



# The changing role of nation states in international environmental assessments—the case of the IPCC

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## Abstract

In 1988, the incoming head of one of the most prominent scientific assessment bodies, the Intergovernmental Panel on Climate Change (IPCC), explained: “Right now, many countries, especially developing countries, simply do not trust assessments in which their scientists and policymakers have not participated.” Since then, the international community gathered significant experience in designing and organising international assessments that allow for broad participation by representatives of national governments and influence domestic and international policy making. By analysing the case study of the IPCC, the paper focuses on the role of individual nation states played in international assessments and how this role changed over time and why. It is shown that there is a tendency of increasing internationalisation in the field of climate research and climate policy that limits the specific influence of individual nation states. The study of the internal processes of the IPCC reveals a growth of internal dynamics that built up boundaries for the behaviour of individual actors (such as government representatives and scientists). However, over the years the actors involved also learned how to use the IPCC mechanisms more effectively.

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## 1. Introduction

Scientific assessments like those conducted by the Intergovernmental Panel on Climate Change (IPCC) play a pivotal role in the interaction processes between public policy making on the national and international level on the one side and scientific research and policy advice on the other. In a social-science perspective, scientific assessments could be understood as social processes which help to translate expert knowledge into policy-related forms of knowledge that exert some form of influence on actual decision-making processes. Therefore, their study becomes crucial for understanding how and why scientific information affects public policy making and political decision making as a whole.

It is only since very recently that comprehensive interdisciplinary research has addressed these issues in particular in the international sphere. Here, scientific assessments have been characterised as “boundary organisations, which help to stabilize the boundary

between science and politics by imposing a particular set of principal-agent relations” (Guston, 1999, p. 2). Being located in between the scientific and the political realm, assessments have to moderate between a dedication to notions of truth and credibility in the scientific world and claims of interest, power and legitimacy in the political world (Jasanoff, 1990, 1995; Gieryn, 1996). Based on these concepts, Mitchell et al. (2003) developed a conceptual framework to capture the relevant factors that determine an assessment’s effectiveness in the process of policy making in particular fields of policy such as ozone depletion or the mitigation of climate change. In this framework, the relationship between science and policy in assessments is not only seen as a linear one but is conceptualised as a circular influence from science to policy making and from the political sphere back towards science and the assessment. In this perspective, the role of political actors such as representatives of national governments is of particular interest since they have a twofold function: (i) they have to pursue political interests of their country and (ii) they are part of a scientific process which is dedicated to informing policy makers on the basis of the latest

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research findings. These roles not always coincide and therefore political actors in assessments often are confronted with conflicting interests.

Moreover, international assessments are part of an emerging system of global governance with a number of new institutions and organisations where nation states and international assessment bodies play a particular role. However, there are opposing views of their importance in the system of international politics: while one group of scholars describes the growing strength of international institutions as opposed to nation states (Young, 1991, 1997), others deny international institutions the role as independent actors since they claim that all power is maintained by nation states (Grieco, 1990; Waltz, 1979). When viewing international environmental assessments as a new form of international institutions, we have to question which role nation states play in them: Do they maintain their position as the only sovereign actor or do the international processes gain influence over the interests of nation states?

Therefore, this paper investigates the role of nation states as actors in international scientific assessments in order to answer the following questions: (i) How could the influence of nation states in environmental assessments be measured? (ii) Is the influence of nation states in assessments increasing or decreasing over time and what does that imply for international policy making? (iii) What can be concluded about the role of nation states in international (environmental) politics?

These questions will be analysed based on the empirical case study of the internal processes in the IPCC. Being the largest effort to assess the existing knowledge about an environmental problem so far, the IPCC has gained much attention by researchers as well as policy makers. Since its beginning in 1988, the assessment has produced three major assessment reports and a sizeable number of technical and more specific reports. Over time, the design of the assessment changed significantly which renders the case interesting for the study of changes in the role of particular actor groups in the process such as politicians and bureaucrats representing nation states.

Before focussing on the case study, first some general characteristics of assessments at the interface between science and policy and of the general functions of nation states in them should be discussed in Section 2. In addition, this section provides some basic definitions and conceptual clarifications that will be applied to the case of the IPCC in the subsequent Section 3. In this section, those design elements of this assessment will be analysed that could be considered decisive for evaluating the role of nation states and their representatives in the IPCC assessment process. Section 4 draws conclusions in order to answer the research questions posed above.

