emissions. Since 1990 Swedish GDB has increased by more than 25 % while emissions have fallen in absolute terms well below the 1990 level. A lot can be done by domestic action. However, we also need intensified international cooperation not least (to strengthen) the development and implementation of more efficient technologies. Here the Kyoto Protocol plays an important role by creating incentives to invest." (Sweden)

"It is time to challenge the myth that environmental action is a burden to the economy. In Austria figures show a direct and positive correlation between environmental legislation and economic growth. The turnover of the environmental technology sector has grown more than twice as fast as the manufacturing industry since the early 1990's. Furthermore, environmental technologies represent a considerable market potential worldwide. In Austria we will further promote environmental technologies because of the double benefit for society. Environmental technologies contribute significantly to the improved quality of life (as perceived by the citizens). Additional green technologies also support us in achieving more economic growth and more employment in Europe." (Austria)

As climate change is considered as a global problem, according to most of the statements it should be dealt with globally or at least in a more global manner than now. While the developed countries have the main responsibility, the developing countries, especially the emerging

ones, also need to participate increasingly according with their capabilities (see the statement of Austria).

”Mr President, climate change is one of the most difficult environmental challenges the world is facing. Scientific evidence on the negative impacts of climate change accumulates. This calls for immediate and common action. Outreaching activities will become more and more important. Ladies and gentlemen, a global challenge needs a global response. We have to convince all parties to join us in our combat against climate change. A balanced approach however is necessary. Therefore we should (base our) discussion the framework Convention and the Kyoto Protocol. It is time for all nations to act in order to protect the world of our children.” (Austria)

This is also supported by framing tools. The metaphor of journey (Kyoto first step, path to further reductions, move forward, etc.) describes current commitments as only the beginning and that much more needs to be done; solving the problem has just started. In addition, the dissociative techniques call for broader participation by referring to the current efforts from the developed countries alone not being enough to address climate change. Having said this, there is, however, disagreement in two issues within this frame: 1) what is the relation of economy and climate change measures, and 2) how to share the burden of mitigation.

5.1 Content of responsibility: the relation between climate change and economy

Measures against climate change should increase economic development

The *promoters of complementary goals* (USA, Australia and China) emphasise the importance of economic development in addressing climate change. “Promoting development” (USA), “the framework of sustainable development” (China) or “saving the world” (Australia) means, in other words, that climate change activities should actually complement other goals such as economic development, energy security and poverty reduction. There is no need to say that economic growth or economic development is first on the list. For instance, the statement of USA highlights these complementary goals like this:

”Our common challenge is to address climate change while promoting development. Success requires placing climate actions in a broad agenda that promotes economic growth and energy security, reduces poverty and pollution, and mitigates emissions. G8 leaders endorsed such an approach during July’s Gleneagles Summit. The G8 outcome demonstrates that international support exists for taking actions that are both good for people and good for the environment.” (USA)

Australia sees that economic growth is important in order to deploy cleaner technologies that are needed to halt climate change (see the quotation below). However, the support and advancement of development, especially economic development, does not necessarily require justification as it already has the status of ‘a supreme goal of the states’, and it, in a sense, operates as a reasoning for itself, it justifies itself. These states thus claim that “Climate change activities should enhance economic development” (Figure 5.).

All other countries can be seen as the universal audience. In addition, if this claim is considered as justification to the claim concerning the distribution of responsibility, especially in the case of USA and Australia who do not support Kyoto Protocol, then the specific audience can also be the Annex I countries for whom the message is that USA and Australia will not take part in actions which they think as economically harmful.

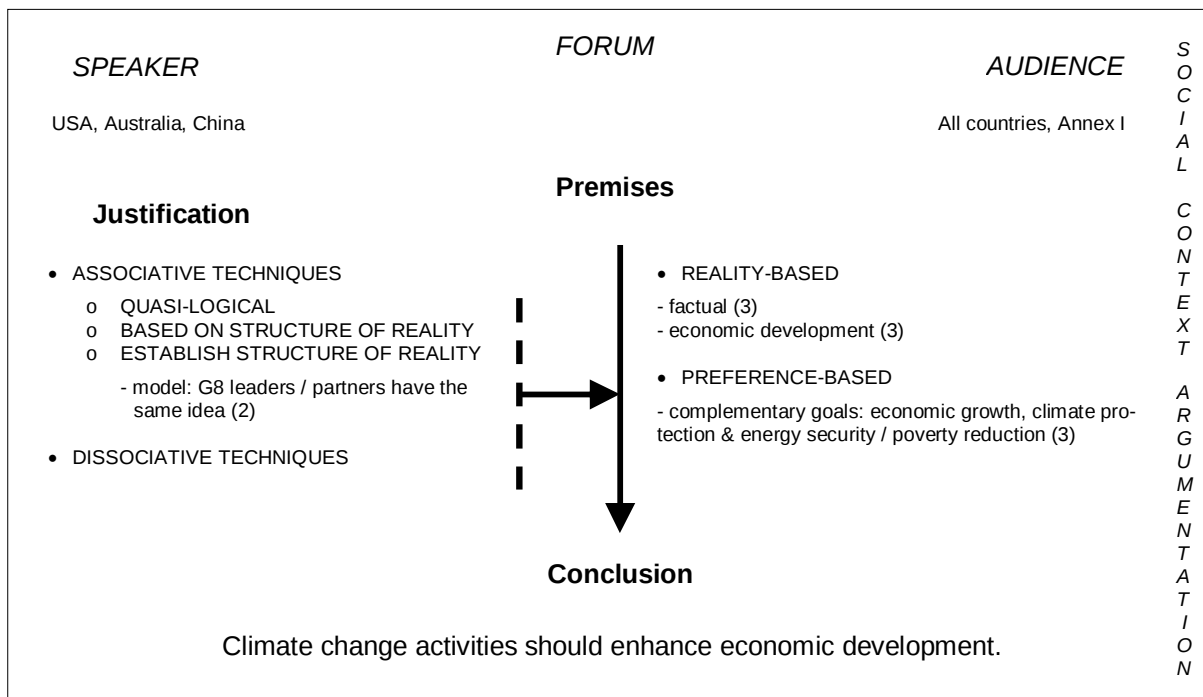


FIGURE 5. Climate activities only if they support the economy.

The premises underlying this claim are both reality- and preference-based. The reality-based premises encompass factual speech, i.e. speech that is not to be questioned (success requires, activities must be undertaken) as well as the culturally accepted obvious objective of economic development. The preference-based premises refer to complementary goals of economic growth, climate protection and energy security or poverty reduction, economic growth being in the first place on the list. This gives a clear indication of the framework within which these countries are willing to act in order to mitigate or to adapt to climate change: the climate

change measures are taken only on certain conditions, that is, by guaranteeing the flow of money and energy. Furthermore, the justification is associative; the meetings and partnerships, such as the influential G8, are referred as a model to show the consensus around this issue, the consensus that measures to halt climate change are not above other goals in their societies. The statement of Australia represents well the importance attached to economic growth as well the way it is justified:

"We agree that we do need fresh and flexible ways of looking at the issues, fresh ways to share knowledge and policy best practice; fresh and new ways to develop and deploy cleaner, more efficient technologies; fresh ways to involve the private sector and fresh ways to build on our progress in de-linking emissions from economic growth. And that's one of the reasons that we are quite proud as a nation to join with other partners within the Asia-Pacific Partnership for Clean Development and Climate in July, as those partners being the United States of America, China, India, Japan and the Republic of Korea and we are dedicated, I know, each of those nations to forming a partnership that will work practically, will work collaboratively in a way that complements the work of the UNFCCC to accelerate development and deployment of clean and low emissions technologies, to share (best) practices on clean development and climate and importantly, the partners agree that climate change actions should complement economic development and energy security goals. These are all complementary goals and they need to be. The world does need strong economic growth if we are to have the financial way (--) to bring forward the deployment of the technologies that we now are required to save the world from dangerous climate change." (Australia)

Climate change is compatible with economic growth

The *advocates of low carbon society and ecological modernisation* (Canada, Japan and a group of European countries), on the other hand, emphasise the need to shift towards low carbon society or low carbon economy, and especially the European countries see that reacting to climate change is not in conflict with economic development, but that it may even produce economic growth. They claim that the path along which societies develop takes place like the idea of ecological modernisation suggests, and that low carbon economy leads to more sustainable growth with both environmental and economic benefits (Figure 6.). The objective is clear: the UK, for example, would "put the world on to a cleaner path", Denmark, on the other hand, calls for "a fundamental shift towards low carbon economy", Canada wants to "transform the economy and to create sustainable growth" while the answer for France is "weaving concerns related to climate change and ecological responsibility into all of our economic activities". In fact, the states do not have to worry about their economies because environmental or climate protection does not pose a threat to economic development, the contradiction between economic growth and environmental actions is denied. This has been attested, for instance, in Sweden where recent development "demonstrates that it is indeed possible to decouple economic growth and emissions". Also Kyoto is considered as a proof of this. Some

statements even call the conflict between environmental and economic action as “a myth” (Austria) or as “illusory” (France). The statement of France indicates this as follows:

”One of the major issues for this century is a (need to) kick start the unavoidable revolution in our lifestyles, production methods and patterns of consumption. This means weaving concerns related to climate change and ecological responsibility into all of our economic activities. Our fellow citizens are well aware of that challenge. Our duty now is to shape the framework whereby individual contributions can (doftale?) with strong collective commitment. The breadth of the task will require a new model in international cooperation within a strengthened and long-term multilateral framework. The time has come to rise above the illusory incompatibility between growth and the fight against climate change, something which the Kyoto Protocol, with its quantified commitments, its incentives to cooperation and market mechanisms has already begun to do. This necessary alliance of political, economic and environmental concerns must lie at the very heart of your work on the international system to combat climate change beyond 2012.” (France)

As a consequence, while both of these claims concerning development (the previous one and this) address economic development, the issue that makes this claim distinctive from the previous one is that economic development and environmental or climate protection are seen as compatible with each other, or that environmentally beneficial activities are, in fact, also economically beneficial. Here all the UNFCCC countries can be seen as the audience because the premises appeal both to the developed and developing countries. On the other hand, in some statements ‘we’ can be considered to refer to the developed countries whereas ‘they’ can be seen to refer to the developing countries. The statement of Belgium claims:

“In 2001, together with a broad coalition of industrialized nations, we also pledged to provide the developing countries with the financial resources they need to steer their economies on a sustainable development path and help them protect themselves against the impacts of climate change.” (Belgium)

Some statements also discuss consumer habits to be changed (see the statement of France above and statement of Croatia below). This makes one to consider whose consumer habits and production methods have caused the problem of climate change in the first place. This also implies that the audience might not be the developing countries. Here, the statement of Croatia:

”The Kyoto Protocol implementation gives opportunity to direct our economies and consumption behaviour towards options for less pollutant as well as to faster (pay/pave) the oath towards sustainable development.” (Croatia)

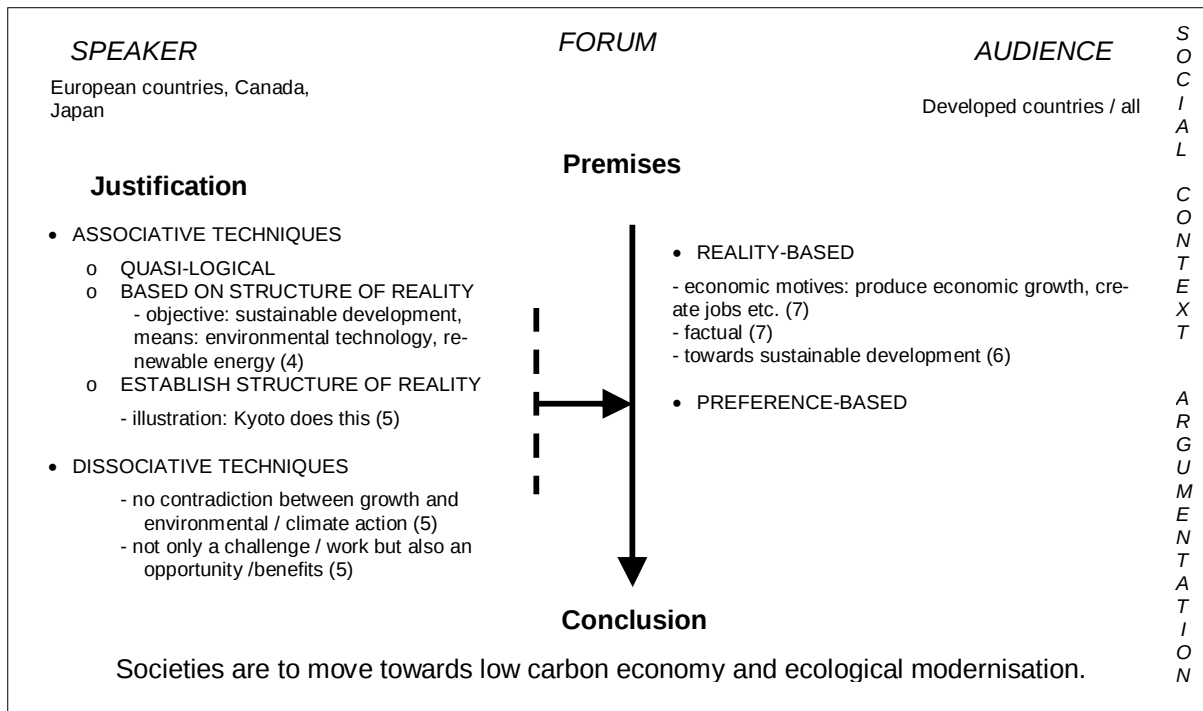


FIGURE 6. Societies to proceed towards low carbon economy and ecological modernisation.

