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IIASA International Institute for Applied Systems Analysis □ A-2361 Laxenburg □ Austria
Telephone: +43 2236 807 □ Fax: +43 2236 71313 □ E-Mail: info@iiasa.ac.at

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Preface

Effective policy responses to the problem of desertification must rely on expert advice. The causes and consequences of desertification are complex, as are the policy options for thwarting desertification. In this context, the demand for expert advice should be high. Yet the negotiations that led to the United Nations Convention to Combat Desertification (CCD) appear to have been little influenced by experts. The failure is especially marked considering that the CCD, which came into force in December 1996, is now the central legal instrument for combatting desertification.

In this paper, Elisabeth Corell explores some reasons why expert influence was low. In part, she concludes that the institutional arrangements for providing expert advice were poorly designed–they allowed some experts to participate, but in a manner that was largely disconnected from the real negotiations and did not provide expert information on a timely basis.

Corell conducted the analysis while she was a participant in IIASA's Young Scientists' Summer Program (YSSP) in 1996. While at IIASA she worked with the project on "Implementation and Effectiveness of International Environmental Commitments (IEC)."

Abstract

Desertification is a complex environmental issue and expert advice should play an important role when negotiating an international agreement to deal with the phenomenon. Yet in practice, scientific expert influence was marginal in the development of the Convention to Combat Desertification (CCD). This paper explores why.

It argues that low scientific expert influence mainly reflects two factors. First, some Southern countries, who were keen to have a post Rio convention that focused on developing countries, resisted complex scientific advice since it could jeopardize the whole convention. Second, the International Panel of Experts on Desertification – the main institution for providing expert advice to the negotiations – was small and emerged only late in the process. By the time the CCD was to be negotiated, most of the issues on which experts could have some influence were already settled.

Moreover, the expansion over time of the definition of "desertification" to a widening range of environmental conditions eroded the focus of the concept and made it less useful for policy. Donors, who were apprehensive because earlier action plans on desertification had failed, became reluctant to support international anti-desertification projects. Thus the issue became tied to the general political debate about development aid.

Although scientific experts did not have much influence, other non-governmental actors who participated in the CCD negotiations were influential. The active encouragement of the participation of non-governmental organizations, their long-standing interest and expertise on these issues, and homogeneity of their interests all contributed to their influence. That NGOs had more influence suggests that it is more important to focus on actors who have issue competence, rather than on formally appointed scientific experts, when analyzing the influence of expert advice in international environmental agreements.

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The Failure of Scientific Expertise to Influence the Desertification Negotiations

*Elisabeth Corell**

1. Studying Expert Influence

Environmental issues contain natural and social causes, technical dimensions and political consequences which tend to be conflictual. When considering complicated issues decision-makers consult experts in the specific field to get assistance in identifying their interests and policies.[1] As a means of coping with environmental inter-linkages, this phenomenon is increasing. The role of expert advice in international environmental decision-making has attracted attention in connection with recent negotiations of conventions addressing global environmental problems.[2] Expertise has an important role to play because those who possess relevant knowledge have the power to frame the issue under negotiation and evaluate policy options. Experts can help define an issue, which has important bearing for how it is addressed and, consequently, which activities and implementation strategies are perceived as most effective.

Expert advice is needed because the new international environmental agreements are of a preventive character; they can examine what might happen with or without policy action as well as the consequences of different policies. The complex nature of environmental problems makes it difficult to reach certainty about the appropriate preventive courses of action and their implications. It is, for instance, difficult to estimate the long-term effects of reducing pollution. These preventive and complex aspects of environmental problems yield high demand for expert advice.

Observers of international environmental agreements would support the notion that it is desirable that experts should exercise influence on international environmental negotiations, hoping that they would provide information needed to reach a suitable agreement. However, the observed influence of scientists is in fact debated. For instance, an analysis of the role of the Intergovernmental Panel on Climate Change (IPCC) suggests that the IPCC seems to have had considerable influence because its first report initiated the negotiations that led to the Framework Convention on Climate Change (FCCC).[3] As time passed the IPCC became increasingly distanced from negotiations, suggesting that influence seems to have been high in the initial stages only to decline in later stages of the process. This observation raises the question: what are the factors that contribute to the high or low influence of scientific experts on negotiations?

This paper examines a case where conditions were right for experts to be influential: the 1993–1994 negotiations of the Convention to Combat Desertification (CCD).[4] In practice, however, scientific expert influence was low. The paper explores some explanations for why this has been the case. Several alternatives are explored. It could be that fifteen years earlier scientists had already agreed that "desertification" was a misleading term when addressing dryland problems and therefore felt that negotiations under such a heading were improperly framed. Or did experts find it difficult not to get entangled in the North-South debate? Perhaps the institution established to provide expert advice was consciously designed to have low impact, or were experts simply not interested in having any influence? These are some of the questions raised and discussed.

The paper is a case study of the CCD, based on material gathered during negotiation sessions. It will first deal with the scientific and historical backgrounds to the recent negotiations. These

*Department of Water and Environmental Studies, Linköping University, S-581 83 Linköping, Sweden. E-mail: elico@tema.liu.se.

provide the context within which experts might have influence on the recent negotiations. Next, the paper describes how desertification appeared on the Rio political agenda, followed by a description of the conditions under which experts operated during desertification negotiations. Explanations are then provided for why expert influence was low. Finally, influence by others not formally termed "experts", such as NGOs, is discussed.

Experts giving advice on environmental matters are usually assumed to be of scientific training. For instance, Sundqvist defines an expert as *a scientific advisor in political contexts.*[5] However, the term "expert" is controversial. In today's international environmental negotiations there are actors other than scientists who can contribute relevant knowledge. While this paper is limited to the analysis of scientific expertise, it will briefly discuss the influence of representatives from non-governmental organizations, and suggest the need for focusing on actors with issue competence rather than formally appointed scientific experts when studying expert advice in international environmental negotiations.

2. Causes of Desertification

Accounts of how productive land was being lost to the desert can be found as early as 2400 BC in Mesopotamia.[6] In recent years attention was directed towards the conditions in dryland areas when population increase combined with serious droughts resulted in staggering poverty. Drought-stricken, predominantly African, countries received international attention and development aid to prevent drought catastrophes from reoccurring.

According to Agenda 21 desertification affects about one sixth of the world's population, 70 percent of all drylands and one quarter of the total land area in the world.[7] Impacts of the phenomenon include degradation of rangelands, degradation of irrigated cropland, decline in soil fertility and soil structure, and poverty. The problem is most severe in countries on the margins of the Sahara in Africa, but also affects Asia, Europe, Australia and Latin and North America.