## 2. Assessments and their role in political processes

Assessments have been defined in various ways. Most of the available definitions focus on the output in form of reports, documentations or policy recommendations in order to capture the essence of an assessment. However, this approach underestimates the internal dynamics that lead to the final product. Therefore, assessments have been described more broadly as “the entire social process by which expert knowledge related to a policy problem is organised, evaluated, integrated, and presented in documents to inform policy or decision-making” (GEA, 1997, p. 53). This definition highlights the numerous and overlapping social processes within the production of a document or any other outcome of an assessment process, which seems to be crucial for the understanding of the final outcome.

Being established at the boundary between science and political decision making, assessments regularly incorporate political actors in the processes of evaluation, discussion and approval with different degrees of influence on the assessment process. In some assessments, representatives from governments play an integral part in the process and are heavily involved in the preparation of the final documents while in others active participation is restricted exclusively to scientists leaving policy makers without any measurable influence.

In any case, Lee (1993) argues that actors can only have one role in this field, they are either politicians or scientists.<sup>1</sup> However, he acknowledges the existence of roles that lie in between both ends of the spectrum, such as administrators organising scientific knowledge for the purposes of political decision making and the professional analysts who build on their scientific knowledge in their practical activity in society, comparable to doctors or engineers. Recent case-study based research led to somehow different conclusions stating that individuals might fill in several roles in this spectrum—sometimes in a very effective way (Farrell et al., 2001). For the specific purpose of this paper it seems advisable to concentrate on the political end of the spectrum assuming that political decision makers in most cases stick to their role even though some might take on additional functions in the process.

The literature on boundary organisations considers assessments as the field in which the dividing line between the scientific and the political domain is constantly under negotiation (Gieryn, 1996; Guston, 1999). In these “boundary negotiations”, it is decided who is entitled to deal with which kinds of issues. The outcome could be, for example, that scientists have to surrender to political imperatives or that decision makers are exclusively dependent on scientists and their recommendations. Whatever the outcome will be, this

<sup>1</sup> Lee's concept is based on Prince (1965).

perspective clarifies that there are no objectively given boundaries between the two spheres and that this line is subject to negotiations between various social actors. Thus, the role of nation states and their representatives is not fixed in any kind of assessment but will vary calling for a case-by-case analysis as undertaken in the subsequent section.

In this context, social studies of science and technology have stressed the need for a perspective on the underlying norms of any kind of negotiation and assessment process. Thus, there is the idea of pure science permeating through assessments which regards science as completely independent provider of knowledge governed by its own rules and quality assurance mechanisms whereas others see assessments as being directed by political needs including those fields of knowledge where uncertainty is high. Both views build on particular sets of convictions and norms (Jasanoff, 1990). Most of the research scrutinising these norms and interactions between policy and science has been conducted in relation to national regulatory processes such as US environmental policy.

Scientific assessments in the international arena have only recently entered the focus of social-science research partly because they are rather recent phenomena that emerged in the context of international negotiations like those on the protection of the stratospheric ozone layer in the mid-1980s. On the other hand, it has to be acknowledged that international assessments face different challenges and in most cases exhibit somewhat different characteristics than national assessments. While national assessments remain in one cultural and political frame of reference, international assessments have to deal with a large diversity of political systems and ideologies as well as different scientific paradigms and capacities (Cash and Moser, 2000). These preconditions give nation states a distinct role in international assessment endeavours.

The particular challenges and approaches to international assessments have been addressed by the Global Environmental Assessment Project which provided the framework for numerous case studies and conceptual work in the field of international assessments.<sup>2</sup> The project has examined assessment experience on a wide range of environmental issues, including climate change, stratospheric ozone depletion, biodiversity, acidification, other forms of tropospheric air pollution, and toxic chemicals. The conceptual approach focuses on the analysis of the effectiveness of these assessments in political processes and within certain design features in this process. Accordingly, effectiveness has been framed

as the impact an assessment has on the political decision-making process in the related environmental issue domains such as climate change, biodiversity and alike.