The premises related to reality are in dominating position in supporting this claim. These reality-based premises in most part refer to factual premises (we need to, we have to, unavoidable) as well as to economic motives; that this transformation is economically beneficial, and it produces economic growth and creates jobs. In addition, referring to the premise of sustainable development, where the economic transformation will lead to, is common. Furthermore, the justification to back up this claim is both associative and dissociative. The argumentation based on the structure of reality is in the form of pragmatic argument where the objective of sustainable development is to be reached with means of environmental technology and renewable energy. As the technique that establishes the structure of reality the statements use illustration of Kyoto already doing things; they describe the Kyoto Protocol creating mechanisms that help societies to move towards decarbonised ones. By using dissociative techniques the states reinforce this claim. In fact, the statements imply that there is *no contradiction* between economic growth and addressing climate change or other environmentally friendly action, that climate protection is *not only a challenge but* an opportunity as well, or that ecological modernisation *does not only mean work but* also produces benefits. The statement of Austria illustrates both the ways of justifying and the actual claim:

”Climate protection is not only challenge but also an opportunity. It is the unique global opportunity for accelerating the development and broad application of modern environmental technology. This chance for increasing sustainable development of global level we should not miss. It is time to challenge the myth that environmental action is a burden to the economy. In Austria figures show a direct and posi-

tive correlation between environmental legislation and economic growth. The turnover of the environmental technology sector has grown more than twice as fast as the manufacturing industry since the early 1990's. Furthermore, environmental technologies represent a considerable market potential worldwide." (Austria)

5.2 Distribution of responsibility – who should participate in the future mitigation

The states within this frame have different ideas about the distribution of responsibility, about who should reduce emissions in the future and how.

Broader participation needed; the current mitigation responsibilities of the developed countries not enough

The *exponents of the globe* (mostly European countries plus Canada and Japan) claim that the developed countries (all of them) continue being mainly responsible for mitigation in the future, but that the developing countries also have to take some responsibilities (Figure 7.). In other words, they consider that the developed countries will carry on in the lead of mitigation efforts like before, but at the same time demands are made for the developing countries to participate increasingly. The statement of Portugal represents this claim as follows:

"Portugal believes that time has arrived for the world to engage in open dialog on how to tackle climate change taking into account our common but differentiated responsibilities and respective capabilities. Scientific knowledge leaves no room for doubt that world needs to act. Developed countries will take the lead and further reduce their (aggravating) emissions. In Europe our heads of state and government have steered our societies on such a (path). But the challenge ahead of us is of such magnitude and the action required so widespread that all countries, developed and developing alike, must increasingly take part in combating global climate change. The future clearly looks multifaceted and challenging. It requires innovative and concerted actions by the world community. It requires an inclusive dialog and fair outcomes. Portugal will continue taking its share of the global responsibility." (Portugal)

In these statements climate change is portrayed as a common problem, and thus global emissions have to be reduced with the help of global response. As Austria notes: "climate change is one of the most difficult environmental challenges the world is facing" and this "global challenge needs a global response". In some statements responsibility is divided as it is now according to two-track approach; legally binding commitments under the Kyoto Protocol for the developed countries and commitments under the Convention, which do not contain legally binding emission reductions, for the developing countries. The principle of common but differentiated responsibilities is also highlighted in some statements when speaking about future

commitments but what this principle is considered to stand for in concrete remains vague. What actually is expected from each country and especially from the developing world? Denmark and Iceland, on the other hand, demand engagement from major developing countries with rapid economic growth, that is, from China and India. Here the statement of Denmark:

"Developed countries of course do have a historical responsibility to take the lead in the global emissions reduction efforts. And by implementing the Kyoto Protocol the first step is being taken. I can tell you that Denmark intends to comply fully with our substantial reduction commitments of 21 %. We have already implemented comprehensive policies and measures, and we will continue to do so. But we all need to initiate a fundamental shift towards a low carbon economy. This will require substantial efforts from all parts of society. However, I firmly believe that these efforts will entail long-term economical and environmental benefits to us all. (...) In order to accomplish our common goal we need to recognise that a major share of the world emissions are not covered by the commitments by Annex 1 Parties to the Kyoto Protocol. And this share is likely to increase in the future, not least because of the legitimate economical development in developing countries. We look forward to engage in a discussion with all Parties, including the US and major developing countries such as China and India, with the aim of preparing further credible steps towards reaching the ultimate objective of the Convention. And we need decisions to be taken in good time before 2012, we need to decide on a time table. Current and future globally leading countries – economically and politically – have an obligation to take on responsibility - they also need to show the way." (Denmark)

However, the amount of emission reductions is discussed only by few. Some statements call for emission reductions in percentage at the global level; Germany, for instance, wants to halve global emissions by the middle of this Century. This is also the starting point of Norway: "to limit temperature rise to 2 degrees Celsius, the world has to cut emissions by more than half – in a matter of decades". Some statements from the EU countries (France, Luxembourg, Sweden and UK), on the other hand, insist these emission reduction figures, calculated by the EU (15-30% by 2020 and 60-80% by 2050) from the developed countries. Surprisingly only Denmark calls for participation from the USA (see above the statement of Denmark). At the same time, Switzerland demands all industrialised countries to adopt quantified reduction targets and emerging countries to participate actively.

This kind of argumentation, discussing the commitments of the developed countries and justifying by economic reasons, can be seen to be aimed at USA and Australia (who did not consider ratifying Kyoto at the time) for them to join the Kyoto Protocol and assume their responsibilities with binding commitments – because it is not at variance with economic development. Also the developing countries, especially the emerging ones, can be seen as the audience, for the statements call for broader and increasing participation due to the current emission reductions from the developed countries alone not being enough to halt climate change. In addition, some statements refer to this increasing participation from the part of the

developing countries to be accordant with their sustainable development goals; the developing countries would also benefit from taking more responsibilities (a reality-based premise).

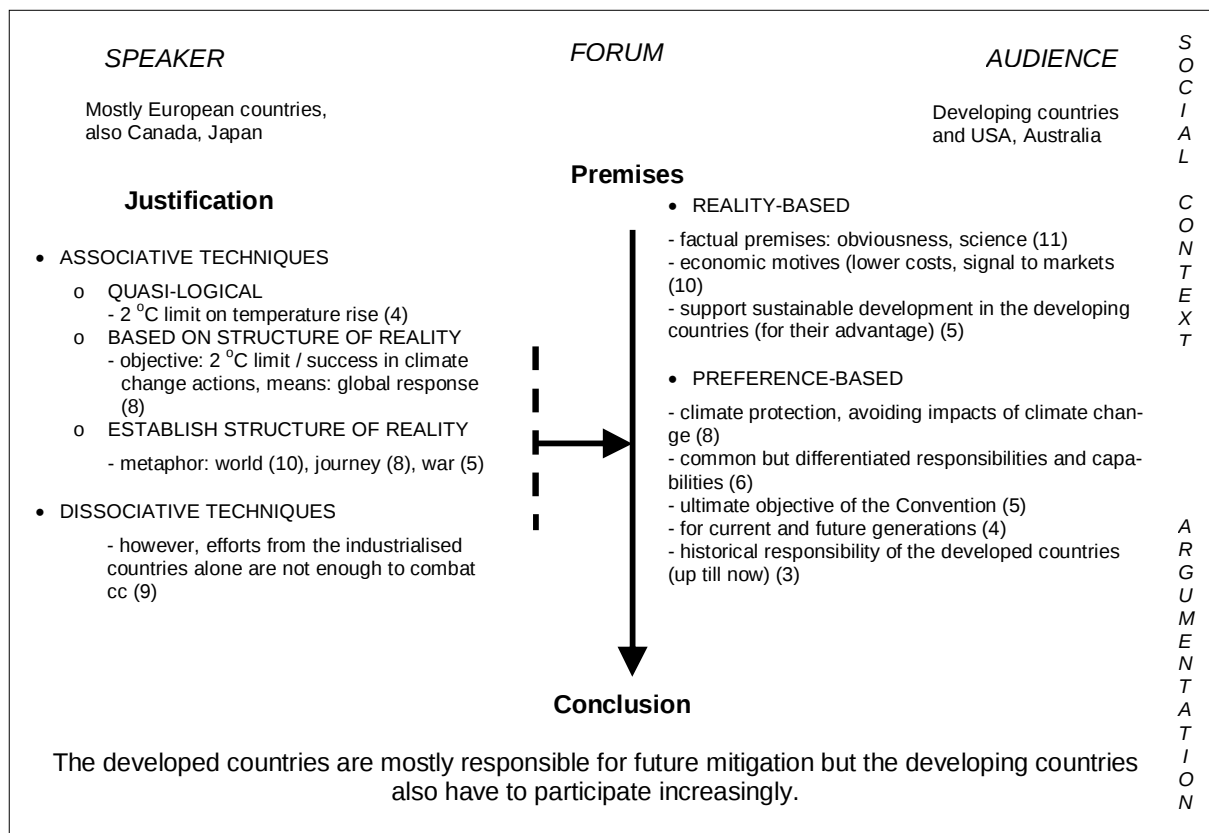


FIGURE 7. Broader participation needed; the mitigation responsibilities of the developed countries not enough.

There are various different ways the statements aim at convincing the audience. The reality-based premises within these statements lean mostly on factual and economic reasons. The factual premises refer to obviousness and scientific results, that things ‘have to’ be done ‘as we all know’ or according to ‘scientific evidence’. The economic motives as premises, mostly directed at USA and Australia, refer to positive signals to markets or to business. For example, Canada states that “the business world must be confident that we won’t fail to do our duty” while Slovenia sees that acting now and each country doing its part is “extremely important for companies that want long-term predictability”. Also other economic motives are used as justification for broader participation – it is profitable to act, active participation means lower costs whereas doing nothing results in higher costs. France, for instance, emphasises that “the cost of action – how seemingly considerable - remains significantly lower than those of doing nothing. Devastating natural disasters, conflicts surrounding energy resources, climate refugees... the bill could rapidly become far too high.” Finland, too, sees that “addressing climate change is often considered costly” but that “not acting is even costlier”. In the same way, Denmark appeals to the audience by stating that “the world can not afford inac-

tion". These statements also use sustainable development as a premise but this is directed towards the developing countries by implying that sustainable development will be enhanced in the developing countries; they will benefit from their participation. The statement of Iceland depicts this the following way:

"Kyoto is a milestone but it only addresses emissions in some countries for a limited period. Coping greenhouse gases is a global challenge that requires broad participation and long-term solutions. In this context Iceland is ready to engage in the process on the basis of article 3.9 of the Kyoto Protocol. We need to attain real reductions invert emissions of greenhouse gases. Developed countries should and must continue to be in the lead. We do also need active engagement of developing countries especially those experiencing rapid economic growth in a partnership based on mutual understanding and sustainable development." (Iceland)

The statements also appeal to premises related to preferable. Many of these refer to protecting climate by avoiding irreversible changes in climatic systems and thus preventing the impacts and catastrophes caused by climate change. These can be considered to represent the locus of quality, something unique or irreplaceable needs to be conserved. The statements also discuss common but differentiated responsibilities and capabilities, which is the principle of the Convention but can also be taken as a value to which the argumentation leans on; measures against climate change are *a common responsibility*. In addition, some statements appeal to the ultimate objective of the Convention, which is to stabilise "*greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.*" (UN/FCCC 1992, 4). By referring to the ultimate objective the statements thus appeal to protecting climate and avoiding the negative consequences of climate change (see above) but also to judicial responsibility congruous with the Convention (although ratification does not oblige to binding commitments). Some statements also argue by referring to current and future generations; Austria wants to "protect the world of our children while Luxembourg sees that a broader climate regime which is "equitable and efficient in both environmental and economic terms" is in the interest of "us all and future generations". Finally, a few statements also point out that the developed countries have historical responsibility due to their emissions and thus refer to causal responsibility. However, this idea is also downgraded by adding the idea that the emissions of other than developed countries are reaching the emissions of the developed countries. For instance, Norway states that "Norway and other industrialised coun-

tries have caused most of the climate change *up to now*” and also Germany sees that “*to date* the main responsibility for climate change lies with the North”.

This claim is justified with several techniques of argumentation, both associative and dissociative. Some of the statements refer to 2 degrees Celsius limit in temperature rise, which the EU and some other countries have taken as a target. They thus lean on a quantified target and apply quasi-logical argumentation. Argumentation based on the structure of reality, on the other hand, is in the form of pragmatic argument and connects the objective with the means where the value of the objective is transferred to the means. The objective of limiting the global mean temperature rise to 2 degrees Celsius, the same target as in quasi-logical argumentation, will be achieved if emission reduction efforts are global. Alternatively, the objective of stopping climate change will be achieved only with broader support. Consequently, the means in these arguments are the participation of all countries in an increasing manner. There are also many metaphors in the statements as the argumentation establishing the structure of reality. The most common metaphors are world, journey and war. The metaphor of *world* illustrates the globe as a one uniform actor, the world has become embodied and all human beings are considered to have the same interests in climate politics or to be at the same line with their emissions. Examples of this are: “the world can not afford inaction” (Denmark), “the world has to cut emissions” (Norway), “the world expects” (France), “global emissions” (Norway), “we must first stabilise and then halve world emissions” (France), “the world is looking” (Canada), or “world action” (Canada). The metaphor of *journey* emphasises the fact that solving the problem of climate change is only at the beginning and much more needs to be done: “the achievements so far mean only a small step towards the fulfilment of the Convention” (Norway), “We have already taken a historic step by making the Kyoto Protocol operational... but much further efforts are needed” (Iceland), “the commitments made by the developed countries up to 2012 represent only a first step” (France), “we all need to join the journey” (Japan), and “in Europe our heads of state and government have steered our societies on such a path” (Portugal). The structural metaphor (see Hellsten 1997, 90) of *war* highlights climate change as a common threat against which all states have to join forces. When climate change is the enemy it is forgotten that it is the states and human beings that produce greenhouse gases and thus create the problem: “we have to convince all parties to join us in our combat against climate change” (Austria), “all countries, developed and developing alike, must increasingly take part in combating global climate change” (Portugal), and “the fight against climate change” (France). In contrast, the dissociative argumentation in the statements starts with ‘however’ or ‘but’ and imply that the mitigation efforts of the developed countries

are not enough to meet the challenge of climate change, major share of the world emissions *are not covered* by the commitments of Annex I parties. For instance, Finland states: “However, reductions by Annex I countries alone will not be sufficient to mitigate climate change and reduce its adverse impacts”. Here is the statement of Slovenia representing this claim and argumentation as a whole:

”Mitigation should continue, otherwise the costs of adaptation will keep on rising. That’s why we welcome the beginning of the discussion (under) article 3.9 of the Kyoto Protocol at this conference. We in EU together with several other countries are determined to commit deeper emission cuts in subsequent commitment periods to limit the growth of mean global temperature of 2 degrees Celsius and thus hopefully avoid major catastrophes that climate change might cause. As you all know, global response will be necessary to achieve this goal. Annex 1 parties are in greatest part responsible for this (unfavourable) situation. And they must and do (take the lead) in mitigation action. However, they alone cannot do the job. In this global endeavour developed countries must assist developing ones to limit their greenhouse gas emissions and at the same time develop in a sustainable manner. One of the key issues along these lines is development, deployment and dissemination of environmentally sound and climate friendly technologies. Mr President, you have rightly stressed the need to find a long-term solution to climate. The longer we take to address it, the more we will have to do and the more difficult it will be to do so. It is extremely important for companies that want long-term predictability which will help them (impending?) decisions for new investment, particularly in energy sector. That is why we have to act now and each country has to do its part.” (Slovenia)

All countries should mitigate as best they can according to their capabilities

The supporters of capability-based approach (European countries, Russia and New Zealand) are also in favour of a broader participation in mitigation efforts and consider that all countries should contribute to the best of their ability; as best they can in compliance with their economic, social and other capabilities and circumstances (Figure 8.). For instance, Germany sees that “We must all act together – each according to their capabilities – and make our contribution within a multilateral post 2012 climate regime”. In the same way Russia considers that: “A flexible system of commitments must be created based on country driven approaches to elaboration of a strategy for the reduction of manmade pressure on the climate system taking into account geopolitical, territorial, climatic and other circumstances, economic and social levels and national development priorities.” In this line of thinking it is the states’ circumstances and resources to mitigate that define the amount of responsibility. Every state should reduce emissions as best they can with their resources. However, the historic responsibility seems to be forgotten in this argumentation. On the other hand, the amount of current greenhouse gas emissions is also considered within some statements to define responsibility and thus it is another precondition of responsibility in addition to capabilities. In other words,

some states see that all major or significant greenhouse gas emitters should join the post-Kyoto agreement. New Zealand, for example, calls for all countries to come along:

“If we are serious about stopping climate change, then we have to recognise that it is a global problem and needs a global solution. There is simply no other way. All countries have to contribute as best they can to a common effort. Without broad and balanced support, and in particular the participation of all major emitters, attempts to tackle climate change will be both inadequate and insufficient.” (New Zealand)

Some states underline that it does not matter whether these major emitters are developed or developing countries, in either way they have to take part in future emission reductions. As in the previous claim, other Annex I parties, especially the USA and Australia, can be considered as one of the audiences this claim is directed at as the claim refers to acting according to countries’ capabilities and amount of emissions. Also the premises, particularly the economic motives, point to these countries. A second audience to the claim can be seen in those states with the status of “developing countries” or “non-Annex I Parties” who would have capabilities to participate in climate change activities but who are not obligated to such measures due to their status in the Convention and the Protocol. For instance, Sachs and Santarius (eds. 2007, 37-38), after distinguishing industrialised countries from all countries first, divide developing countries into five subgroups by their income; high-income developing countries (e.g. Bahamas, Slovenia), upper-middle-income developing countries (e.g. Brazil, Croatia), lower-middle-income developing countries (e.g. China, Russia), low-income developing countries (e.g. India, Tanzania) and others (e.g. Niue, Tuvalu). As the examples in the subgroups show, the current division between Annex I and non-Annex I Parties differs in a considerable way, and if commitments would be distributed by the grouping of Sachs and Santarius, the states with binding emission reductions would be quite different. Historic emissions, however, are not taken into account or compared between the states. In addition, the developing countries who are considerable producers of greenhouse gas emissions in absolute terms can be seen as the audience. Both the claim itself and some premises (support sustainable development of all) indicate them as another audience. The statement of European Community represents this argumentation:

“We should all make a contribution, depending on our respective economic capacities. Developed countries must continue to take on serious commitments in the future and the EU will do its part. However, there must also be a role for developing countries, in line with the principle of common and differentiated responsibilities and respective capabilities. Climate change measures in developing countries should aim at sustainable development.” (European Community)

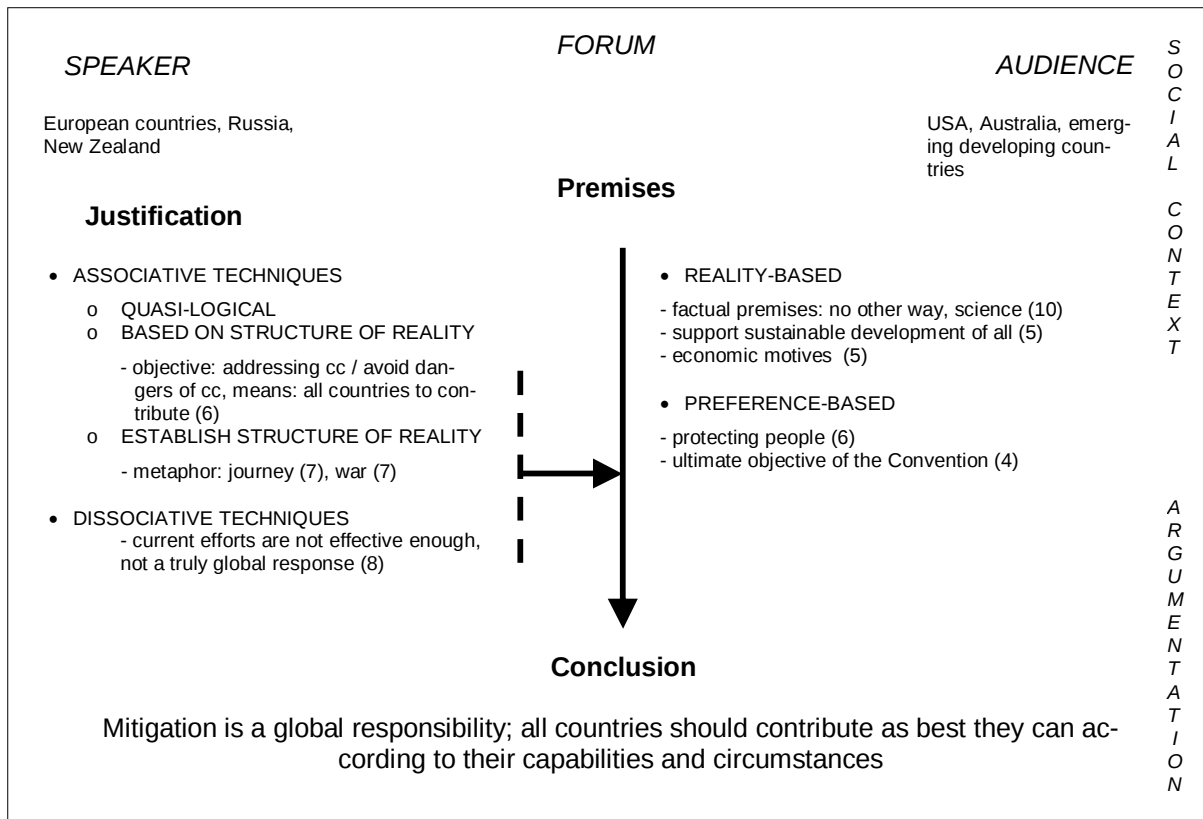


FIGURE 8. All countries to mitigate as best they can according to their capabilities

The states try to convince the audience with several techniques and they apply more reality-based than preference-based premises. To begin with, there are three kinds of reality-based premises in the statements. These include factual premises referring to necessities and imperatives; “there simply is no other way” (New Zealand), “we all have to act” (Belgium) or science, “climate science clearly shows” (Italy). Some states also appeal to the ‘universally accepted truth’ of sustainable development, that sustainable development (of every country) will be advanced, that climate change measures contribute to a “transformation to a sustainable future” (Greece) or ensures “a sustainable future for all” (Belgium). In addition, the statements refer to economic motives to convince the audience; for example, Malta announces that “Kyoto Protocol makes economic sense”, and “there are sound economic reasons for all of us to invest”, while New Zealand pictures a future regime which “will be economically and technically feasible” and “will produce cost-efficient results”. On the other hand, the preference-based premises in the statements refer to protecting people; Belgium, for instance, is worried about “the changing climate’s victims” and wants to “protect our people and their livelihoods” while Germany lists the impacts of climate change that “take away the foundations of life from the poorest in particular”. Furthermore, the protection of people can be interpreted both as a qualitative and a quantitative locus; it can refer to humanity as an irre-

placeable value or human beings as a whole and thus to large quantity. Finally, the ultimate objective of the Convention is appealed to. As in the previous claim, this could refer to both protecting climate and to judicial responsibility accordant with the Convention.

Justification in this argumentation is both associative and dissociative. Argumentation based on the structure of reality is here in the form of pragmatic argument where the objective of avoiding dangers of climate change is achieved with the means of all countries contributing to the efforts, or with the means of all significant greenhouse gas emitting countries participating in mitigation efforts. In addition, two different metaphors are used as the techniques establishing the structure of reality: the metaphor of *journey*; “in ratifying the Kyoto Protocol Ireland fully recognised that it was no more than a first step albeit a very important step in addressing global climate change” (Ireland), “the Protocol is only one step on a long road” (New Zealand), “ways forward” (Malta); and the metaphor of *war*; “the international effort to combat climate change” (Ireland), “win the battle against the dangers of climate change” (Greece). The dissociative argumentation mainly implies that the current emission reductions from the Annex I parties are not sufficient to mitigate climate change and to reduce its adverse impacts; current efforts are not considered as a truly global response or the Protocol is not seen as a truly global agreement. The statement of Ireland illustrates this:

”In conclusion, Mr President, Ireland recognises its responsibility to contribute to the international effort to combat global climate change. We will play our part. But the parties that have ratified the Kyoto Protocol cannot deliver the ultimate objective of the Convention on our own. We need, and indeed here today, we urge the constructive engagement of all significant greenhouse gas emitters, be they developed or developing country parties in a concerted and truly global response to climate change.” (Ireland)

Other perspectives about mitigation

Besides these aforementioned claims, there are also individual claims concerning the distribution of responsibility from *the holdouts* (China, USA and Australia). Even if these claims are individual, the countries in question have a considerable impact on climate change as well as a big, albeit dubious role in climate politics. For this reason the individual claims are discussed here shortly.

To begin with, China demands states to honour the basic principles of the UNFCCC, especially that of common but differentiated responsibilities. According to China this should be the very basis of actions and thus it is appealing to judicial responsibility. Moreover, China sees that this principle is reflected well in the Kyoto Protocol, which is no wonder, because Kyoto does not commit China to any binding emission reductions. Hence, China supports and

associates itself to the developing countries in this matter: it is the developed countries who should take the main responsibility with binding targets. China also calls for the developed countries to honour their commitments in financial and technical assistance to the developing countries. Here the statement of China illustrating this argumentation:

”Firstly we must emphasise on the guiding role played by the Convention or the basic principles enshrined in the Framework Convention, especially that of common but differentiated responsibilities must be the very basis of all our actions to respond to climate change. The Kyoto Protocol is the best example in reflecting this basic understanding. -- Fifthly, the focus of our work must be on concrete results. Now we already have the convention, the Kyoto Protocol along with many decisions and plans of actions but what matters most is the implementation. We would like to call upon developed countries to honour their commitment and provide developing countries with a funding and technology needed in responding to climate change.” (China)

In contrast, the statements of USA and Australia do not consider responsibilities under the Kyoto Protocol. Australia calls for a framework that enables effective action from all major emitting countries and speaks of partnerships, for instance, the Asia-Pacific Partnership for Clean Development as complementing the work of the UNFCCC. However, Australia sees that “there is no substitute for an effective, comprehensive and inclusive agreement”. Australia states:

”There’s clearly amongst the nations represented here today a wide diversity of views as to how to go forward on mitigation. And in light of this diversity we support your draft Mr President and a current proposal to initiate discussions on a long-term cooperation to address climate change. We regard that your paper, Action on Climate Change: Consideration for an Effective International Approach is very useful. It observes that a number of countries will not participate in any future agreement if the only option is a template based on the short-term, national targets and timetables approach which is enshrined within the Kyoto Protocol. We share this view. If you think about the fact that only twenty-five countries account for approximately 80 per cent of global greenhouse gas emissions, the reality is that we can only make a meaningful global greenhouse gas reductions if effective action is taken by all of the major emitting countries. And we urge the COP parties to work towards that end.” (Australia)

USA, on the other hand, relies on voluntary action by partnerships between all countries: “Our international efforts reflect the consensus that an effective response to climate change must include all countries”. According to USA their partners already “represent nearly half of the world’s economy and population” and are effective in terms of climate change. Both Australia and USA also emphasise that all countries must be included for an effective response to climate change. The audience, then, covers all those countries that support the Kyoto Protocol. Here the statement of USA illustrating this:

”And partnerships focusing on diversified approaches are the best way forward. We value our fifteen bilateral partnerships with both developed and developing countries. We also value the multilateral initiatives we have launched: the Generation IV Nuclear Initiative; the Global Earth Observation Initiative;

the Carbon Sequestration Leadership Forum; the International Partnership for the Hydrogen Economy; and the Clean Energy Initiative. These partnerships are making a difference. To give a few examples, we are cooperating with India to capture carbon dioxide; collaborating with Uganda to clean indoor air; exploring hydrogen technologies with Brazil; developing next-generation nuclear energy with the United Kingdom; exploring renewables with China; and teaming up with Mexico to capture methane. We look forward to the January launch of a new Asia-Pacific partnership on clean development and climate change. Our partners Australia, China, India, Japan, and the Republic of Korea represent nearly half of the world's economy and population. We believe these partnerships represent a constructive and effective means of working together. And we are pleased that they contribute to our efforts under the goals of the Framework Convention." (USA)

5.3 Summary

Within this frame the states consider climate change as a problem of greenhouse gas emissions. In addition, it is at the same time seen as a treatable and manageable problem. Climate change is mostly discussed from a global perspective; climate change is seen as a shared, global problem which has global impacts. Typical of this frame is also the role of technology in dealing with the problem; new environmentally friendlier technologies are considered as the solution to emission reductions. Some statements also discuss a more profound change as a solution – disconnecting emissions from economic growth in general, which is achieved by developing societies further towards a path similar to ecological modernisation; economic growth without environmental harms with the help of technology. Market mechanisms and the flexible mechanisms of the Kyoto Protocol are considered to deliver these changes. Also economic discourse plays an important role in the statements. The premises in the claims concerning responsibility refer largely to economic motives, for instance, lower costs, creating jobs, producing economic growth, etc. Economic reasoning in climate change activities is general; not acting against climate change is considered to be more expensive than acting, climate change measures or environmental friendlier activities are seen as compatible with economic growth, or they are even assumed to generate economic growth.