In 1949 the French geographer André Aubreville coined the scientific concept of "desertification" by stating that "(t)here are real deserts being born today, under our very eyes, in areas where the annual rainfall is between 700 and 1500 mm."[8] The vision of spreading deserts already existed among colonial scientists, but the first quantified assessment of expansion came in 1972, when the United States Agency for International Development (USAID) claimed that "there has been a net advance in some places along a 2000-mile southern front of as much as 30 miles a year."[9]

In the late sixties and early seventies acute droughts in Western and Eastern Africa attracted global attention.[10] At the same time, desertification became a generally accepted phenomenon and concrete figures were often cited of how much deserts expanded every year.[11] Since then numerous research projects on the causes of desertification have been conducted, but there are also those who question whether the problem existed at all.[12]

The lively scientific debate became polarized during the seventies and a review of the usage of the concept in the literature illustrates the extent of the controversy by identifying over a hundred desertification definitions.[13] There are also related phenomena such as desertization, desert encroachment, desert creep, and expanding desert, which have been used as synonymous with desertification by some.[14]

It becomes apparent that when discussing dryland issues and the definition of desertification, it is important to make distinctions between some closely linked processes which are often confused. *Drought* is a period of one or two years with rainfall well below average, desiccation a process of aridification resulting from a dry period lasting on the order of decades, and *dryland degradation* brought about mainly by methods of land use in delicate environmental conditions, involving a decrease in the productivity of vegetation and soils.[15] Desertification has been described as patches of land in dry conditions that join together, like a rash on human skin.[16] Today many scientists would agree that the term *land degradation* is most useful to describe the results of deteriorating processes and the term *desertification* to define dry ecosystems which

have turned into a desert.

The central issue in the context of the international negotiations, however, seems to be whether desertification is man-made or not, since that determines whether public policy aimed at changing human behavior, including international programs and agreements, would be useful. When organizing the scientific debate from that approach the following three perspectives emerge.

The first viewpoint is that desertification is mainly the result of adverse human impact.[17] It is the transformation of a landscape to resembling a desert. The supporters of this view regard the role of short-term climate fluctuations and droughts as catalytic rather than causal for desertification.

A second idea is that climatic variation explains desertification.[18] Drylands are resilient and will return to rapid increases in productivity following good rains after natural drought. Fluctuations in vegetative biomass may be explained by fluctuations in rainfall. The human influence is thus uncertain and droughts will reoccur because they are "natural".

A synthesis perspective, is that human impact combined with climatic phenomena cause desertification.[19] Scientists argue that climate alone cannot destabilize the environment in arid lands. The causes of desertification are natural forces, through periodic stresses of extreme and persistent climatic events such as drought, and human use and abuse of sensitive and vulnerable dryland ecosystems. The extension of irrigated areas and improper land-use practices have led to salinization. Damage occurs when human misuse of land combines with the occurrence of drought. Supporters of this view claim that human political and economic systems have been unable to cope with recent climatic fluctuations and that not only technological solutions are needed, but political will.

Discussions on the causes of desertification have important policy implications and the debate is deeply entrenched with an awareness of that fact. How these issues spill into each other is, for instance, exemplified by the argument by one of the supporters of the man-made view who claims that desertification in Africa is due to the breach of isolation around the year 1950 for nomadic pastoral societies by interaction with foreign economic systems. This led to population growth and livestock increase, which in turn led to lack of drinking water. This constraint was overridden by the supply of permanent water from large numbers of new wells and this usage of water led to serious droughts between 1969 and 1975. When development aid was given to improve the situation in the affected areas it supported an unsustainable system and caused another series of droughts in the early 1980s.[20]

This exemplifying standpoint, formulated by a desertification expert, includes a number of politically controversial observations. It is easy to see that it is difficult for desertification experts not to get involved in or to avoid having their arguments used in a more general political debate.

The environmental issue of desertification has social, political and economic facets, and is not limited to the developing world or the poorest people. But it was crises in Africa that became the focus for concern and inspired the United Nations to initiate international action.[21]

3. The United Nations Conference on Desertification (UNCOD)

The international attention attracted by droughts in Africa in the late sixties and early seventies led to the United Nations Conference to Combat Desertification (UNCOD), held in 1977 in Nairobi, Kenya, which examined the global phenomenon of degradation of the environment and the decline of biological productivity in and around arid lands.[22]

The most important outcome was the non-binding Plan of Action to Combat Desertification (PACD). The document included recommendations for national and regional action, international action and cooperation, immediate initial action, and implementation of the Plan. Its ultimate objective was "to sustain and promote, within ecological limits, the productivity of

arid, semi-arid, sub-humid and other areas vulnerable to desertification in order to improve the quality of life of their inhabitants."[23]

The goal was to implement the PACD by the year 2000. The seven-year period 1978 to 1984 was chosen for the implementation of immediate action required and it was suggested that at the end of that period a first general assessment of progress could be made. The responsibility of following up and coordinating the implementation of the Plan of Action was given to UNEP.[24]

UNCOD successfully placed desertification on the international environmental agenda. In fact, it may be the first of the big environmental issues, attracting international public attention long before global warming, the ozone hole and acid rain.[25] Despite this, the Plan of Action was hardly implemented. It has been criticized for taking a fragmented approach to desertification and overlooking socio-economic aspects by mainly suggesting action in the form of large-scale technological fixes. The PACD seemed to trigger debate rather than action and was more of a statement of good intent, or a shopping list, than an international agreement seriously intended to be implemented on an international level. A 1990 evaluation of the PACD stated that the main cause of its failure was the lack of political commitment by both affected countries and donors.[26]

Another reason for the failure of the PACD was a misjudgement of the resources available, based on the assumption that the developed world would make resource and technology transfers to developing countries to help tackle problems it did not feel threatened by.[27]

Despite international efforts, at the end of the immediate action period in 1984 UNEP's Executive Secretary Tolba had to conclude that the initiative had been a failure.[28] Eight years later the issue would again emerge on the international agenda at the Rio Earth Summit, this time resulting in the negotiation of the binding Convention to Combat Desertification (CCD).

4. The Desertification Concept and its Definition

A lesson from the UNCOD experience is that in order for an agreement to be implemented, not only are money and commitment important, but it is also essential to have agreement on how the problem is perceived. The view of the issue is epitomized in its definition; thus how desertification is defined is a key issue in understanding how the problem is being addressed and a point for political struggle for those with varying vested interests. Experts consulted on the choice of definition thus have an important role to play.