It is the underlying conviction of the framework developed by Mitchell et al. (2003) that the information being produced in assessment processes might influence what they call “issue development”, i.e. changes in the political decision making in one issue domain.<sup>3</sup> These changes could be caused through information when the assessment has attributes that foster its effectiveness. On the basis of the findings of the project it has been concluded that assessments are most influential when they manage to be salient to the potential users, credible in regard to the scientific methods, and legitimate in the way the assessment is designed. Thus the following three criteria have been identified:

- *Saliency*: An assessment process or its products are salient, when the participants in a certain area of policy making perceive them as relevant to them and their decision-making situations.
- *Credibility*: An assessment is regarded credible by a participant when he or she is convinced that the facts, causal beliefs, and options outlined in the assessment deserve to be believed. He or she decides that the information is either “true” or, at least, worth using instead of other information. For information to be credible, the recipient must be convinced that the facts and causal beliefs promoted in the assessment correspond to those that the user her- or himself would have arrived at had she conducted the assessment.
- *Legitimacy*: The legitimacy of an assessment will be understood as its ability to convince a participant that the goals pursued in the assessment correspond to those that the recipient would have used had he or she been responsible for the assessment.

In this conceptual framework, these attributes of assessments are determined by certain design elements that either hamper or foster the saliency, credibility, or legitimacy of an assessment. Among these elements, the involvement of nation states comes into play at different stages. In the following, the role of nation states in assessments will be examined based on these design features which should serve as research categories for the subsequent case study. They pertain to the design of the science-policy interface, participation issues, and conflict resolution mechanisms in place.

### 2.1. *Design of the science-policy interface*

There are different options how to design interactions between scientists and policy-makers within assessment

<sup>2</sup>See <http://environment.harvard.edu/gea> for more information, including copies of the GEA working papers. In the near future, three volumes will be published out of this research: Farrell and Jaeger (2003), Mitchell et al. (2003) and Jasanoff and Long (2003).

<sup>3</sup>The term and the concept of issue development has been described in more detail by Clark et al. (2001).

processes. In one extreme case, interaction could be limited to an absolute minimum through isolating scientists from the policy process. The other extreme would be an intense and thoroughly crafted collaboration between individuals from both fields. The interaction could take place in formalised settings with clearly defined individual roles or in loose forms of cooperation mostly maintained through personal engagement of some individuals. Hence the influence of national governments hinges largely on the design of these forms of interaction (Farrell et al., 2001).

According to the theory of boundary organisations, irrespective of its position on this spectrum each individual and group is well advised to maintain its self-identity and protect its sources of legitimacy and credibility. Whatever the formal interaction structures might look like, there is nearly always the opportunity for informal communication between the two groups. Thus, representatives from national governments could interact and somehow influence scientific processes through these channels even if there is no direct formal interaction institutionalised in the assessment process.

## 2.2. Participation

The question of which individuals and organisations are allowed to take part in a scientific assessment, and when and how is of the essence for the assessment's saliency, credibility, and legitimacy. Participation in different phases of an assessment can vary substantially, there might be different actors involved in the phase of problem identification than in the process of conducting the assessment, or in the final communication of the results. Moreover, there is a spectrum of options how to arrange participation. Broad participation of many different individuals and actor groups such as governments, scientists from many related fields, NGO representatives, and business might be valuable for ensuring legitimacy and saliency, whereas an exclusive participation of scientists might be of great value for maintaining credibility (Farrell et al., 2001).

The involvement of governmental representatives is regularly justified by the chances to ensure saliency and legitimacy, but they might also be valuable in maintaining credibility. Being somehow integrated in national policy making, these representatives firstly could help to strengthen the link between scientific advice and the policy world and to make the final document as user-friendly as possible. They could communicate political decision needs and the necessary substance and style required to make the final document read by other policy makers. Secondly, simply by being part of the process, these representatives could grant legitimacy to the assessment process since they provide a link to the political process of democratic representation of public opinions. Thirdly, government representatives could

facilitate the integration of their national science communities and their expertise which might enhance the assessment's credibility in scientific terms (Biermann, 2001, 2002).

However, generally speaking, there should be a link between the environmental problem at hand and the participation of nation states. In transboundary assessments, governments of those nations might have a strong interest to participate whose national territories or people are affected by the problem in one way or another. They might be major contributors to damaging emissions or victims of these emissions or other consequences of a problem like sea-level rise. In problems of global scale such as climate change or ozone layer depletion, the participation of all nations will be advisable, since all are affected in some way.

In assessments, participation-related decisions could be separated in those regarding who participates and decisions about the rules and norms of participation. In case the latter decision has to be made by consensus, it might be problematic to incorporate many groups and nations with divergent perspectives and interests since it becomes more difficult to find final conclusions.