The argumentation concerning responsibility within this frame is future oriented. There is, however, disagreement in two issues: 1) what is the relation of economy and climate change measures, and 2) how to share the burden of mitigation. In the first question there are two alliances that both highlight economic aspects and speak in favour of economic development, but dissent in whether climate change is compatible with the objective of economic growth. On the one hand, the promoters of complementary goals, who at the same time are the holdouts in mitigation commitments, claim that climate change activities should enhance their economic development. By saying this they reserve the option to withdraw from any ne-

negotiations that deals with measures they see as harmful or neutral to their economy. The Protocol, for instance, is an example of this kind of measure to two of these countries. On the other hand, the advocates of low carbon society and ecological modernisation, who in terms of mitigation divide into two groups; the exponents of the globe and the supporters of capability-based approach, see that climate change measures and economic aspects are compatible with each other, and that economy may actually benefit from reacting to climate change. These countries, by claiming that societies should move towards low carbon economy and ecological modernisation, try to persuade and nullify the argumentation of those not willing to participate in climate activities on the grounds of economic reasons. As a consequence, the values, the moral responsibility within this frame refer to development, especially to the economic development of societies. Either countries' economic development cannot be endangered due to climate policies or economic development and addressing climate change are realised together. In the second question about the burden-sharing of future mitigation there are three distinctive groups. The exponents of the globe claim that the developed countries are mostly responsible for mitigation but the developing countries also need to participate increasingly. The supporters of capability-based approach see also, that mitigation is a global responsibility but that countries should contribute as best they can accordant with their capabilities and amount of current emissions. In consequence, most of the statements refer to global or at least more global mitigation than currently. While the developed countries have the main responsibility, the developing countries, especially the emerging ones with more capabilities and bigger emissions also need to participate increasingly. The holdouts, on the other hand, have their own distinctive opinions about how to mitigate. China demands the developed countries to honour commitments and sees that common but differentiated responsibilities should be the very basis of actions. In contrast, USA and Australia do not consider responsibilities under the Kyoto Protocol at all. However, Australia calls for a framework that enables effective action from all major emitting countries while USA relies on voluntary action by partnerships between all countries.

The premises and techniques of argumentation, as said earlier, function as framing tools. Typical of this frame are the reality-based premises underlying the claims. The most common of these premises refer to factual issues (obviousness, scientific results, etc.) and to economic motives (lower costs, signal to markets, etc.). One characteristic is also justifying claims with metaphors such as journey (Kyoto first step, path to further reductions, move forward, etc.), war (battle against climate change, combating climate change, etc.) and world (world needs, world expects, world action, etc.). In addition, dissociative techniques are used

to indicate that the current efforts from the developed countries alone are not enough to address climate change, or that there is no conflict between growth and environmental protection or that climate change is both a challenge and an opportunity.

But is climate change really global? It seems that describing climate change as a global problem conceals the hugely different impacts climate change actually has on countries depending on their location as well as on their capacities to foresee and to react to the impacts. The problem is not the same for every country; on the contrary, while some countries are faced with drought and famine or even loss of their soil due to sea-level rise, some countries may even gain from mild temperature increase. Similarly, comparing the impacts of hurricanes in the Caribbean to the storms in North Europe, for instance, seems somewhat grotesque. In addition, the global perspective makes one to forget how the problem started and who caused it; each country has not contributed to climate change with the same amount of greenhouse gas emissions. The role of historical emissions within the statements is minor and the states do not make a distinction between per capita and absolute emissions. In addition, only a few statements demand emission reductions from USA and Australia. The global perspective thus sidesteps these intra-generational questions of justice and responsibility within the politics climate change. Furthermore, only some countries consider a specific time-frame or limit in which climate change should be addressed. In fact, it is only the EU countries that discuss a 2 degrees Celsius limit to warming but do not, however, address the supposed impacts of this on different regions and the environment. Furthermore, the other environmental justice issues are strikingly absent from these statements, especially consideration of the impacts of climate change on future generations and on non-human nature.

Noteworthy within this frame is also the considerable role of economic justifications and the ideology of economic growth in the argumentation. Stopping climate change should be either in line with economic development or it will support economic development; they are possible to attain at the same time. No one questions whether economic growth really is necessary and whether it should outrun all other values within societies. Furthermore, it is not considered whether climate change, in fact, is caused by the current model of neoclassical economy and the pursuit of economic growth. In addition, one can question if economic growth is an objective or a purpose itself or is it a means to some other objectives such as welfare or happiness? As a result, the question is why economic justifications are used, why do they have such power and importance in (western) societies? Why measures against climate change cannot be justified with other values that relate to the environment or human beings? Is economic development really a more weighty reason than the survival of human be-

ings or species not being extinct? Do people want to live in societies where economic aspects outweigh all other aspects? Even if some statements discuss low carbon societies, the idea of economic growth persists. There is no real 'revolution' compared to the past, there is only the idea of ecological modernisation that continues the triumphal march of economy by greening the production. Climate change is thus seen as a problem that the existing politics and structures are able to manage, and not as a symptom of something bigger which would need structural, value and life-style changes.

6 CLIMATE CHANGE AS A PROBLEM OF VULNERABILITY

Climate change is also discussed from another perspective in the statements presented at the Montreal Climate Conference: in the statements of most of the developing countries climate change is framed as a problem of vulnerability from the point of view of responsibility. Whereas the global aspects of climate change were highlighted in the first frame, this frame does the opposite by discussing climate change from a *local perspective*. Thus the statements emphasise environmental, social and economic impacts to their countries or to developing countries in general by describing local climatic hazards amply and by underlining the impacts of climate change on the livelihoods, agriculture, water resources, infrastructure, people, economy, etc. of the developing countries. This aspect is described by the statements of Panama and Malawi as follows:

"In recent years our region has been most exposed to the adverse effects of climate change. In the year 2005 alone the region has been the victim of a very long intensive season of hurricanes which has broken all records. The number of hurricanes surpassed the previous records and for the first time we had to use the Greek alphabet to give them names. The tropical storm (Stan?) which affected El Salvador had a very high impact on human settlement. 71 people were killed and there were more than (17/70 000) who were otherwise effected. Losses amounted to some 230 million dollars. The same storm caused 670 deaths and affected around half a million other persons and destroyed 25 800 homes in Guatemala. The tropical storm (Gamma) which (struck) Honduras left 35 dead, 13 people disappeared and more than 36 000 otherwise affected apart from losses in terms of millions of dollars in agriculture and vital infrastructure. In Nicaragua the same hurricane season killed 3, affected 22 850 people in other ways and caused some 30 million dollars in economic losses. There were also major floods in Costa Rica and Panama. The greatest impact was felt in the social sector in terms of housing with a collapse in the system of provision of electricity (that were) great effects in farming, fishing and water resources, losses of production and infrastructure. These (of all) show the international community how vulnerable the Central American region is to climate change and the urgent need to act immediately. Taking urgent adaptation measures to reduce the impact of this global phenomenon with the view to preventing human, economic and social losses and protecting investment to promote the process of development in countries which are affected by climate threats, frequent as they are." (Panama)

"Mr President, Malawi has experienced a number of adverse climatic hazards over the last two decades. The most serious once have been (dry spirouse?), seasonal droughts, intense rainfall, river line floods and (flush) floods. These droughts and floods have gradually increased in both frequency and magnitude and they have adversely impacted on food and water security, water quality, energy and the sustainable livelihoods of rural communities. Mr President, Malawi (relies) on (rainfed) agriculture and the current droughts have resulted in poor crop (produce) or total crop failure leading to (seeds/CDS food??) shortages, hunger and malnutrition. As I speak now, 5 million Malawians, which is nearly half of the entire population of the country, face (sitasation?) and require urgent food aid to sustain them until the next harvest season which begins from April 2006. " (Malawi)

Focusing on the social and economic development endeavours and challenges is also common within this frame. Climate change is described as a *threat to the social and economic development efforts of the developing countries* because of their low capacities required to anticipate, react or adapt to the impacts. Furthermore, climate change is considered to reduce even more their scarce resources. Climate change is, for example, feared to hinder poverty eradication and solving other major problems the developing world is facing. Attaining the Millennium Development Goals is also regarded as difficult due to the additional burden of climate change. The framing tools also highlight these aspects: the premises in the claims concerning responsibility deal with the development of the developing countries by referring, for instance, to the Millennium Development Goals, sustainable development and poverty eradication. In addition, the premises include issues such as vulnerability, low adaptive capacities, specific circumstances and the adaptation needs of the developing countries. The statements of Kenya and Madagascar illustrate this:

"It is well known that Africa's contribution to the global greenhouse gas emissions remains relatively low. Nevertheless Africa is the continent most vulnerable to the ecological, economic and social impacts of climate change because of factors such as poverty, recurrent droughts, floods and (over) dependence on (rainfed) agriculture. There is a consensus that climate change threatens to erode Africa's development gains.(...) Many of the most severe impacts of climate change fall and will continue to fall on the poorest countries and communities a majority of which are in the continent of Africa. We Mr President have the least adaptive capacity, the least (beginning?) power and the least likelihood of having our interests adequately reflected in the international negotiations on climate change." (Kenya)

"Mr President, Madagascar like other LDCs has been devastated by the negative effects of climate change. Indeed drought which affects the whole country and cyclones which have become more frequent and intense, floods – all of these are manifestations of climate change, the impact of which is heavy for the economic and social life of my country. My country is thus very vulnerable to climate change. (...) As in other LDCs the life of our population is very much threatened by climate and the efforts we have undertaken to try and overcome poverty may not succeed if there's no improvement in current trends of climate change and the way we are combating such change." (Madagascar)

Another characteristic feature of this frame is that *financial and technological resources* are considered as the means to solve the problem, to strengthen the capabilities of the developing countries and thus reduce their vulnerability. Consequently, financial aid, funding, technology development and transfer to developing countries are the ways to solve the problem of vulnerability. The statements thus point to the direction of the developed countries; they call for assistance from the developed countries or the developed countries to fulfil their promises of financial and technological resources. The framing tools also refer to this: the dissociative techniques imply that the developed or the Annex I countries are not really providing the developing countries the financing or clean technologies they have committed themselves to, or

that there is no concrete action with real transfer of relevant technologies or financing in reality. For example, Paraguay and Ivory Coast state:

"As a country that is extremely vulnerable to the effects of climate change Paraguay agrees that the principle of common but differentiated responsibilities must be employed as an (objective) criteria and this will make a positive contribution to the efforts that are being made to mitigate the global impact of climate change. In this regard we are of the view that it is essential that developing countries receive transfers of financial and technology resources to adapt to climate change." (Paraguay)

"Mr President, climate change has had a profound impact on the development prospects of poor countries and it will continue to do so. Implementation by our countries of the provisions in these instruments requires a holistic approach which takes account of the Millennium Development Goals and poverty reduction policies. We wish to take this opportunity to launch a solemn appeal to the countries of the North for them to show political will in honouring their commitments and funding the different financial mechanisms set up by the Bonn and Marrakech agreements. Support for adaptation activities and transfer of technology to developing countries are essential if we are to meet Kyoto's objectives. Exchanges of experience between states parties and more visible involvement of the private sector through participation in funding for activities to reduce emissions could help to strengthen efforts made by the developing countries to reverse the alarming forecasts set out in the IPCC report. As you will see Mr President, our expectations of the results of this Montreal conference are great and we are convinced that with the spirit of solidarity and generosity, which the host country has shown, political will will be demonstrated and resources will be made available to attain the Kyoto objectives." (Ivory Coast)

Regardless of this, many states within this frame describe themselves as active in climate change measures. The importance and the indispensability of adaptation to climate change are also emphasised. Thus some traces of adaptation discourse (see Tirkkonen 2000), which concentrates on the need to face climate change impacts, can be seen within this frame.

As within the first frame, also this frame includes different ideas about how the responsibility of mitigation should be divided among states. However, generally speaking the states within this frame – due to their vulnerability – hand the main responsibility of emission reduction measures over to the developed countries (see statement of Kuwait below). The dissociative techniques, which operate as framing tools, confirm this by implying that the developed countries are not really meeting their emission reduction commitments, that there are no concrete reductions. In addition to mitigation, responsibility also refers to the duty of developed countries to provide technological and financial assistance.