4.1 The desertification definition

It is therefore interesting to examine the evolution of the desertification definition in the international context. A historical survey shows how the emphasis on the importance of the impacts (soils and vegetation versus economic and social) and the causal factors (man versus climate) varies greatly between authors.[29]

Regarding the perception of causal factors there has been a "shift in focus from drought as the cause, in the pre-UNCOD discussions, through equal prominence being attached to humans and climate (during and subsequent to UNCOD), to the dominant view today of people as the main cause of desertification."[30] According to the UNCOD Plan of Action "(d)esertification is the diminution or destruction of the biological potential of the land, and can lead ultimately to desert-like conditions. It is an aspect of the widespread deterioration of ecosystems, and has diminished or destroyed the biological potential, i.e. plant and animal production, for multiple use purposes at a time when increased productivity is needed to support growing populations in quest of development."[31] Much importance is attached here to the biological dimension of the problem.

In the same Plan of Action it was also stressed that "(i)t is generally incorrect to envision the process as an advance of the desert frontier engulfing usable land on its perimeter: the advancing sand dune is in fact a very special and localized case."[32] This implicitly indicates that if the

desertification concept is associated with wandering sand dunes, it is not appropriate to use when addressing world-wide dryland management problems, which was the aim of UNCOD. While some criticize the use of the term in the context of international negotiations for causing muddled thinking, it has also been suggested that it was a stroke of political genius to include "desertification" in the title of UNCOD.[33] The term was used to market the phenomenon on the international political stage.

In 1990 a UNEP expert meeting adopted a new definition: "Desertification/Land degradation, in the context of assessment, is land degradation in arid, semi-arid and dry sub-humid areas resulting from adverse human impact." It is notable that the phenomenon was defined as man-made by experts from an institution which had vested interest in such an interpretation, since UNEP was in charge of implementing the Action Plan. However, over the next year "land degradation" and "in the context of assessment" were dropped and it was added that desertification was the result of "mainly" adverse human impact.[34]

The modified UNEP definition provided the basis for the CCD definition, settled for at the Earth Summit, where the decision was made to negotiate the Convention. Yet, other causes were added to it: "Desertification means land degradation in arid, semi-arid, dry sub-humid areas resulting from various factors, including climatic variations and human activities."[35] Desertification can thus have many causes, but the main ones are climate and man. This changed definition provides an example of the synthesis perspective mentioned in Section 2.

4.2 Using the desertification concept

Despite conflicting interpretations of the concept and demands to abandon it for alternatives to better reflect the complexities of dryland problems, the term desertification stubbornly remains in use. This may have to do with the fact that "desertification" quickly became a catch phrase and its meaning was transferred to include a series of problems in drylands. In the past few years, many writers have argued that the term should be abandoned on the grounds that it combines too many different processes which need to be distinguished and dealt with separately.[36] For example, the term currently includes the salinization of land within irrigation systems, which is a very different kind of problem from that of soil erosion in dryland areas. Since 1984, the term has also been widened from arid and semiarid lands to cover problems of degradation in the sub-humid zone.[37] This expansion allows for a larger group of countries to benefit from possible forthcoming international assistance.[38] It has been suggested that the plethora of definitions and the inclusion of a growing number of geographic areas may be results of attempts to mobilize extra funding for desertification and increase the number of potential beneficiary nations.[39]

In the public mind, and in that of many decision-makers, desertification and desert advance continue to be confused. The image of advancing sand dunes is powerful, despite the lack of clear evidence for its support. Work from the Sudan[40] shows the absence of such advance, in the sense of shifting sand dunes. Instead, it is shown that patterns of vegetation are highly dependent on rainfall, so that the desert "advances" and "contracts" depending on precipitation in a given year.

To conclude, the concept of desertification is today often used in a dramatic, emotional context to maximize people's attention and focus on humans, rather than the landscape.[41] It may now be more of a burden than an aid in understanding the phenomenon. Researching desertification is a complex matter which does not only include the strictly scientific discussion on the causes of the phenomenon, but also has implications that may lead to involvement in an intricate and politicized development policy debate. It is in this light we must study the activities of experts involved in the international negotiations to combat desertification.

5. Desertification on the Rio Agenda

Desertification came onto the international agenda in the middle of the seventies, and arguments from the 1977 UNCOD negotiations were recycled to be used again in the Agenda 21 agreement achieved at the United Nations Conference on Environment and Development (UNCED), held 1992 in Rio de Janeiro in Brazil.

After substantial debate, drought and desertification issues were included as chapter 12 of Agenda 21. During preparations for UNCED African demands for a desertification fund became politically linked to the deforestation issue. Developed countries were pressing for a deforestation convention, while developing countries wanted one for desertification. The European Community (EC) and the US referred to the failed PACD and doubted whether desertification, in their eyes a cluster of local environmental issues, was a problem suited for a global convention. As a solution a package deal, where developing countries agreed to a deforestation convention and developed countries to a desertification convention, was reached.[42]

But in Rio this deal proved difficult to operationalize. African countries, supported by the remaining developing world, forcefully pushed the desertification issue against resisting developed countries. The turning point came when the US agreed to support the proposal and pressure became too strong for the EC to resist. A chapter on Combating Desertification and Drought was included in Agenda 21, and on 10 June 1992 UNCED requested that the UN General Assembly should establish an intergovernmental committee for negotiating a convention on desertification.[43]

Within a year, the United Nations General Assembly had established the Intergovernmental Negotiating Committee for the Elaboration of an International Convention to Combat Desertification (INCD) and negotiations were under way.

6. The Convention to Combat Desertification (CCD)

The detailed story of the negotiations is told elsewhere.[44] Suffice it to say here that the Convention to Combat Desertification[45] (CCD) was negotiated during five sessions from May 1993 to June 1994, when the Convention was concluded in Paris. The CCD entered into force in December 1996 and the first Conference of the Parties (COP) to the Convention is planned for September-October 1997.

6.1 The negotiations[46]

A major element in the negotiations was the special role for Africa, indicated in the title of the Convention. As mentioned, in Rio Africans pushed for the Convention, supported by the remaining developing countries of the Group of 77 and China. However, when the negotiations were launched, a split in the group appeared. At the first session a proposal to negotiate a regional instrument for Africa, as an addition to the Convention, was resisted because Latin American and Asian delegates insisted that instruments for other regions should be negotiated simultaneously. During the negotiation process representatives of countries with economies in transition stressed that they were also affected and insisted that language be included that especially noted those countries.