## 2.3. Conflict resolution

The presence of numerous national interests and expert opinions in international assessments necessitates a clear procedure how to resolve conflicts. Conflicts might arise either on the level of scientific dispute about certain research findings or on the political level around the acceptability of a scientific consensus.

Many environmental assessment processes have to operate under some form of consensus principle on one or on both levels which requires that the assessment products must achieve unanimous support (or at least no strong objections) before their release.<sup>4</sup> Another approach to dealing with differing opinions by the participants is to allow for "dissenting opinions" by a minority of the participants. Other approaches comprise the establishment of competing assessment processes and the inclusion of "minority reports". Probably the most typical but scarcely formally announced rule for assessment processes is to omit areas of great dissent from the process. In particular, legitimacy issues are affected by conflict resolution mechanisms. The consensus principle guarantees every participant an opportunity to veto the process and is perceived to be the fairest mechanism in UN procedures which endows each participating nation state with this kind of veto largely irrespective of economic or military power structures of these states.

<sup>4</sup>For a paradigmatic example of a consensus-oriented process see Eckley (2002).

### 3. The role of nation states in the IPCC

Which role do nation states play in a large-scale international assessment like the IPCC? How did this role change over time as measured in terms of the three criteria developed above? What can be concluded about the role of nation states in the promotion of climate change mitigation policy? The following case study will address these questions based on the investigation of the IPCC and its changes over time.<sup>5</sup>

The IPCC was established in 1988 and has been designed as an intergovernmental body that should assess the existing scientific knowledge on the causes and impacts of climate change, as well as mitigation strategies.<sup>6</sup> It is the largest effort of its kind and meanwhile claims are being articulated calling for similar assessment processes in other fields such as biodiversity or water issues (WBGU, 2001). Moreover, it provided the blueprint for the ongoing Millennium Ecosystem Assessment.<sup>7</sup>

Since its beginning, the IPCC has produced three major assessment reports (concluded in 1990, 1995 and 2001) and a sizeable number of special reports and technical papers as well as supporting materials such as guidelines and documentary materials. Over the years, the IPCC has undergone several changes in regard to the internal structures and procedures. The central criteria for this analysis with regard to the role of nation states are the three design elements identified above: the design of the science-policy interface, participation, and the conflict resolution mechanisms.

#### 3.1. Changes in the science-policy interface

Being an organisation at the interface between science and policy, the IPCC is thought to fulfill a twofold purpose. It should provide credibility to the scientific community and is intended to feed scientific and technical information into the political negotiation and implementation processes (Bolin, 1994). Therefore, it is worth examining how the interaction between scientific experts and the political community is designed, in particular in regard to the role of national governments and their representatives in this interaction. Because of the high level of contestation inherent in the issue of climate change and the political options involved, this interface has been crafted very carefully over the time being.

<sup>5</sup>This case study is based on an analysis of written documents and on a series of interviews conducted in 2001 with nine high-ranking officials of the IPCC. For further details of the study see Siebenhüner (2002).

<sup>6</sup>The IPCC has been described in its structure and evolution over time by Agrawala (1998a, b), Alfsen and Tora (1998), Boehmer-Christiansen (1994a, b), Franz (1998), and Siebenhüner (2003).

<sup>7</sup>For a description of the objectives and some design features see <http://www.millenniumassessment.org>.

The official interaction between scientists and policy makers is restricted to well-defined stages of the assessment process. Regular plenary sessions of the panel consisting of the representatives of national governments provide the forum for the constitution of the Bureau.<sup>8</sup> Governmental delegates elect the Bureau members on the basis of nominations from a nomination committee.<sup>9</sup>

It is the scientists of the Bureau who develop an outline of the report, the topics of the working groups and the division of labour among them. They suggest it to the national governments at the plenary session, where a final decision is to be taken. Then they select the authors<sup>10</sup> and reviewers based on the principles of scientific expertise and geographic representation. Coordinating lead authors and lead authors are chosen by the co-chairs and vice chairs of each working group under consideration of nominations from governments and participating organisations, and other experts. Since Bureau members have to found their decisions on their knowledge of publications and works, their decisions usually build to a large extent on informal contacts and communication between the scientists. Governments could nominate candidates in this phase but it remains with the members of the Bureau to select the most appropriate authors. By contrast, the whole process of the preparation of the chapters and the first round of peer review remains exclusively in the scientific realm as it is carried out exclusively by scientific experts. Governments enter the process once again in the second round of review when their comments to the revised drafts are being solicited. Finally, they have a crucial role in the approval of the summary for policy makers and the synthesis report where their agreement is required.<sup>11</sup> Government representatives are entitled to

<sup>8</sup>The Bureau of the IPCC consists of 30 individuals including the chairman and the vice-chairs of the IPCC as well as the co-chairs and vice-chairs of three working groups. All of them have to be scientists.