"Mr President, my delegation would like to emphasise the importance of the principle of common but differentiated responsibilities and respective capabilities in (-) to implement the commitments in the Kyoto Protocol. We therefore invite all developed countries to continue the leadership in implementing their commitments for future generations and mankind and we are looking forward for (a) more and serious commitments by these countries beyond 2012 taking into account the right of developing countries to pursue their social and economic development." (Kuwait)

6.1 Content of responsibility: the development of developing countries

Technological and financial assistance to the developing countries

The *applicants for resources* (the G-77 countries including states that are also members of AOSIS, OPEC or LDC) call for both technological and financial resources for the developing countries in order for them to develop and reduce their vulnerability as well as to take part in measures against climate change. This claim can be summarised as “environmentally friendly technologies and financial resources should be made available for the developing countries” (Figure 9.). Furthermore, the argumentation unites two similar kinds of demands; the development and transfer of technology to the developing countries and the need of developing countries to get financial resources or available funds. However, some statements address both financing and technologies, whereas some of them only one of these. Here are the statements of Kuwait and Paraguay representing this demand:

”Mr President, technology has been recognised as the cornerstone in enhancing national capability. It has also been recognised as the key factor in climate change relevant problems. But movement in this direction needs more efforts on the part of international community and therefore the government of the state of Kuwait calls upon developed countries to take concrete actions to fulfil their commitments regarding transfer of technology.” (Kuwait)

”As a country that is extremely vulnerable to the effects of climate change Paraguay agrees that the principle of common but differentiated responsibilities must be employed as an (objective) criteria and this will make a positive contribution to the efforts that are being made to mitigate the global impact of climate change. In this regard we are of the view that it is essential that developing countries receive transfers of financial and technology resources to adapt to climate change.” (Paraguay)

The claim itself does not directly state the content of responsibility but refers to it. The content of responsibility in this claim can be seen as capacity building and development of the developing countries. As Lesotho states; “The linkage of climate change to poverty reduction, food security and the overall Millennium Development Goals highlights its significance to development”. The claim itself discusses one means to address the problem of climate change. It also addresses distributive aspects of responsibility – who should give something and to whom. The audience is thus the developed countries who are considered to be responsible for the development and transfer of environmentally friendly technologies as well as to be the ones who have to give financial resources. In addition, the whole international community can be regarded as the universal audience.

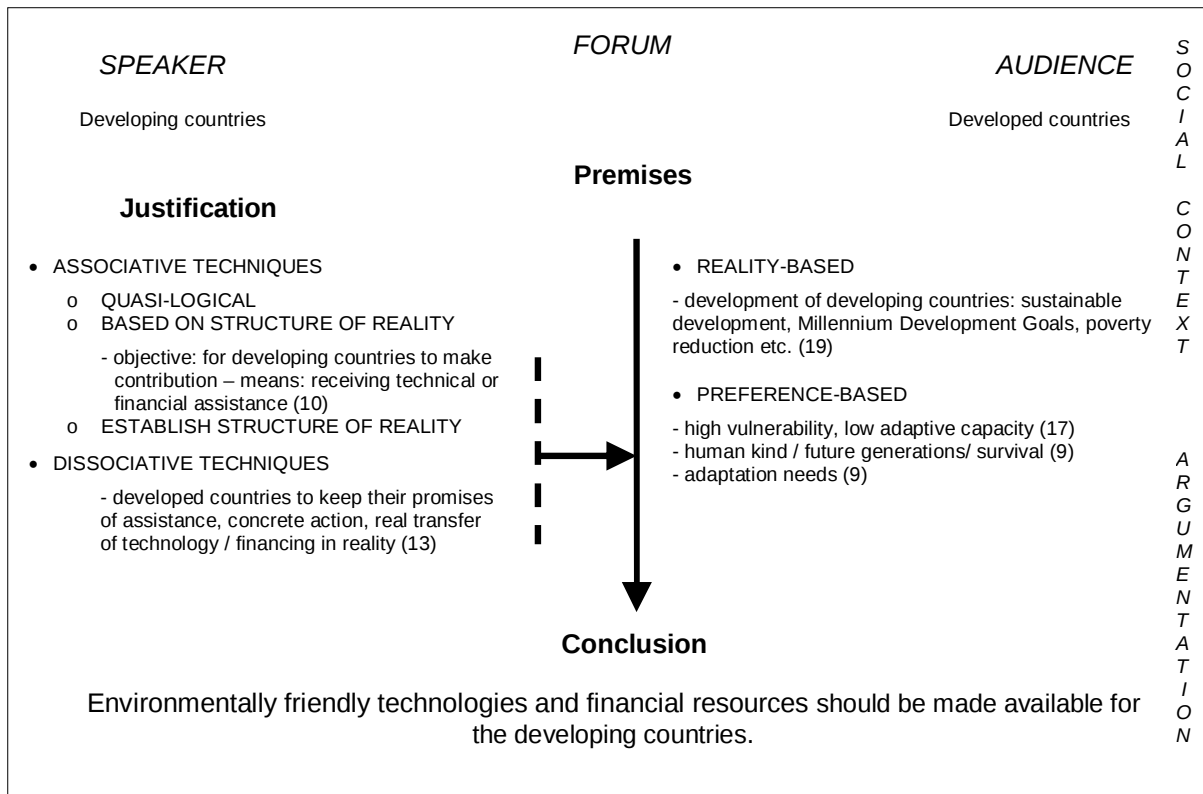


FIGURE 9. Technological and financial assistance to the developing countries.

The argumentation leans more on the preference-based than the reality-based premises. A commonly used premise related to reality in these statements is the universally accepted ‘truth’ of development of the developing countries. This encompasses various questions related to development in general, to sustainable development, to environmentally friendlier development, to achieving the Millennium Development Goals as well as to poverty reduction. For instance, Jamaica sees that “an efficient mechanism for the transfer of environmentally sound technologies (-) are critical at this time if developing countries are to move along a path that is sustainable and to help these Millennium Development Goals become more achievable” while Namibia discusses that “sustainable development and climate change will be enhanced if the developed countries take urgent action to demonstrate significant improvement in the level of financial resources allocated”. Furthermore, the premises related to preferable refer mostly to the high vulnerability of the developing countries to climate change as well as to their low adaptive capacity. Malawi, for example, reminds that “With 65% of the population living below the poverty line Malawi’s vulnerable communities do not have sufficient capacity to cope with or adapt to these adverse impacts of weather events”. Human kind, future generations and survival are also referred to as premises. Senegal, for instance, appeals to states in order “to protect present and future generations from these enormous natural disas-

ters” and Lesotho emphasises that “All developing nations are in urgent need to have a helping hand to survive the challenges of climate change”. These can be seen, then, as referring both to a qualitative (human kind is unique and irreplaceable) and a quantitative locus (human kind referring to every human being). In addition, the adaptation needs of the developing countries are considered as premises; Trinidad and Tobago wants to “facilitate the adaptive capacity of vulnerable states particularly small island developing and low line coastal states to cope with the adverse impacts of climate change” .

Both associative and dissociative techniques are used as justification of the claims. The both claims contain pragmatic arguments where technical or financial support are considered as the means to achieve the objective of the developing countries to be also able to participate in emission reductions or otherwise contribute to the efforts in climate politics. For instance, Togo sees that “capacity building, technology transfer and improvement of financing mechanisms are absolutely necessary tools which should allow the LDCs to make their contribution”. The argumentation leans considerably on dissociative techniques implying that technological or financial assistance is not taking place, that the developing countries want to see *concrete action and real transfer* of relevant and clean technologies, that the developed countries should *keep their promises* of financial resources or that the developing countries need *financing in reality*. For example, Libya argues that “many of the agreements and commitments have not been complied with by Annex I countries with regard to funding, transfer of technology and capacity building” while Bolivia calls for “genuine transfer of technology”. Also the statement of Benin represents this:

”Mr President, what we have observed in Benin in terms of market response boils down to transfer of irrelevant technologies with a predominance of consumer waste ever more polluting such as the trade in used cars which finish up in our countries and thus contribute to more emissions of greenhouse gases whereas the resources planned for their recycling in fact become unclaimed resources or represent savings for the countries which produce these vehicles. We Mr President would like to believe that the Marrakech agreements which have been adopted in the course of this COP/MOP will encourage our Annex 1 partners to undertake a real transfer of clean technologies so that our countries can stop being the dumping grounds for obsolete technologies.” (Benin)

The development prospects of OPEC-countries suffer from selective climate policies

The *supporters of divergent mitigation policies* (some OPEC-countries) address the worsening development prospects of oil exporting developing countries. These states see that the current selective mitigation policies of Annex I countries lead to decreasing fossil fuel consumption at the global level which again inflicts reduction in fossil fuel production to which the

economy of these countries is based on. Therefore they argue that using fossil fuels should be continued with the help of carbon capture and storage or that the economic sources of these countries should be diversified with the help of the developed countries (Figure 10.). Like in the previous line of argumentation, this claim does not either highlight the content of responsibility directly but refers to the development prospects, especially the economic development, of the oil exporting developing countries. The argumentation also addresses how to distribute responsibility: it is the developed countries who are to diversify their mitigation policies or help these oil exporting countries so that their economies will not suffer and their development is not endangered. In consequence, the audience of this claim is the developed countries who are represented as being responsible for the negative impacts of their climate change policies on oil exporting countries.

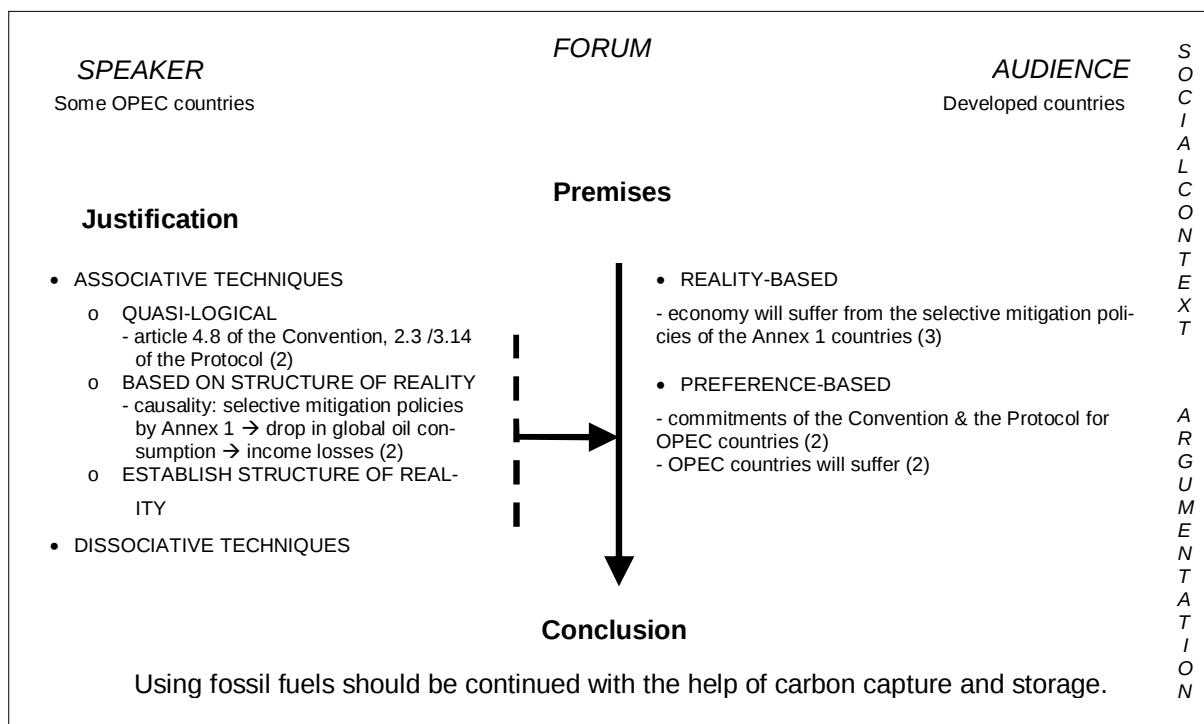


FIGURE 10. The development prospects of OPEC-countries suffer from selective climate policies.

There are both reality- and preference-based premises supporting this claim. The reality-based premise refers to economic aspects, more precisely to negative impacts of the response measures of Annex I countries on the economies of fossil fuel producing countries. If the use of fossil fuels is reduced, then the economies of the OPEC countries will suffer and they will have economic losses. The statement of Libya represents this as follows:

"Our country is one of those developing countries which is suffering from the effects of climate change including droughts and desertification. It is exposed to the adverse effects of measures (under?)taken by industrialised countries because our country's economy depends to great extent on income from the production and consumption of fossil fuels. We therefore want to see implementation of all the provisions of the Convention and the Protocol which relate to the commitments of the industrialised countries towards developing countries including article 4 paragraph 8 of the Convention and article 2 paragraph 3 of the Protocol. Also in this connection we note the fact that our country needs to develop its economy and we note the important role which (could?) play by carbon capture and storage in reducing greenhouse gas emissions." (Libya)

Furthermore, the argumentation leans on two preference-based premises. First, the states appeal to the commitments of the Convention and the Kyoto Protocol and thereby refer to responsibility compatible with legislation, to judicial responsibility. Secondly, in their argumentation they also apply a negative value of suffering; they imply that if the use of fossil fuels is decreased or even stopped, then the OPEC countries will suffer. This can be seen as the locus of human worth (see Kuusisto 1996) or as the locus of quality; the exceptional (the situation of OPEC countries) should be valued over the general (other countries, Annex I countries).

The conclusion is justified with associative techniques. The quasi-logical argumentation refers to different articles of the Convention and the Protocol that discuss the developed countries implementing their commitments in a way that minimises the adverse social, environmental and economic impacts on developing countries (Protocol 2.3 and 3.14) and taking into account the specific needs of the developing countries arising from the adverse impacts of both climate change and the implementation of response measures (Convention 4.8). These articles again refer to judicial responsibility. The argumentation based on the structure of reality, on the other hand, connects the selective mitigation policies of the Annex I parties with them leading to decreased global oil consumption and income losses thus representing a causal relation between the harmful measures of Annex I parties and weakening economic situation of OPEC countries. The statement of Saudi Arabia illustrates this argumentation:

"Also Saudi Arabia became a member of the carbon sequestration leadership forum with the view to finding ways to enabling all nations of the world to continue to use fossil fuels including oil and gas while helping to reduce CO₂ emissions and indeed this should be our focus in the future. Mr President, certain countries in Annex 1 need to implement their commitments under the Convention and under the Protocol, including the commitments to developing countries and in particular the countries that are highly dependent on petroleum export revenues because this income will be adversely impacted by the selective policies undertaken by Annex 1 parties in implementing their commitments to reduce greenhouse gas emissions. It will not be possible for petroleum exporting countries to bear the burden of the Convention and Protocol resulting from the projected drop in the global consumption of oil as a result of their implementation of measures to reduce GHGs." (Saudi Arabia)

6.2 Distribution of responsibility: promises of resources and mitigation

Within this frame the states consider responsibilities in terms of past and future commitments. Regarding mitigation, there are different views about how and on what basis responsibility should be distributed.