The arguments supported by those who wanted to give priority to Africa were brought into question by those who pointed out that attention should be given to other parts of the world, or the Convention would not be global and was thus unlikely to receive support from countries in regions other than Africa. While this disagreement reappeared at crucial stages in the process, negotiators finally settled for four regional implementation annexes for Africa, Asia, Latin America and the Caribbean, and the Northern Mediterranean. In accordance with the title of the CCD, special attention was also devoted to the African region by the adoption of

resolutions on urgent action for Africa and interim arrangements for the period between adoption of the Convention and its entry into force.[47]

Another controversy was related to financial resources and mechanisms. Developing, predominantly African, countries came to the negotiations hoping that the CCD could provide new and additional financial resources and institutions to handle them, but the OECD countries preferred to increase the efficiency of existing aid flows. Afraid of establishing new institutions that would add to an increasing international bureaucracy, they pointed to the already existing operational mechanisms. Underlying these issues was the polarized international situation in the early 1990s, where the South is bogged down by underdevelopment and the North preoccupied with the socio-economic problems of recession.

Lively discussions, organized along the North-South divide, prevailed and intense informal consultations had to be undertaken in the later stages of the negotiating process. However, at the fifth and last session there was still no final solution to the critical financial issues, which remain for clarification by negotiators during the interim period and for the COP.

During the process negotiators agreed that implementable commitments on national, regional and international levels were central to the Convention, and stressed the need for a bottom-up approach, public awareness, education, cooperation, and coordination between donors, the North and the South, and South and South. The idea of explicitly listing countries belonging in the categories "affected country parties" and "developed country parties", which are to undertake certain obligations under Paragraphs 5 and 6 of the CCD, was finally abandoned.

6.2 The key features of the CCD

The CCD is a framework convention, and deals with an environmental issue that is a major concern of developing countries. It is characterized as breaking new ground in international environmental law.[48] Its uniqueness in comparison to other related conventions, such as the Framework Convention on Climate Change and the Convention on Biological Diversity, lies in its "bottom-up" approach.

This approach is devoted to addressing the degradation of fragile drylands by involving the people in the affected areas, and thus, underlines the involvement of local populations in the development of national action programs for the implementation of the CCD. The inclusion of the "bottom-up" approach is an accomplishment since for developing countries' governments the environment issue usually takes second place to economic considerations in a traditionally "top-down" driven process. Agencies and laws are established, but without popular pressure, enforcement and/or local support, these activities seldom bear fruit.[49]

The Convention takes an innovative approach by stressing the physical, biological and socio-economic aspects of desertification, as well as the importance of redirecting technology transfer so that it is demand driven. The core of the CCD is the development of national, regional and subregional action programs to combat desertification. These action programs are to be developed by national governments in cooperation with donors, local populations and NGOs.[50]

Under the Convention the Parties agree to collect, analyze and exchange information and data to help understand and assess the processes and effects of drought and desertification (Article 16), and promote technical and scientific cooperation (Article 17). In Article 24 the Convention establishes a Committee of Science and Technology, which will provide information and advice on scientific and technological matters to the COP. The COP can also appoint ad hoc panels to provide advice, and experts on such panels will be taken from a roster of independent experts, nominated by the Parties to the CCD.

7. Why the Experts Failed to Influence

The argument of this paper is that the scientific experts involved in the CCD negotiations failed to have significant influence, although they were involved in the process and potentially could

have had considerable impact on the negotiated outcomes. This section considers the conditions under which the experts operated and then explores several propositions to why experts were marginalized in the desertification negotiations.[51]

The role and place of experts in the desertification negotiations seems evident. The negotiating body was the negotiating committee, INCD, with national delegations as members and UN agencies and NGOs as observers. The Committee was guided in its work by a Chairman, assisted by a Bureau, and a Secretariat handling the logistics of the negotiations. The central mechanism for expert advice in the desertification negotiations was the International Panel of Experts on Desertification (IPED).

In collaboration with relevant UN agencies, the Executive Secretary appointed experts to the diverse geographical and multi-disciplinary Panel.[52] They provided scientific knowledge in the form of presentations at the initial stages of negotiations, reports, and by answering questions from the INCD and helping the Secretariat in the preparation of documents. The experts were 15 to 16 in number and preparatory Panel meetings were held in Geneva, six weeks in advance of the negotiating sessions of the INCD. The Panel convened during the preparations for and during the negotiations of the Convention and its mandate expired in December 1994, six months after the CCD was concluded and just before the first interim session of the INCD. It should be stressed that the Panel was international, not intergovernmental, and its members were able to act independently.[53]

Thus, if scientific advice was readily available during the process of negotiating the CCD, what was it that prevented experts from having influence? The rest of Section 7 is devoted to this question.

7.1 The science and nature of desertification

One explanation could have to do with the science of the desertification problem. This explanation has two facets. The first has to do with possible inadequate research on desertification. The core of the matter in the international context is to determine whether the phenomenon is caused by humans or not. This is important, because if it is caused by climatic variations and there is no human impact, it becomes less than evident that extensive international negotiations and resources should be allocated to the prevention of a problem which, in the strict meaning, cannot be prevented.[54]

The scientific debate on desertification displays a range of varying arguments on the causes of the phenomenon and consequently also on remedies and implications for policy. However, despite occasional calls for additional research during CCD negotiations, the scientific debate reiterated in Sections 2 and 4 illustrates that desertification is a well investigated topic, studied for several decades. If research on desertification had been inadequate or defective there would be reason to believe that expert advice would be taken lightly in the negotiations, but the prevention of desertification was a well-defined issue of preventive character and therefore ripe for expert advice on the appropriate dryland management and implementation strategies.

Another facet is that the technical nature of desertification could be so complex that expert advice would get contradictory and consequently be overlooked by confused decision-makers. Desertification is indeed a manifold and often site-specific problem, but multiple methods of prevention have been developed in various parts of the world and it would be inaccurate to argue that the problem is so technically complicated that nothing could be done. Common approaches to a diversified problem can be identified, as was shown in the PACD. Experts could have ample contributions to make on this point in negotiations. Hence, inadequate research or the technical nature of the desertification problem could not have impaired experts from having influence on negotiations.

7.2 The lack of expert interest

A second explanation involves the expert interest. The pertinent question here is: were experts interested in getting involved and providing advice to the negotiations? In most studies of expertise in international negotiations it is assumed that the answer is "yes". To address this question it is illuminating to consider the historical background of this process.

During the rise of the green consciousness in the late eighties and early nineties, international negotiating processes were combined with the internationalization of public opinion. It has been suggested that international environmental negotiations also can entail some kind of internationalization of knowledge consensus.[55] Along these lines, it is probable that already in the seventies, in connection with the polarization of the scientific debate and during the thorough scientific preparations[56] for the negotiations of the 1977 UNCOD, a kind of international scientific consensus on the issue emerged. Experts met and had substantive discussions on what they meant by desertification, with the scientific component of the Plan of Action to Combat Desertification as a result.