<sup>9</sup>On the occasion of the last election of the IPCC Bureau the plenary decided to revise and specify the rules of procedure for the nomination, election and the office terms of the Bureau (IPCC, 2002). Observers describe this election as comparatively contentious which might be explained by the increased political awareness for the IPCC. In the situation of a number of open questions concerning the rules of procedure for the election, national governments took the opportunity to pursue their national interests in the election process. Further specification of these rules might lead to a neutralisation of this influence.

<sup>10</sup>In the general rules of procedure, the IPCC distinguishes between “coordinating lead authors” who are responsible for the coordination of the individual contribution to a chapter, the “lead authors” who write the chapters and additional “contributing authors”. The latter are being responsible for the preparation of technical information in the documents (IPCC, 1999).

<sup>11</sup>The IPCC distinguishes between the “approval” of a document and its “acceptance”. The acceptance builds on the review procedures and is merely a formal acknowledgement of the main body of the working group report by the working group plenary. Approval, by contrast, requires the line-by-line discussion and agreement from all government delegates (IPCC, 1999).

attend plenary sessions of the working groups and discuss and approve the documents presented to them in a line-by-line procedure.<sup>12</sup> Their comments and requests for amendments, however, have to be based on published papers in the scientific literature. As yet, it could be summarised that the influence of national governments is largely restricted to the nomination and election of the Bureau members. The approval mechanism grants them rather limited influence as shown in passim.

The approval of the synthesis reports of the first and second assessment led to major discussions among the government representatives that could hardly be consensually concluded. Consequentially, the procedures concerning the synthesis report have been revised significantly in the third assessment. Firstly, it now addresses a list of key questions that have been developed in consultation with officials from the negotiating bodies of the UNFCCC.<sup>13</sup> Secondly, the synthesis report has been split into a longer document that has to undergo a hitherto unknown section-by-section approval process whereas the more focused summary for policy makers of the synthesis report has to be approved line-by-line which means in practice a word-by-word approval, according to participants in the plenary sessions (IPCC, 1999). Thereby, a high degree of saliency for policy makers is ensured granting significant influence to the group of national governments.

In terms of organisational structures, the science-policy interface in the IPCC assessment processes is filled with a number of committees (see Fig. 1). In the early 1990s, a Joint Working Group (JWG) between the IPCC and the negotiating bodies was established to facilitate direct communication among the scientific and political committees.<sup>14</sup> On the side of the IPCC, the Group consists of the chairperson of the IPCC and a number of members of the Bureau, on the side of the UNFCCC the delegation includes the director of the UNFCCC secretariat and several of his/her staff members as well as members of the Subsidiary Body for Scientific and Technological Advice (SBSTA) under the convention. The group provided a comparatively

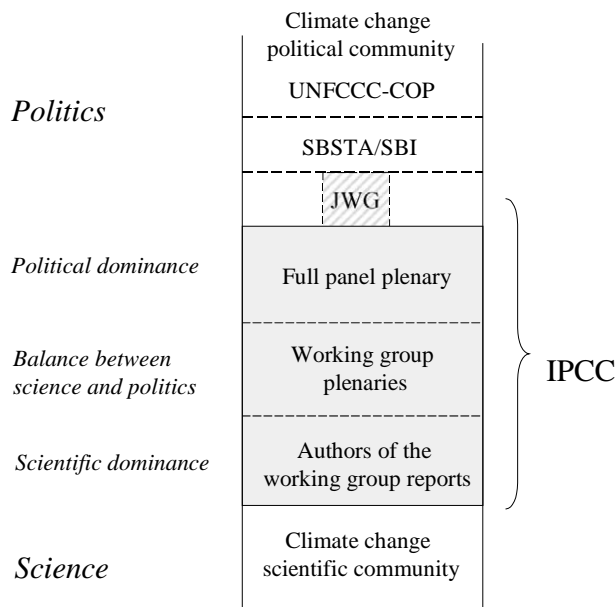


Fig. 1. The science-policy interface between the UNFCCC and the IPCC. Source: Based on Alfsen and Tora (1998).

informal forum to discuss the projects of the IPCC and the information needs of the negotiation processes. Since the group was established at a rather advanced stage of the second assessment report, its influence in this phase remained limited. During the preparation of the third assessment report, it became significantly more influential. The JWG met on a regular basis and had impacts especially in regard to the introduction of a new type of specialised IPCC reports, such as special reports on land use and land cover changes (Watson et al., 2000), or on the role of aviation (Penner et al., 1999).