Developed countries have not assumed their responsibilities

The *claimants of responsibility* (some G-77 countries, some of them also members of LDC, OPEC or AOSIS) discuss the past and current responsibilities of the developed countries. They claim that the developed countries have not kept their promises or commitments to give technological or financial resources to the developing countries (see the argumentation about technological and financial assistance to the developing countries). They also argue that the developed countries, despite having committed themselves to greenhouse gas emission reductions, in fact, have not reduced emissions in reality (see the argumentation about distribution of responsibility). The statement of Mauritius illustrates this idea of concrete action briefly:

“We appeal to our partners to translate into concrete action the good intentions they usually portray especially in the field of technology transfer, capacity building, adaptation.” (Mauritius)

These statements, while arguing that the past and current responsibilities are not met, also serve as justification to other claims through dissociative technique by supporting the claim concerning financial and technological resources to be given to the developing countries as well as the claims concerning the distribution of responsibility in mitigation, that is, who should reduce emissions and why. If the developed countries are not meeting their mitigation responsibilities, then emission reductions cannot be demanded from other countries either. This can be illustrated with the statement of Saudi Arabia where the lack of emission reductions and provision of resources on the part of the developed countries are discussed:

“Therefore any attempt to include developing countries in future commitments is unacceptable, particularly since this will change the principles, rights and obligations set out in the Convention and the Protocol, particularly in the case of Annex 1 parties taking the lead in addressing climate change, something they have not demonstrated well so far whether in reducing their emissions or their commitments to transfer technology and provide financial assistance to developing countries.” (Saudi Arabia)

More efforts from all but binding commitments only to Annex I countries

The *opponents of binding emission reductions* (a group of G-77 countries, a number of which are also LDSs and some of them members of OPEC or AOSIS) discuss the distribution of responsibility with regard to future mitigation. They argue that although more efforts are needed from all countries or that all countries should be involved somehow in stopping climate change, binding commitments are acceptable only for the Annex I countries (Figure 11.). Some of these countries refer to this by emphasising the article 3.9 of the Protocol. This Article considers future commitments of Annex I countries and states that the discussion about future reductions should be started seven years before the end of the first Kyoto commitment period – in 2005 and thus at the time of the Montreal Conference. According to these opponents of binding emission reductions, the commitments of the developing countries should not be considered under the Protocol (which although could be done under the Article 9 which considers the review of the whole Protocol) because this could mean binding responsibilities also to developing countries. Accordingly, the position of these developing countries is that there should not be any binding commitments for them. The main and binding legal responsibility is thus given to the developed countries. It is the industrialised countries who have to “take the leading steps” (Indonesia) and to “agree to deeper cuts in the emissions” (Gambia) after the first Kyoto period. The statements of Jamaica illustrate this:

”We must urge that article 3.9 of the Kyoto protocol is very critical and as such (-) need to initiate a process in this session. One that will establish an open-ended working group that will further the commitments of Annex 1 parties. We also recognise a need for (concerted) global efforts to address climate change but these should not be linked to the implementation of article 3.9 of the Protocol. Adopting the decision for the implementation of the article 3.9 of the Protocol is a clear signal of the further commitments of Annex 1 parties.” (Jamaica)

Within this argumentation some states also demand *all Annex I countries* to join the Kyoto Protocol thus pointing to USA and Australia. In addition, some call for real emission reductions “on the part of largest emitters” (Pakistan) or those countries “that have not yet ratified the Protocol to do so” (Dominican Republic). The audience of this claim can be regarded to be the developed countries with some particular reference to USA and Australia. For instance, South Africa states this as follows:

”Hence, we support two tracks of multilateral action to operationalise this Kyoto plus –regime. Firstly, we need to (boast?) the Kyoto and thereby secure the future of the international carbon market of the 2012. This should be achieved through deeper emission reductions for all and I want to emphasise all Annex 1 parties under article 3.9 of the Protocol. In this regard, we note with regret that there has been slow progress in the article 3.9 negotiations.” (South Africa)

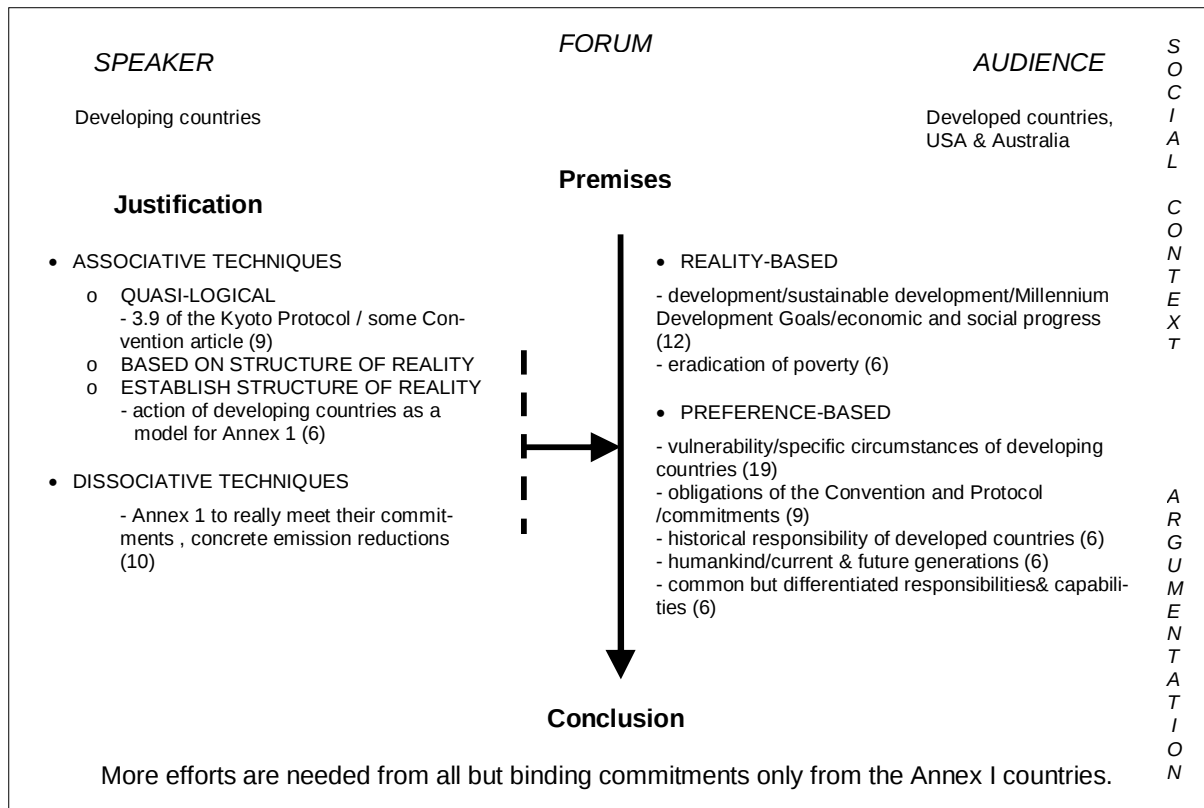


FIGURE 11. More efforts from all but binding commitments only to Annex I countries.

The premises related to preferable are in dominating position in this argumentation. Most of these premises concern with the vulnerability, low capacities or specific circumstances of the developing countries. In fact, the statements emphasise that the developing countries are most vulnerable and have “lesser capacity to react” (Bolivia), or that climate change even affects “the survival of many small island states” (Maldives). Referring to judicial responsibility by invoking to the obligations and commitments of the Convention and the Protocol is also common in order to convince the audience. In addition, some states highlight the historical responsibilities of the developed countries due to their historically larger emissions. For instance, the Philippines reminds that “let’s not forget that we are dealing with historical emissions here”, whereas Nepal describes this causal responsibility by stating that “people living in one part of the world are (compelled) to pay the cost of such environmental degradation resulted by the activities of the other part of the world”. In addition, some statements appeal to the humankind as well as to the current and future generations. Again, this can be interpreted both as a qualitative and a quantitative locus; it can refer to humanity as an irreplaceable value or human beings and future generations as a whole and thus to a large quantity. Finally, the statements also discuss the Convention’s principle of common but differentiated responsibilities and capabilities which can be taken as a value to which the argumentation

leans on; yes, the measures against climate change are a common responsibility but these responsibilities are also *differentiated*. Most of the reality-based premises within this argumentation refer to the development of the developing countries by addressing their right to development or their right to economic and social progress in order to achieve sustainable development and the Millennium Development Goals. The claim is also supported by appealing to the alleviation or eradication of poverty as well as overcoming poverty. Here the statements of Kenya and the Philippines representing some of these premises:

"The challenge facing Africa in this respect is considerable. It is well known that Africa's contribution to the global greenhouse gas emissions remains relatively low. Nevertheless Africa is the continent most vulnerable to the ecological, economic and social impacts of climate change because of factors such as poverty, recurrent droughts, floods and (over) dependence on (rainfed) agriculture. There is a consensus that climate change threatens to erode Africa's development gains." (Kenya)

"The call for an inclusive global process does not go (unhidden/unheard?), Mr President, but let us (put it) in the proper perspective, our respective roles and obligations under the Convention and the Protocol. We do not see a problem in doing our part (to abate) global emissions and we have been doing so even in our own limited way and even with a greatest difficulty for us because we are also (forced) to contend with the devastating impacts of climate change. Even as I speak, Mr President, our Eastern coastal communities in (Imidoron and Queson??) are again being heavily flooded because of the unusual precipitation. What a Christmas this again promises to be, Mr President. This additional snapshot of the future is not only unpleasant but devastating. If you recall however our implementation of our commitments including abatement which is not compulsory is precondition on our developed country partners keeping their part of the bargain of (delivering/deliberating?) on their commitments to modify longer term trends and providing new and additional financial resources including for the transfer of technology. (Let's not) forget that we are dealing with historical emissions here. When leadership is demonstrated in dealing with them in particular modifying longer-term trends of anthropogenic emissions meaning (revisiting) production and consumption lifestyles, then we have no problem confronting the emissions (up to?) here and now." (Philippines)

The claim is justified with three techniques of argumentation, both associative and dissociative. The quasi-logical argumentation within the statements refers to the article 3.9 of the Kyoto Protocol about the future commitments of the Annex I parties, as well as to some Convention articles. In the statements there is also a technique establishing the structure of reality in the form of a model; the developing countries' efforts and commitment as well as their actions within the negotiations are represented as a model to the Annex I countries that should follow their good example. Here the statement of Mauritius illustrating this:

"Right from the beginning of this COP and MOP developing countries have shown leadership and contributed fairly and effectively to the negotiations. We expect the same level of commitment and determination from our partners so that we can put together the winning combination you are looking for at this meeting for the good of (mankind)." (Mauritius)

The argumentation in the form of dissociative techniques imply that the developed countries have not done much, that they should *really* meet their commitments or achieve *concrete* emissions reductions. For instance, Nigeria announces that they are “disappointed that our partners have been foot-dragging in (--) critical issues such as financial mechanisms especially the especial climate change fund, post 2012 commitments, and development and transfer of technology” whereas Mauritius welcomes post-2012 mitigation obligations that “will lead to concrete emissions reductions by Annex I parties”. Here the statement of Saudi Arabia representing this claim and justification:

”With regard to the third theme, namely innovation, which could be implemented as from 2012, the Protocol has defined a roadmap for this purpose through article 3.9 which calls for commitments from Annex I parties for that period. Therefore any attempt to include developing countries in future commitments is unacceptable, particularly since this will change the principles, rights and obligations set out in the Convention and the Protocol, particularly in the case of Annex 1 parties taking the lead in addressing climate change, something they have not demonstrated well so far whether in reducing their emissions or their commitments to transfer technology and provide financial assistance to developing countries.” (Saudi Arabia)

Emissions reductions on the basis of emissions, guiding principles and capacities

The *promoters of multifaceted approach* (a group of G-77 countries some of which are also members of LDC, CACAM, AOSIS or EIG) argue in favour of certain principles and conditions to define the level of responsibility (Figure 12.). Within the statements of these countries the position towards mitigation responsibilities is not declared that clearly, and therefore they are more difficult to interpret. It is also more complicated to see to whom this argumentation is directed at. However, in this argumentation the ways to justify, in addition to the content of the claim itself, play a big role. Accordingly, this argument is not uniform but instead consists of statements emphasising different aspects where the responsibility of countries is determined on the basis of historic emissions, current emissions, common but differentiated responsibilities as well as of capacities and resources to deal with climate change. The abilities and the amount of emissions are thus the preconditions of responsibility in Hart’s (1986) terms. The statement of Malaysia, for example, highlights the role of the guiding principle and capacities:

”We are also of the view that in formulating future greenhouse gas emissions target there is a need to adhere to the spirit of UNFCCC particularly on the basis of common but differentiated responsibilities and capabilities. Malaysia would like to reiterate that the response to climate change should be coordinated with social and economic development in an integrated manner. Taking it to full account the legitimate policy needs of developing countries for achieving sustainable economic growth and the eradication of poverty.” (Malaysia)

Some statements refer to the emissions of the developed countries. For example, Colombia emphasises that the industrial countries “are responsible for the greatest share of global emissions”. Others, however, do not specify countries, although the principle of common and differentiated responsibilities and capabilities as well as referring to different capacities and resources of states to deal with climate change can be considered to imply the main responsibility of the developed and the emerging countries. Korea, for instance, calls for “common and differentiated responsibilities and consideration over special needs and circumstances of each country”, whereas Armenia sees that “the differentiated approach is fair enough as it considers (both -) degrees of responsibility for global climate change impact and disparity in economic and social development of countries”. Papua New Guinea, however, calls for the principle of common but differentiated responsibilities to apply with more Annexes which would reflect their social and development needs more fairly than “forcing parties into two rigid categories”. In addition, Mexico, while emphasising this principle and that each country should do its best according to its capacities, also sees that everyone should keep their side of the bargain: “in any case the inaction of some should not be an excuse to cease to make our best effort”. Some states also demand those countries that have not ratified the Kyoto Protocol to do so, or mention certain countries in particular, thereby referring to the lack of responsibility of USA and Australia. The statement of Venezuela remarks the following about the indifference of USA:

”And lastly Sir, how can we explain that as we approach the end of 2005 the world’s largest greenhouse gas emitter, the United States of America, has not yet signed the Kyoto Protocol. We urge all countries that have not yet done so to ratify the Kyoto Protocol and we call upon international public opinion to help us in achieving this task.” (Venezuela)

To sum up, this argumentation can be seen to be directed especially at the developed countries but also at the emerging states with more resources to deal with climate change and with possibly also higher amount of emissions.