When negotiations on the issue were resumed in the nineties there was a likely fatigue among experts, who had once already dealt with the issue on the international level and perhaps even were disappointed by the lack of implementation of the PACD. Wary of how the issue was infested by the development aid debate, they may have anticipated their lack of influence since negotiations under the heading of "desertification" were seen as mainly a vehicle for political interests.

Experts may also have lost interest in negotiations if they did not support the definition and thought they were unable to affect it. At the first session of the negotiations, one of the two IPED members who made presentations emphasized the need to redefine desertification,[57] but the definition of desertification was never under any serious threat to be changed during the negotiations. This suggests that negotiators settled for the already accepted definition not to reopen the scientific discussion and to get on with negotiations. However, the definition may also have reflected a scientific consensus, despite the IPED member's plea for redefinition, and consequently there would be no need for a change. It may also be the case that experts and negotiators had learned to live with the definition and decided to tolerate that actors with varying interests attach different meanings to it.

The lack of expert interest as an explanation for the marginalization of expert is interesting, but has no substantive support and could benefit from further investigation.

7.3 The politicization of expert advice

A third explanation could be the politicization of expert advice. This explanation also has two facets. The first is the effects of regional/domestic politics. One of the main reasons why the implementation of the 1977 PACD failed was the assumption that the problem could be solved with technical fixes. Drawing on that failure, the 1993-4 negotiations focused on the importance of socio-economic factors, and especially about the participation of those affected and the necessity of a bottom-up approach, if implementation of the agreement was to be achieved. Developed countries based their arguments on experiences from decades of failed development aid projects, but also indirectly tried to make developing countries adopt democratic reforms. In this context, developing countries who were apprehensive to give up any of their independence to earlier colonial powers or allow even more influence from already domineering outside actors, may have seen it as siding with the North when experts supported the bottom-up strategy. Experts were thereby stressing the importance of empowerment of politically marginalized peoples affected by desertification, who could potentially threaten the elites in power in developing counties.

This explanation may partly be true. NGO representatives at the conference suspected that in some African countries the authoritarian governments saw the NGO support for local empowerment as a threat to their power.[58] However, it is also true that there was a consensus already from the first session on the need for a bottom-up approach including the reinforcement of local

participation and action, NGO activities, the full participation of women and the significance of indigenous technologies and practices.[59] There is thus not adequate support for stating that experts were affected by regional/domestic political considerations.

A second facet of the same explanation is the North-South political context of the negotiations. Because of the international political situation in the seventies, when numerous newly independent African countries were struck by serious droughts and Western countries expanded development aid programs, desertification became intertwined with the politics of development policy. As one of the issues on the North-South agenda the desertification concept reemerged when the UNCED decision was made to negotiate about dryland issues.

Desertification was recycled in UNCED as an environmental topic for developing countries to balance the conventions on climate change and biodiversity, issues mainly preoccupying developed countries.[60] Despite the 1977 PACD observation that it is improper to couple desertification and desert advance, the memory of the international attention desertification attracted in the seventies must have made it tempting use the image again. It has been suggested that many African delegations wanted to create a convention that focused on development aid, that would bring about new and additional resources in spite of donor fatigue, and not an agreement that would focus on the scientific issue.[61]

As noted earlier, during negotiations in Rio, Western countries tended to see desertification as a pattern of local environmental problems that were impossible to address in a unitary manner. In this light, developing country delegations may have associated expert advice stressing the complexity and site-specificity of the issue with the position of the North, because it would seemingly dilute the argument for a global convention. There was thus an incentive to prevent experts from giving advice that would complicate the matter. This fear was reinforced when non-African members of the Group of 77 and China (as described in Section 6) at regular intervals in the negotiations insisted that attention should be given to non-African geographical regions as well, or else the global nature of the CCD, and thus the need for the agreement itself, would be called in question. This issue arose already during the first negotiating session.[62]

In Rio, a definition of desertification was agreed on as described in Section 4.1. The decision on what the Convention would concern was consequently made long before the scientific expertise engaged to advise the 1993-4 desertification negotiations could have a say about how to perceive and address the problem. While at the very first day of the first session of negotiations, a developing country delegate discouraged any attempts at redefining it, the Agenda 21 definition of desertification was never seriously challenged.[63] With the problem already defined, a major avenue for potential expert influence was lost. This provides part of an explanation as to why experts were marginalized, but cannot be the single reason why they lacked influence. Despite the pre-decided definition, experts could have made significant contributions on, for instance, the design of preventive measures.

Consequently, expert advice was not affected by regional/domestic political considerations, but as we have seen in Sections 2 and 4, the advice of desertification experts have implications for development aid policy. There were countries who saw the Convention as a political means in the North-South conflict over development aid and who wanted to refrain scientific experts from influencing the issue with scientific complexities. This contributes to explaining why experts had low influence.

7.4 The institution for expert advice

A fourth explanation involves the institution for expert advice, the International Panel of Experts on Desertification (IPED). Since the scientific experts came into the picture at the same time as the convention work was being launched, there was not much time to make preparations for the provision of scientific advice. The IPED meetings were held in Geneva in advance of the negotiating sessions, so the negotiating committee (INCD) was unable to put questions concerning scientific issues under negotiation directly to the Panel as they arose during the

negotiations. The Secretariat forwarded questions and answers between the INCD and IPED, having a role similar to an interpreter's.[64]

There was only direct communication at the information sharing segment of the first session when two experts from the Panel held presentations on: the inter-relationships between the global climate system, drought and desertification, including the impact of desertification on climate change and global warming; and about desertification as a threat to the conservation and utilization of biodiversity.[65]

Another effect of the late establishment of the IPED was that reports from the Panel made it to the negotiations at a stage when complex scientific advice did not attract much interest. Two reports were delivered at the fourth negotiating session and a third one at the fifth and last session, when negotiations on the sensitive financial questions were mainly being addressed on a political basis behind closed doors. At that stage few delegates had the time, or the energy, to assimilate information from extensive scientific reports. To have had any significant influence on negotiations, this information should have been provided at the first or second sessions, when delegates were discussing the structure and elements to be included in the Convention. Had experts' views been available at this stage, they may also have had influence over how delegates would address the problem, since it was the time of agenda setting.

At the last negotiating session, some delegates concluded that the insufficient scientific input was due to the lack of infusion of scientific and technical expertise. They suggested that an institution like the IPCC, which provided information to the climate change negotiations, would have resulted in a better balance between science and politics.[66] One delegate later claimed that the INCD's lack of support from a large body of scientists left negotiators seriously handicapped,[67] and IPED may have been consciously designed to have low influence. Decision-makers who disliked the influence of experts on the climate change negotiation process hoped to avoid a similar situation in the CCD case and therefore set up a small expert panel (15 to 16 members compared to IPCC's 250 to 300 experts). These would then not have the same global authority as the IPCC, but one could on the other hand argue that they could have more influence on the Secretariat, being a small group that could easily meet. The group would also have fewer problems with internal organization and reaching consensus decisions.