In addition, the convention established two standing bodies consisting of government delegates: the Subsidiary Body for Scientific and Technological Advice (SBSTA) and the Subsidiary Body for Implementation (SBI). It is the task of the former to provide assessments of the state-of-the-art knowledge and it has to advise the negotiating parties on technological and methodological matters relating to the convention. Therefore, it should link the scientific information provided by the IPCC to the policy-oriented needs of the Conference of the Parties (COP). In this gate-keeper function, the SBSTA has to cooperate closely with the IPCC and could request specific studies from it. The latter, the SBI, is in charge of the assessment and review of the implementation of the convention. Among others, it has to examine the national emission inventories submitted by the parties. Participation is open to all national governments who are parties to the convention, and governments are expected to send representatives who are experts in the fields of the respective bodies (UNFCCC, 1995).

<sup>12</sup>The summaries for policymakers are intended to provide the essential information of the assessment reports of each of the three working groups to policy makers in a less technical language. The synthesis report encompasses all the relevant information of the work of all three working groups.

<sup>13</sup>See <http://www.ipcc.ch/activity/tarquestion.html>.

<sup>14</sup>The group was founded in 1993 based on an initiative of IPCC-chairman Bert Bolin. After the first Conference of the Parties under the UNFCCC in 1995, it acquired its title as IPCC/UNFCCC Joint Working Group (Agrawala, 1998a). Today, the JWG is located in between the Subsidiary Body for Scientific and Technological Advice SBSTA and the IPCC.

Whereas the SBSTA is more closely linked to the scientific world, participants of the SBI face a much more politicised task which even might intervene into national politics. Although national governments could participate in the body, they have limited influence on the outcomes given the great number of parties. Moreover, they have to face the threat that this body could decide in disfavour for them when implementation issues are being negotiated. Although these bodies do not have the authority to enforce sanctions, reputation effects of a critical discussion of a country's performance in CO<sub>2</sub>-emissions are already sizeable. Therefore, it could be concluded that the introduction of the subsidiary bodies to the climate convention have decreased the influence of individual national governments in the assessment process in the climate change area.

### 3.2. *Participation of nation states*

Before the IPCC started its work in 1988, there were intense discussions about the proper structures of a new assessment on climate change given the existence of numerous national assessments based on highly renowned scientific expertise (Agrawala, 1998b). However, Bert Bolin, who became the first chairman of the IPCC claimed: "Right now, many countries, especially developing countries, simply do not trust assessments in which their scientists and policymakers have not participated. Don't you think credibility demands global representation?" (cit. after Schneider, 1991, p. 25) This idea was the underlying conviction of the intergovernmental organisational design of the IPCC and the governmental approval mechanism.

Since its launch, more and more governments participated in the plenary sessions of the IPCC where the final documents had to be approved. Whereas the first session was attended only by representatives from a total of 30 countries, at the ninth session in 1995 their number totalled 117. Subsequently, participation in the plenary sessions varied between 80 and 110 countries represented. It is already these numbers that indicate a decrease in the influence of the individual national governments given the increase of total participation of countries. Due to the rising numbers of representatives from the policy world, the whole process changed over time. When it was very loosely organised in the beginning, the procedures became more and more formalised and institutionalised.

The increase in participation certainly mirrored the growing awareness of the problems of climate change on the side of national governments and the key role of scientific advice in this issue. In particular, a growing number of developing country governments sent delegates to the IPCC plenaries in order to have a foot in the door to the scientific and thereby also to the political

negotiation processes. Consequently, the percentage of participating countries from non-OECD countries grew from nearly 50% to over 80% in the first 7 years of the IPCC (Agrawala, 1998a). Although many of their representatives had less expertise on climate issues than their colleagues from industrialised countries (Biermann, 2001), they formed an ever stronger subgroup in the IPCC. However, the developing countries seldom share a common position in the plenary sessions due to their diverse interest structures. Oil-producing countries often pursue largely different lines of argumentation than AOSIS states which are in danger of losing their territories through rising sea levels and therefore regularly stress the need for urgent action while the former regularly emphasise the persisting uncertainties. Thus, it is the interest coalitions that dominate the IPCC process from the political side rather than individual national interests as such. Usually, it is not nation state by nation state that maintain and pursue certain positions or strategies but groups of states determined by their involvement in the underlying problem. This incidence provides another hint for the shrinking influence of nation states in the field of climate change assessments. A very similar tendency could be found in climate change negotiations themselves where political and economic interests have a much stronger stance than in the scientific assessment process.