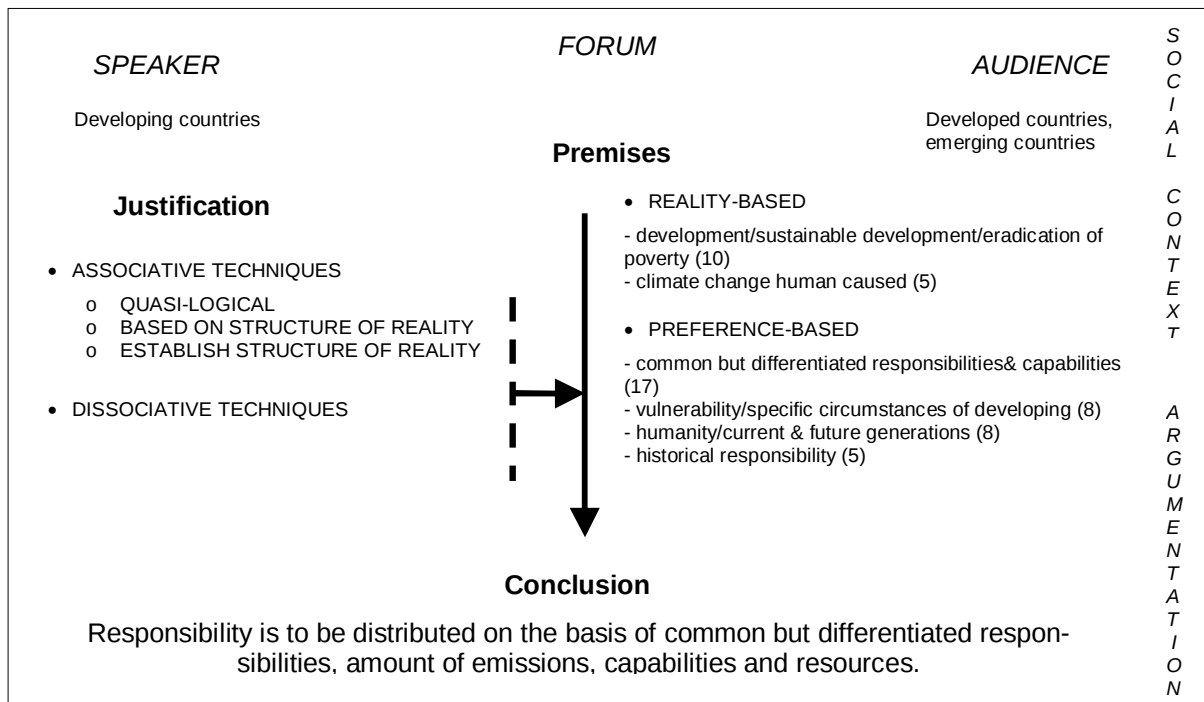


FIGURE 12. Emissions reductions on the basis of emissions, guiding principles and capacities.

The preference-based premises are in dominating position within this argumentation. Most of the preference-based premises concern the principle of common but differentiated responsibilities and capabilities. Again, this principle of the Convention can be seen as a value to which the argumentation leans on; while reacting to climate change are common responsibilities but they are also *differentiated responsibilities*. Malaysia, for instance, highlights that “in formulating future greenhouse gas emissions target there is a need to adhere to the spirit of UNFCCC particularly on the basis of common but differentiated responsibilities and capabilities.” The vulnerability of the developing countries or their specific circumstances are also mentioned. The statements discuss that it is the developing countries that are the most vulnerable, that the impacts are felt mostly by the poor and the most vulnerable people and that the developing countries have less capacity to react to the impacts of climate change. In addition, referring to humanity or current and future generations is also common. Here, too, this can be interpreted to refer to humanity as an irreplaceable value (qualitative locus) or human beings and future generations as a whole and thus to large quantity (quantitative locus). Finally, historical responsibility (causal responsibility in Hart’s terms) is also discussed. Some states refer directly to the historical responsibility of the developed countries whereas some leave it open, for instance, Niue states that “we all know the status of our own countries in relation to the amount of greenhouse gases emitted”. The reality-based premises to which this argumentation leans on are mostly related to the development of the developing countries. The states,

hence, discuss achieving and guaranteeing sustainable development, their right to economic and social progress, as well as to eradication of poverty. In addition, the ‘fact’ that climate change is human caused is considered. For instance, Togo pays attention to the “new and solid evidence demonstrating that the warming observed over the last 15 years can be to greatest extent contributed to human activity” and Brazil agrees: “evidence that human actions have affected the equilibrium of the planet do not leave us much room for (prolonged) negotiations with few results”. Referring to climate change as human induced may be a way to persuade every country to engage with measures against climate change. On the other hand, they can be directed at those who believe climate change to be only climate’s natural change and variability. Human influence to climate change fits also to the causal responsibility of Hart (1968). Within these diverse statements there is no unified and general ways of justification. Here the statement of Cuba represents some of the premises:

”We reaffirm the need for effective implementation of the Kyoto Protocol and the absolute urgency of ensuring new and more meaningful commitments to reducing emissions on the part of those historically responsible for this global problem on the basis of the principle of common but differentiated responsibilities. It is crucial furthermore that underdeveloped countries have the technological and financial support needed from the industrialised countries. Given the situation posed by climate change for the survival of mankind it is inadmissible that there should be members of the international community that remain indifferent to the efforts reflected in the Kyoto Protocol and the commitment to the future. The just concern of small island developing states and other vulnerable countries to the effects of climate changes to be even more relevant. According to recent UN data underdeveloped countries suffer 90 % of the effects of natural disasters in terms of victims with increasing impact from extreme climate events affecting developed countries as well. We would recall the experiences of the hurricanes that afflicted the Caribbean this year, two of which had serious (reprecautions?) on the poorest sectors in the richest country on the planet. We firmly support the Marrakech strategy on the special situation of small island developing states. We reaffirm its relevance and its close relationship with the work of this forum. We believe that reason and justice will triumph of selfishness and that we will be able to exercise a right to sustainable development. Our peoples and future generations will not forgive our indifference or inaction in the face of this challenge. There is urgent need for the adoption of a solid concrete commitment that will make it possible to reverse this situation as it now stands as quickly as possible and this should be done without conditionalities from the developed countries.” (Cuba)

The possibility of developing countries to mitigate on voluntary basis

The *promoters of voluntary reductions* (a couple of G-77 countries) discuss the possibility of the developing countries to take voluntary measures to reduce their greenhouse gas emissions with quantified obligations if they want, and if these measures support their sustainable development objectives and do not limit their economic and social development. For instance, Mexico supports voluntary commitments as follows:

”In particular we are willing to initiate a dialog so that the developing countries that so wish can strengthen their adaptation and mitigation efforts. This could be achieved through voluntary commit-

ments based on incentives created through international cooperation. Voluntary commitment should be assumed countries according to their capabilities and should support sustainable development (--).” (Mexico)

In order to some of the developing countries to mitigate voluntarily, the assistance of the developed countries is needed. However, the argumentation was insufficient to illustrate it further with a figure. The statement of Namibia, however, describes this line of argumentation:

”We should begin the process of developing a post 2012 framework to govern and regulate global greenhouse gas emissions taking into consideration on the sustainable economic development needs and the developing countries. Some developing countries may want to consider during these negotiations adopting (on) a purely voluntary basis innovative measures to reduce their greenhouse gas emissions while not limiting their economic and social development objectives. This (-) on part of the developing countries would have to be complemented and supported by serious and forcible commitment on the part of developed countries to transfer technologies to the developing countries at least costs and in an experienced manner. Namibia remains fully committed to the Convention and its Protocol and urges all parties to participate in and support their implementation.” (Namibia)

6.3 Summary

Climate change is considered as a problem of vulnerability from the point of view of responsibility in the statements of most of the developing countries. Discussing climate change from local perspective is typical of this frame; the statements describe local climatic hazards amply and emphasise the impacts of climate change, for example, on their livelihoods, agriculture, water resources, infrastructure, people, and economy. Focusing on the social and economic development efforts is also common. Climate change is described as a threat to the development efforts of the developing countries because of their low capacities to deal with the problem. Furthermore, climate change is considered to hinder poverty eradication and solving other major problems the developing world is facing. Attaining the Millennium Development Goals is also considered difficult due to the additional burden of climate change. In addition, the premises in the claims concerning responsibility refer to the development (Millennium Development Goals, sustainable development, poverty eradication, etc.) of the developing countries as well as to their vulnerability, low adaptive capacities and specific circumstances. Another characteristic is that the financial and technological resources are considered as the means to solve the problem, to strengthen the capabilities of the developing countries and thus reducing their vulnerability. The statements call for assistance from the developed countries even if many of these countries describe themselves as active in climate change measures. Adaptation to climate change is also seen as essential.

The argumentation concerning responsibility within this frame considers issues both in terms of past and future. The states seem to agree on some questions: there is quite general tone noticeable in the statements handing the main responsibility over to the Annex I countries. Also the idea that the developed countries have not assumed their responsibilities in giving resources nor in emission reductions is shared in the statements. There is, however, different kind of emphasis and diverse perspectives on two issues: 1) how to support the development of developing countries, and 2) how to share the burden of mitigation. There are two ideas about what to do with the first issue of the development of developing countries. On the one hand, the applicants for resources call for environmentally friendly technologies and financial resources to be made available for the developing countries. The supporters of divergent mitigation policies, on the other hand, see that using fossil fuels should be continued with the help of carbon capture and storage. Both views involve the developed countries; it is the developed countries who have to give resources or to reduce emissions in different ways. Regarding the second question about the burden-sharing of future mitigation there are three distinctive suggestions. The *opponents of binding emission reductions* see that while more efforts are needed from all, binding emission reduction commitments are acceptable only from the Annex I countries. The *promoters of multifaceted approach*, on the other hand, distribute responsibility on the basis of common but differentiated responsibilities, amount of emissions, capabilities and resources. The *promoters of voluntary reductions* consider that developing countries can have the possibility of taking voluntary commitments if it supports sustainable development and does not limit their economic and social development. This idea can be seen as overlapping and not excluding the first two perspectives.

One typical feature of this frame is that the premises underlying the claims are preference-based and thus refer mostly to important values rather than facts or truths. Most of these premises refer to vulnerability, low adaptive capacities and specific circumstances or adaptation needs of the developing countries. The most common reality-based premise can be summarised as the culturally accepted truth of development including poverty eradication, Millennium Development Goals and sustainable development. Typical of this frame is also justifying claims by referring to some Article of the Convention or the Kyoto Protocol as well as by dissociative techniques implying that the developed or the Annex I countries are not really meeting their emission reduction commitments or their promises of technical and financial assistance.

Within this frame the questions of intra-generational justice and responsibility are more present than within the first frame. By the local perspective and enumerating the various

impacts climate change has on the developing countries these states illustrate that the consequences of climate change are not the same for every country but they are worse for the developing countries. Here the developing countries, then, use concrete impacts and concerns to back up their cause. In addition, the states also emphasise their vulnerability and low capacities to react to these impacts, and thus refer to another justice issue within climate change; the countries that are richer and more technologically advanced have more capacity to anticipate and to adapt to changes (see Pittock 2005, 120-121). However, it is peculiar that historical emissions or historical responsibility does not get more room as a justification: its role is fairly minor also within this frame and it could have been used more. Maybe these historical emissions or amount of emissions in general break the unity of the developing countries because they are quite different in this relation: the greenhouse gas emissions of some countries outweigh the emissions of others many times.

7 DIFFERING CLIMATE RESPONSIBILITIES

It is evident from the chapters above that there are various views about the content and the distribution of responsibility. Differences exist in how the states have accomplished the issues and activities they have promised, how and on what grounds states would be obligated to emission reductions, as well as what are the main concerns, values or objectives the states highlight. Hence, there are differing definitions of responsibilities both within and between frames. Here I simplify the differences within frames and concentrate on their general aspects. In Table 3. I highlight the differences and similarities between the two frames by discussing responsibility through the dimensions of responsibility of Hart: 1) causal responsibility, 2) preconditions for responsibility, 3) role-responsibility, 4) moral responsibility and 5) legal responsibility (see chapter 2.5, Hart 1968, 212-230; Raitio & Rytteri 2005, 119-120) and the dimension of time Birnbacher (2000).

TABLE 3. Climate responsibilities in Hart's and Birnbacher's dimensions.