However, the core of the problem in this case was that there was no existing coordinated international community of desertification scientists, similar to that of the climate change network, that the IPED could build upon. The IPCC was created on the initiative of UNEP and the World Meteorological Organization and had existed for some time before the initiative to negotiate a convention was made.

The influence of experts was low on negotiations and it is likely to remain low after the entry into force of the Convention (December 1996) since the mandate of the IPED expired six months after the conclusion of the Convention (December 1994). The Panel has thus been unable to influence the interim period negotiations that dealt with how scientific advice shall be provided to the Conference of the Parties. The combination of the design of the institution for expert advice and experts' working conditions provides a considerable part of the explanation as to why experts were marginalized.

Thus, to conclude, several reasons why experts were marginalized have been provided here. Some of them seem to explain why experts were marginalized in the 1993-4 negotiations of the Desertification Convention. Because scientific experts were prevented from giving advice, as the effect of North-South politics, and the design and working conditions of the IPED, scientific expertise was marginalized in the desertification negotiations.

8. Non-scientific Expert Influence

Some observers of international negotiations tend to equate the institutions of negotiating processes, such as the Panel of Experts, with the individuals who participate in them (the experts). In turn, the assumption is often made that the group of "experts" consists only of scientists. Ex-

aminations of the role of experts in international environmental negotiations are often confined to the activities of the members of the scientific expert group.[68]

The view of experts-as-scientists is common. While experts often are scientists associated with or who hold positions at prestigious institutions, there are also those with knowledge acquired through the familiarity with the issue (which is this case could be rephrased as "locally gained knowledge") who have issue-relevant knowledge. Thus a wider definition of expertise as *a specialized skill or technical knowledge*, which allows the inclusion of specialists without an academic degree but possessing key knowledge, is more appropriate in this context.

It is likely that not only scientists appointed to the expert panel, but national delegates, non-governmental representatives as well as other actors may have relevant knowledge about the issue under negotiation. Taking this view means implicitly arguing that relevant issue competence may not only be of a scientific character. In this case those with field experiences from combating dryland conditions or those who live in affected areas may provide information which is just as useful as scientific work.

The conclusion is that we should not only be looking for expertise in the formally appointed scientific expert panel, but rather for profiles of issue competence which can be found in various actor groups in a negotiation. Thus, it is interesting in this case is to contrast the low scientific influence with that of other kinds of experts.

Non-governmental organizations (NGOs) have increasingly been allowed to observe international negotiations, and at the Earth Summit a record number of them attended. Their presence does not only allow for them to inform themselves, they can also provide pertinent information and advice, sometimes directly "from the field".

NGOs were strongly encouraged by the CCD Chairman and Secretariat to participate. During negotiations the NGOs supported the proposal for a participatory bottom-up approach, which was to remedy the lack of implementation of the PACD, and the inclusion of that principle can partly be ascribed to NGO activities at the negotiations. It is also in their own interest to support the approach, since it could bring NGOs further into the process of making and implementing policies. Their physical presence on the conference floor made it possible to follow the negotiations in detail and lobby or make relevant statements.

Another reason for NGO influence was that they constituted a fairly homogeneous group which could agree on joint strategies and statements. During the year it took to negotiate the CCD they organized themselves in a network, which is now operating. *Le Réseau d'ONG sur la Désertification et la Sécheresse* is a world-wide cooperation between NGOs involved in the implementation of the Convention.

Because of their observer status, with no right to vote, NGOs have no direct influence on the negotiated text. However, their encouraged participation, their presence on the conference floor and their homogeneity, combined with an openness of the negotiating process, contributed to the successful influence of the NGO desertification expertise on certain issues.[69]

For example, in Article 21, Paragraph 1(d) the CCD recommends the establishment of national desertification funds, a proposal that originated with the NGOs; and the CCD also encourages participation of NGOs and local populations in the development of national action programs in Article 10, Paragraph 2(f).

Despite their limited formal position, NGOs did indeed have relatively large influence, which demonstrates the possibility for actors other than country delegations to have input in the negotiations. The NGO influence thus underscores the low scientific expert influence.

9. Conclusions

Experts are often asked to provide advice to international environmental agreements, but their influence varies. In the negotiation of the Convention to Combat Desertification scientific expert influence was marginal. Alternative explanations provided here for low influence have to do with the science of the desertification problem, the lack of expert interest, the politicization of expert

advice, and the design of the international institution for expert advice. After looking at these explanations it was found that in this case the desertification experts had little influence mostly because expert advice became entwined in the North-South politics of the issue and because of the design of the institution for scientific advice.

Desertification was one, if not the first, of the big international environmental issues which attracted international public attention. With the series of serious droughts in Africa in the sixties and seventies "combatting desertification" became associated with "stopping the advancing desert". Numerous development aid projects were launched to prevent this problem. When the issue came on the international agenda for the second time, in the run up to the Earth Summit, African countries wanted a convention for developing countries and were trying to raise environmental development aid for their continent. They were also aware of the danger of emphasizing the special role for Africa too strongly; other Southern countries wanted their share in the Convention as well. Additionally, during UNCED Northern countries argued that desertification was a local problem which should not be addressed in an international convention. Despite their resistance, it was decided upon the negotiation of a convention and if scientists would provide advice emphasizing the complexity and site-specific nature of desertification, the whole process could be called in question again.

Experts who got involved with the negotiating process had little chance to influence the outcome, because the International Panel of Experts on Desertification came late into the process. By the time the Convention was to be negotiated, issues such as the definition of the problem (over which experts could have had influence) were already decided on. There was limited time to provide expert reports, which arrived too late in the negotiation process to have significant impact on agenda setting and thus the contents of the Convention. The Panel may have been deliberately designed to be a small group which would merely serve as scientific legitimization for the negotiations. Moreover, the absence of an already established international network of scientists made it even more difficult for the Panel to have influence over the negotiations.

While scientific experts participating in the desertification negotiation process were marginalized, the NGOs' success in transmitting their points into the Convention, despite their lack of formal influence, contrasts with the scientific experts' marginal influence. It underscores that non-state actors can influence negotiation outcomes.

This study then suggests that when studying the impact of expert advice on international environmental negotiations, it is important to widen the perspective from only studying scientific experts appointed to expert panels, to including other actors who may have issue competence in the matter. Actors' profiles are more important than their formal position in a negotiation.

Notes

[1] Haas, P., 1990, *Saving the Mediterranean: The Politics of International Environmental Cooperation*, Columbia University Press, New York, NY, USA, p. 54.

[2] See, for instance, Boehmer-Christiansen, S., 1994, "Global Climate Protection Policy: The Limits of Scientific Advice, Part 1", *Global Environmental Change*, 4(2):140–159; Boehmer-Christiansen, S., 1994, "Global Climate Protection Policy: The Limits of Scientific Advice, Part 2", *Global Environmental Change*, 4(3):185–200; Litfin, K., 1994, *Ozone Discourses: Science and Politics in Global Environmental Cooperation*, Columbia University Press, New York, NY, USA; and Paterson, M., 1996, *Global Warming and Global Politics*, Routledge, London, UK.

[3] Lanchbery, J., and Victor, D., 1995, "The Role of Science in the Global Climate Change Negotiations", in H.O. Bergesen and G. Parmann, eds., *Green Globe Yearbook of International Co-operation and Development*, Oxford University Press, Oxford, UK, pp. 29–40. However, it has also been claimed that scientists of the IPCC did have considerable influence, which they used in order to further their own interests. See Boehmer-Christiansen, 1994, "Global climate protection policy: the limits of scientific advice, Parts 1 and 2".

[4] Other perspectives than the one chosen here have been applied in the study of the desertification negotiations, notably the focus on the bottom-up approach in the convention. This approach

is signified by emphasizing the importance of participation of affected populations in the implementation of the convention. See, for instance a legal analysis by Danish, K., "International Environmental Law and the 'Bottom-Up' Approach: A Review of the Desertification Convention". <http://www.law.indiana.edu/glsj/vol3/no1/danish.html>. See also Chasek, P., "The Convention to Combat Desertification: Lessons Learned for Sustainable Development", paper presented to the 1996 International Studies Association Conference.

[5] Sundqvist, G., 1991, Vetenskapen och miljöproblemen – en expertsociologisk studie, Monograph from the Department of Sociology, University of Gothenburg, No. 46, May, p. 15.

[6] Thomas, D.S.G., and Middleton, N.J., 1994, *Desertification: Exploding the Myth*, John Wiley & Sons, Chichester, UK, p. 17.

[7] Agenda 21, paragraph 12:2, as published in Johnson, S.P., 1993, *The Earth Summit: The United Nations Conference on Environment and Development (UNCED)*, Graham & Trotman/Martin Nijhoff, London, UK, p. 244.

[8] Aubreville, A., 1949, *Climats, forêts et désertification de l'Afrique tropicale*, Société d'éditions géographiques et coloniales, Paris, France, p. 332, as translated by M. Mainguet in *Desertification: Natural Background and Human Mismanagement*, Springer-Verlag, Heidelberg, Germany, Series in Physical Environment, No. 9, 1991, p. 6.

[9] Pearce, F., 1992, "Mirage of the Shifting Sands", *New Scientist*, No. 1851, 12 December, pp. 38–42. Despite the dramatic nature of such a claim, it was made without specifying any source.

[10] *World Atlas of Desertification*, 1992, United Nations Environment Programme, Edward Arnold, London, UK, p. vii.

[11] See *Famine: A Man-made Disaster? A Report for the Independent Commission on International Humanitarian Issues (ICIHI)*, 1985, Cox & Wyman Ltd, Reading, UK, p. 81; and Ahmad, Y.J., and Kassas, M., 1987, *Desertification: Financial Support for the Biosphere*, United Nations Environment Programme, Hodder and Stoughton, London, UK, p. viii.

[12] Helldén, for instance, states that "(i)t has even been questioned whether desertification is actually occurring and the word 'myth' has been mentioned. There is a lack of data to substantiate the hypothesis of a secular, mainly man made, trend towards desertlike conditions in the Sahel. The need for a 'desertification' assessment, based on scientific principles, is strongly felt." Helldén, U., 1991, "Desertification – Time for an Assessment?", *Ambio*, **20**(8):372-383, December.

[13] Glantz, M.H., and Orlovsky, N., 1983, "Desertification: A review of the Concept", *Desertification Control Bulletin*, No. 9, pp. 15–22.

[14] Dregne, H.E., 1987, "Reflections on the PACD", *Desertification Control Bulletin*, No. 15, pp. 8–11.

[15] Toulmin, C., 1993, *Combatting Desertification: Setting the Agenda for a Global Convention*, Paper No. 42, June, International Institute for Environment and Development, London, UK.

[16] See Thomas and Middleton, 1994, *Desertification: Exploding the Myth*, p. 6; and United Nations Conference on Desertification (UNCOD): Round-up, Plan of Action and Resolutions, 29 August–9 September 1977, p. 5.

[17] See Graetz, R.D., 1991, "Desertification: A Tale of Two Feedbacks", in H.A. Mooney *et al.*, eds., *Ecosystem Experiments*, Wiley, SCOPE No. 45, p. 59; and *World Atlas of Desertification*, 1992, United Nations Environment Programme, Edward Arnold, London, p. 15.

[18] See Helldén, U., 1991, "Desertification – Time for an Assessment?"; and Bie, S.W., 1992, "The Degradation of African Drylands – New Evidence", Forum for Development Studies, No. 1, pp. 5–11.

[19] Hare, F.K., 1993, *Climate Variations, Drought and Desertification*, WMO – No. 653, World Meteorological Organization.

[20] See Graetz, R.D., 1991, "Desertification: A Tale of Two Feedbacks".

[21] See Thomas and Middleton, 1994, *Desertification: Exploding the Myth*, p. 3.

[22] United Nations General Assembly resolution 33337 (XXIV) from December 1974, calling for a conference on desertification.

[23] UNCOD: Round-up, Plan of Action and Resolutions, p. 7 (Paragraph 10).

[24] Yearbook of the United Nations, 1977, Department of Public Information, United Nations, New York, NY, USA, Vol. 31, pp. 509–514.

[25] See Thomas and Middleton, 1994, *Desertification: Exploding the Myth*, p. 33.

[26] Bounajuti, A., 1991, "External Evaluation of the Plan of Action to Combat Desertification", *Desertification Control Bulletin*, **31**(20).

[27] Brenton, T., 1994, *The Greening of Machiavelli: The Evolution of International Environmental Politics*, Earthscan Publications Ltd, London, UK, p. 123.

[28] See Pearce, F., 1992, "Mirage of the Shifting Sands".

[29] Verstraete, M.M., 1986, "Defining Desertification: A Review", *Climatic Change*, No. 9, pp. 5–18.

[30] See Thomas and Middleton, 1994, *Desertification: Exploding the Myth*, p. 10.

[31] UNCOD: Round-up, Plan of Action and Resolutions, p. 7 (Paragraph 7).

[32] UNCOD: Round-up, Plan of Action and Resolutions, p. 5.