Responsibility	Frame 1	Frame 2
<i>Causal</i>	(historical responsibility up till now)	- historical responsibility
<i>Preconditions</i>	- current efforts from the Annex I alone are not enough to combat climate change - economic, social and other capabilities and circumstances - global problem	- capacities (low of the developing) - Annex I are not meeting their commitments - amount of emissions
<i>Role</i>	(developed & emerging countries)	- Annexes / developing and developed
<i>Moral</i>	- economic development - sustainable development of all countries - climate protection/avoiding impacts - protecting people (also future)	- development of the developing countries - vulnerability of the developing countries - human kind/ future generations
<i>Legal</i>	- ultimate objective of the Convention - common but differentiated responsibilities and capabilities	- common but differentiated responsibilities and capabilities - Kyoto 3.9
<i>Dimension of Time</i>	ex ante responsibility	ex post and ex ante responsibilities

Causal responsibility relates to climate change in many ways. As climate change is caused by human beings, they are also culpable for the impacts on human and natural systems. In the long run, some states and some groups of people have also emitted considerably more (historical emissions) than others. In addition, it can be said that states that will not reduce their emissions cause harm to other states. Within the first frame there is reference to historical responsibility of the developed countries in only few statements but they also add ‘up till now’ indicating that soon the emissions of the developing countries will reach theirs, and thus diminish the value and weighting of historical emissions. Within the second frame there are more states who remind that the developed countries are historically responsible for the majority of emissions. However, compared with the number of the statements within this frame, referring to historical or any causal responsibility is only slight.

Similarly, there are several competing *preconditions for responsibility*. Within the first frame it is emphasised that the current emission reductions of the developed countries are not enough to abate climate change, and with this they refer to a more global mitigation – not to considerably increasing their own reduction objectives in the coming years. Countries’ economic, social and other capabilities and circumstances are also considered as grounds for emission reductions; everyone should act according to their capacities. In addition, the global nature of climate change is highlighted within the first frame indicating that because the problem is global, the solution should be global as well. Within the second frame there are quite different ideas about these preconditions. First of all, the states emphasise countries’ capacities to act. This is no wonder, because countries within this frame have generally low amount of resources and capacities, or at least less resources than countries within the first frame have. In addition, the suggestion about Annex I parties not meeting their commitments can be considered as a precondition and thus to imply that the Annex I countries have already agreed to commitments and responsibilities. On the other hand, it may refer to a condition for any emission reductions: if Annex I countries do not honour their commitments, the other countries will not assume responsibilities either. Furthermore, within this frame there is also discussion about countries’ amount of emissions, both past and current. In this line of reasoning it is those countries with considerable greenhouse gas emissions that should reduce their emissions. There is still one obvious question that may be interpreted as a precondition that every state fulfils, but which is not that visible in neither of these two frames: the awareness of climate change and its consequences. Every state belonging to the UNFCCC is aware of climate change and have the knowledge about its impacts as well as the needed measures to halt it; therefore, they should be obligated to act according to this understanding, not to ignore

it. This awareness could also be discussed within causal responsibility: when states know what their greenhouse gas emissions are causing to the climate system, and through it to human and ecosystems, they have wilfully opted to continue as usual instead of reducing greenhouse gas emissions by other energy sources, traffic solutions and lifestyle changes, etc. The states have been aware of climate change for some time now, and every state that has ratified the UNFCCC has acknowledged the existence of climate change, too. Awareness of climate change is thus an important question within causal responsibility and also a significant precondition of responsibility, and it could be highlighted more.

Role-responsibility refers to the parties under the UNFCCC and the Protocol; those of Annex I, Annex II, and non-Annex I; all these have different commitments. It also corresponds to the division of developed and developing countries. In addition, role-responsibility can relate to states and governments but it can also point to, for instance, private sector, citizens as consumers or as global citizens. There is not that obvious discussion about role-responsibilities within the first frame and therefore it is hard to distinguish certain roles for groups of countries. Although Annexes as well as the developed and the developing countries are considered within the statements, these are not emphasised as reasons for responsibilities. However, the role and the status of the developed and the emerging countries could suit to role-responsibility due to their capacities to mitigate as well as their amount of emissions. In contrast, within the second frame these role-responsibilities are more distinct and the states appeal to their status as non-Annex I parties or as developing countries in a higher degree. Similarly, the status of the Annex I parties or the developed countries are being referred to when discussing about their greater responsibilities. Noteworthy is, that roles within both frames almost entirely point to states, not to other actors, for instance, those of private sector and citizens.

The sphere of *moral responsibility* includes various different values and objectives. In the empirical part of my research they have been discussed as the content of responsibility, i.e. the values and issues the states are most concerned about and highlight in their statements, but they have also been considered as the premises of argumentation. The premises are a means of constructing convincing claims; they are areas of unanimity between the speaker and the audience and thus the speaker can base the justifications to them (Summa 1995, 78 and 1996, 69). Within the first frame one value is clearly above others: the objective of economic development which is emphasised in both content of responsibility and premises of argumentation. In addition, the objective of sustainable development of all countries is considered, which goes to the same category of development ideology as the first one. However, the

statements within the first frame also include more immaterial values: the protection of climate and avoiding the impacts of climate change as well as the protection of people within which also the future generations were considered by some statements. However, what does climate protection actually refer to? Should irreversible changes in climatic systems be avoided and the impacts and catastrophes of climate change be prevented for the sake of climate system itself, for the sake of all living beings or only for the sake of human beings? The values and objectives within the second frame are quite different. Evidently, the states are concerned about their own development and highlight this in both the content of responsibility and as premises of argumentation by discussing sustainable development, achieving Millennium Development Goals, reducing poverty, etc. This relates to another concern which is emphasised within this frame; their vulnerability to climate change. Finally, the values of human kind and future generations, which are also considered within the first frame, can be observed within the statements of the second frame. The value hierarchies and values missing in both frames are worth of reflection. The matters of currently living human beings are highlighted, which is understandable. However, one could think that mere survival would outweigh economic and developmental aspects, although within the second frame the questions of development are rather connected to the survival of people. In addition, future generations are in a quite small role within both frames. What is totally missing from both frames, especially from the perspective of environmental justice, is however, the environment, whether it is, for example, as natural resources, non-human nature, animal species or mammals.

The *legal or judicial responsibilities* within climate change are mostly commitments under the UNFCCC and the Kyoto Protocol. There are two issues within the first frame that are highlighted: the ultimate objective of the Convention as well as the Convention's principle of common but differentiated responsibilities. Both of these can be interpreted to galvanise broader participation; it is a common although differentiated responsibility of all to mitigate emissions in order to prevent dangerous interference with the climate system. Within the second frame the Convention's principle of common but differentiated responsibilities is emphasised, too, but it can be interpreted as a means to indicate differentiated responsibilities. Another discussed issue within the second frame is the article 3.9 of the Kyoto Protocol which considers the future commitments of Annex I countries.

Finally, how are the climate change responsibilities discussed in terms of time? Do the states concentrate on matters happened in the past, the current duties or the responsibilities in the future? The discussion within the first frame is clearly marked by a future-oriented tone; they emphasise *ex ante* responsibility (see Birnbacher 2000) and thus future Kyoto plus obli-

gations and duties. The past does not weight much in deciding responsibilities. This resembles also the view of Ikeme (2003) and Anand (2004), who see that the perspective of the developed countries is on the present and the future: the starting point in their standpoint is present time but they also consider future burden sharing and development trends in countries' emission rates (see chapter 3.4.4). On the contrary, the past matters within the second frame. Although historical emissions are not eminently highlighted, much discussion concerns about questions that the developed countries have neglected: the developed countries have not provided promised technological and financial resources nor have they achieved the emissions reduction objectives, to what they have committed to. However, also future responsibilities are considered in terms of emission reductions and other commitments, to which the post-Kyoto regime is going to obligate countries. As a consequence, the second frame includes both ex post and ex ante responsibilities (see Birnbacher 2000). Similarly, Ikeme (2003) and Anand (2004) see that the developing countries underline past (historical emissions) and present questions when deciding on climate commitments (see chapter 3.4.4).

To sum up, responsibilities in terms of climate change look quite different within these two frames. Although the frames include some similar ideas, the differing aspects outweigh and responsibility is formed distinctively. The frames contain differing conceptions about what climate responsibility is.

8 DISCUSSION

8.1 Results

At the beginning of this research my idea and presumption was that climate change is essentially considered as an environmental problem and that this aspect would be visible in the research data, too. However, the statements highlighted other aspects much more; climate change was described as an economic or as a developmental problem of present human beings. The role of environment both in the statements in general and as a justification was minor. Other findings of this research are that climate change was discussed very distinctively, that it was framed as a problem in two very different ways: as a problem of greenhouse gas emissions (mainly developed countries and countries with economies in transition) and as a problem of vulnerability (mainly developing countries). Within these frames the perspectives towards climate change in general, but especially towards its impacts, were different; while the developing countries emphasised local aspects (greater impacts on the developing countries), the point of view of the developed countries was more global (impacts are global). In addition, the premises of argumentation differed clearly between these two frames, and thus roughly said, between the developed and developing countries. The developed countries appealed more to the premises related to reality and thus facts and truths, whereas the developing countries referred more to the premises related to preference, that is, values. However, one interesting observation is that although the perspectives and justifications between these frames were very different, the claims concerning the distribution of responsibility themselves were somewhat alike. The justifications, however, differed and shaped the argumentation dissimilar to each other. There were other similarities between these two frames. First, both considered technology to be the answer to the problem; it is the environmentally friendlier technologies and cleaner, low-emission or totally emission-free development that brings the solution. Secondly, climate change was seen as a problem that the existing politics and structures are able to manage; only one statement questioned the purpose of economic growth and current development. Climate change was thus not seen as a symptom of something bigger which would need structural, value and life-style changes. Accordingly, there were no signs of broad support from developing countries for this kind of structural discourse discussing climate

change in the context of deep global political, moral, economic, and cultural crisis (see Tirkkonen 2000). What were also missing in the statements in general were the concrete targets and objectives. Only some of the EU countries considered specific time frames or the scale of changes and impacts in which climate change should be addressed. Furthermore, although the EU countries discussed the 2 degrees Celsius limit to warming, this, too, has vast impacts on the environment and on different regions, especially on the developing countries. From the perspective of international environmental justice an interesting issue was that the role of historical emissions as a justification was small also in the statements of the developing countries, although they could have appealed to it more. In addition, only some statements demanded the emission reductions from USA and Australia within both of these frames. From the perspective of other dimensions of environmental justice a remarkable finding is that the rights of future generations were not considered more and actually their role as justification was quite small. In addition, the environment itself and the animals – or even the environment as natural resources – was largely absent. Why is this?

8.2 Reflection

To begin with, I have found the making of this research fascinating, and the subject of my Master's thesis, climate change and politics, is very catching and I have been riveted to it. In addition, justice, environmental justice and responsibility are all essential issues within the politics of climate change, albeit being also broad and difficult themes. The vast interest towards climate change after 2005, when I pondered on the subject of my study, has proved that I made a right choice and addressed myself to important aspects of the discussion. In hindsight there are, however, many issues and questions I would consider more precisely if I were to start a/the research again. In this sense the research process itself has been educative in addition to the knowledge and understanding about the subject of the study gained through the process and literature. First of all, climate change is a challenging, massive, many-sided and fast evolving phenomenon – it is impossible to know all of its sides and unachievable to keep up with what happens in reality both in climate science, climate politics and in literature concerning them. This also relates to the need to define and delimit quite narrowly the boundaries and the objectives of the research, even if it is difficult. In addition, deciding when enough literature is enough is important. I feel that my ambitions and thoroughness have been to my disadvantage in this research: I have wanted to know too many things and to illustrate the

phenomenon from too many aspects – I have thus been wandering on many bypaths instead of focusing to the main issue. Other challenging issues have been to generalise the research data while still seeing and describing the differences or different shades within the data as well as to return from data back to reality, to see the ‘big picture’. For me, wondering and considering different aspects and flaws was easy at the beginning when I was not that familiar with the data and the whole phenomenon, but it got harder in the end when things became in a way too obvious: it was hard to open up these obviousness (for me) in text. This brings me to language and the advantages and disadvantages of writing the report in English. Although the choice of writing this research in English is justified with research data and most of literature being in English as well as with improving my English skills and climate change vocabulary, but at the same time writing has been slow, not articulate nor fluent, and to absorb – not to mention to digest – information in English takes much more time than in Finnish. In general, I believe to have learned more or less my own manner to do research: for me research signifies both punctilious, mechanical tasks and creative, not machine-like work taking time. It has been a relief to realise that creativity belongs to science too.

My research was only a small glimpse of climate politics and a great deal remains to be examined from a justice perspective. Especially the role of environment, which was largely absent here, is interesting: how the environment is discussed in terms of climate change, what is its position? What kind of ethical consideration there is about the possible impacts of climate change on animals? Or what kind of ethical bulwarks people offer when considering the human caused climate change’s environmental consequences? Of course, the intra-generational and intergenerational aspects within climate change are also important, and it is challenging to bring these questions to a more concrete direction within research. As a citizen of a western country I also paid attention to the economic justifications within the statements of developed countries; that they play such a big role, and continuing with this theme would be meaningful. In addition, in the future research on the shared aspects and framings within the UNFCCC would be interesting and helpful to see how to reconcile the different opinions of the parties. I also think that there is a need to transcend the North-South or developed-developing country divisions, which I had to use in this research, and instead describe international climate politics with the help of fresh and more meaningful groupings.

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ABBREVIATIONS AND ACRONYMS

AOSIS	Alliance of small Island States
°C	degree Celsius
CH ₄	Methane
CH ₄	Carbon Dioxide
COP	Conference of Parties
EIT	Economies in transition
EU	European Union
G-77	Group of 77 and China; group of developing countries
GDP	Gross Domestic Product
GHG	greenhouse gas
HFC	hydrofluorocarbons
IPCC	Intergovernmental Panel on Climate Change
LDC	Least Developed Countries
N ₂ O	Nitrous oxide
NGO	Non-governmental organisation
OECD	Organisation for Economic Cooperation and Development
OPEC	Organisation of Petroleum Exporting Countries
PFC	perfluorocarbons
SF ₆	sulphur hexafluoride
UN	United Nations
UNEP	United Nations Environmental Programme
UNFCCC	United Nations Framework Convention on Climate Change
USA	United States
WMO	World Meteorological Organisation