[33] See Dregne, 1987, "Reflections on the PACD".

[34] UNEP, Report on Ad-Hoc Consultation Meeting Assessment of Global Desertification: Status and Methodologies, Nairobi, Kenya, 15–17 February 1990, as quoted in Helldén, 1991, "Desertification – Time for an Assessment?".

[35] United Nations Convention to Combat Desertification in Those Countries Experiencing Drought and/or Desertification, Particularly in Africa, Part I, Article 1(a).

[36] See Toulmin, 1993, *Combatting Desertification: Setting the Agenda for a Global Convention.*

[37] See Pearce, 1992, "Mirage of the Shifting Sands".

[38] Greene, O., 1996, "The Development and Implementation of International Environmental Regimes", in R. Blackmore and A. Reddish, eds., *Global Environmental Issues*, Hodder & Stoughton, London, UK, pp. 280–312.

[39] Simons, M., 1994, "Nations Sign Pact to Stop Desert Growth: Accord Aims to Save Land for Agriculture", *The New York Times*, 16 October 1994, p. 4.

[40] See Helldén, 1991, "Desertification – Time for an Assessment?".

[41] See Graetz, 1991, "Desertification: A Tale of Two Feedbacks".

[42] See Brenton, 1994, *The Greening of Machiavelli: The Evolution of International Environmental Politics*, pp. 215–216.

[43] See Johnson, S.P., 1993, *The Earth Summit: The United Nations Conference on Environment and Development (UNCED)*, Graham & Trotman/Martinus Nijhoff, London, UK, pp. 243–257; Brenton, 1994, *The Greening of Machiavelli: The Evolution of International Environmental Politics*, pp. 215–216; and United Nations General Assembly Resolution 47/188, 1992.

[44] See Kassas, M., 1995, "Negotiations for the International Convention to Combat Desertification (1993-1994)", *International Environmental Affairs*, **7**(2):176–186, Spring; and Volume 4 of Earth Negotiations Bulletin, which reports on the negotiations of the CCD. For a table of contents of the Bulletin issues, see <http://www.iisd.ca/linkages/vol04/0400000e.html>.

[45] United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa: Text with Annexes, 1994, UNEP's information unit for conventions on behalf of the Interim Secretariat for the Convention to Combat Desertification.

[46] See Kassas, 1995, "Negotiations for the International Convention to Combat Desertification (1993–1994)"; and Volume 4 of Earth Negotiations Bulletin.

[47] Chasek, P., Corell, E., Goree, L.J., and Mwangi, W., 1995, "Summary of the Sixth Session of the INC for the Elaboration of an International Convention to Combat Desertification, 9–18 January 1995", *Earth Negotiations Bulletin*, **4**(65), January.

[48] Danish, K., "International Environmental Law and the 'Bottom-Up' Approach: A Review of the Desertification Convention". <http://www.law.indiana.edu/glsj/vol3/no1/danish.html>.

[49] See Brenton, 1994, *The Greening of Machiavelli: The Evolution of International Environmental Politics*, p. 70.

[50] Chasek *et al.*, 1995, "Summary of the Sixth Session of the INC for the Elaboration of an International Convention to Combat Desertification, 9–18 January 1995".

[51] This analysis is based on M. Kassas' article in International Environmental Affairs; various issues of Volume 4 of Earth Negotiations Bulletin; and the author's observations at the negotiations.

[52] Experts were drawn from the areas of agro-forestry, alternative energy systems, biodiversity, climatology, dryland ecology, geographical information systems, historical geography, land resource planning, pastoral systems, protection of cultural resources, socio-economics, soil science, water conservation and water resource management.

[53] Bernstein, J., Chasek, P., and Goree VI, L.J., 1993, "A Summary of the Proceedings of the Organizational Session of the INC for the Elaboration of an International Convention to Combat Desertification", *Earth Negotiations Bulletin*, **4**(1):2–3, February; and Bernstein, J., Chasek, P., and Goree VI, L.J., 1993, "A Brief History of the INCD", *Earth Negotiations Bulletin*, **4**(2):2, May.

[54] This is not to say that proponents of climate caused desertification do not support the development of or improvement of dryland management systems to better the conditions in drylands.

[55] Brenton, 1994, *The Greening of Machiavelli: The Evolution of International Environmental Politics*, p. 255.

[56] Tolba, M.K., 1987, "The Tenth Anniversary of UNCOD", *Desertification Control Bulletin*, No. 15, pp. 3–7.

[57] Chasek, P., Goree, L.J., and Mwangi, W., 1993, "Summary of the First Session of the INC for the Elaboration of an International Convention to Combat Desertification, 24 May–3 June 1993", *Earth Negotiations Bulletin*, **4**(11):2, June.

[58] Simons, 1994, "Nations Sign Pact to Stop Desert Growth: Accord Aims to Save Land for Agriculture".

[59] Chasek *et al.*, 1993, "Summary of the First Session of the INC for the Elaboration of an International Convention to Combat Desertification, 24 May–3 June 1993", p. 10.

[60] See Toulmin, C., 1993 "Combating Desertification by Conventional Means", *Global Environmental Change*, **5**(5):455–457.

[61] Bernstein *et al.*, 1994, "Summary of the Fifth Session of the INC for the Elaboration of an International Convention to Combat Desertification, 6–17 June 1994".

[62] Chasek *et al.*, 1993, "Summary of the First Session of the INC for the Elaboration of an International Convention to Combat Desertification, 24 May–3 June 1993", pp. 10–11.

[63] Chasek, P., Goree VI, L.J., and Mwangi, W., 1993, "INCD Highlights 24 May 1993", *Earth Negotiations Bulletin*, **4**(3):2, May.

[64] It was suggested by one of the members of the IPED in an interview made at the fifth, and last negotiating session of the INCD, that the Secretariat used this role as interpreter by forwarding only the information from IPED meetings that supported the view that suited the Secretariat's purposes. Interview 940615.

[65] Chasek *et al.*, 1993, "Summary of the First Session of the INC for the Elaboration of an International Convention to Combat Desertification, 24 May–3 June 1993", p. 2.

[66] Bernstein *et al.*, 1994, "Summary of the Fifth Session of the INC for the Elaboration of an International Convention to Combat Desertification, 6–17 June 1994".

[67] Kassas, 1995, "Negotiations for the International Convention to Combat Desertification (1993–1994)", p. 177.

[68] For instance, see Boehmer-Christiansen, 1994, "Global Climate Protection Policy: The Limits of Scientific Advice, Part 1 and 2".

[69] Bernstein *et al.*, 1994, "Summary of the Fifth Session of the INC for the Elaboration of an International Convention to Combat Desertification, 6–17 June 1994".