Participation of government representatives is only one side of the coin. Nation states also take part in the IPCC process by appointing scientists and allowing them to participate in the IPCC as authors, reviewers or in other functions. One of the key issues of the design of the IPCC was the struggle for balanced participation of scientists from all parts of the world. Since the international set-up and the involvement of governments from all over the world was the centrepiece of the IPCC, participation of experts from almost all regions of the world was regarded as crucial for the acceptance of the assessment results by policy makers in the industrialised North as well as in the developing South. As expressed by WMO Secretary General Godwin O.P. Obasi, it was the initial goal that the IPCC should ensure membership of the major greenhouse gas emitting countries, of all geographic regions and of those countries with outspoken scientific expertise in the field (IPCC, 1990). Since experts from the developing world, in particular, lacked the necessary funding opportunities and a great deal of crucial research capacities, their participation has been a constant subject of debate in the IPCC Bureau (Agrawala, 1998a). To deal with this problem, the "Special Committee on the Participation of Developing Countries" has been established in the early 1990s to find ways to increase their participation. Moreover, quotas were fixed for the composition of the main IPCC committees and funding opportunities for travel

expenses were introduced to allow participants from developing countries to attend the IPCC meetings. Thereby, the segment of experts from these regions increased over time but the representation of world regions among the IPCC lead authors is still not equally balanced in all working groups. However, due to lacking time, financial and research capacities and sometimes due to lacking expertise experts from developing countries often have to limit their engagement in IPCC work. Therefore, experiences with the broad involvement of individuals from all parts of the world in the core of the scientific process are mixed in terms of credibility. The integration of scientists from developing countries doubtlessly increased the IPCC's legitimacy since many policy makers in particular from developing countries questioned the legitimacy of assessment documents that were exclusively prepared by Northern scientists, like in the case of the first ozone assessments (Parson, 2003).

### 3.3. *The role of nation states in IPCC conflict resolution mechanisms*

To ensure the IPCC's scientific quality and credibility to both the scientific and the political community and to resolve conflicts among individual scientists and their views, a specific and highly sophisticated type of review procedure has been developed over the time being. Whereas in the first assessment each chapter had been reviewed by two or three experts and governmental officials simultaneously, in the second assessment the review process was much more refined. The review process took place in two rounds. First, the drafts prepared by the lead authors were circulated among specialists in the area at hand, other lead authors and experts from relevant international organisations. In the second round, the revised drafts were distributed among governments soliciting their comments. As a rule, governments sent these drafts to ministry officials, to scientists or to individuals at the boundary between science and policy, such as heads of research and advisory institutions in their country. Through this procedure, national governments were credited a significant influence on the assessment process and they were allowed a thorough insight into the preparations of the documents which enabled them to prepare themselves for the final approval sessions. Finally, the lead authors had to include the comments into a final draft that was submitted for acceptance to the working group plenary meeting. While the lengthy chapters in the bulk of the IPCC reports only require the acceptance by the working group, the shorter and more focused executive summaries and the summaries for policy makers had to be approved line-by-line by the IPCC plenary consisting of government officials (Edwards and Schneider, 2001).

The main intention of this iterative review and approval process was to “ensure that the reports present a comprehensive, objective, and balanced view of the areas they cover” and not to allow for the intrusion of political or economic interests in the assessment process (IPCC, 1995). Although many government officials often feel tempted to introduce politically biased statements into the reports to promote their national interests, experiences with the intergovernmental approval process have shown that it cannot do major harm to balanced and scientifically solid reports.

Many participants in the process admit that there have been considerable arguments at the plenary sessions over the wording of the summaries for policy makers, but most of them share the conviction that the conflict resolution mechanisms in place worked out inasmuch as they led to a neutralisation of extreme positions among the government delegations. In principle, all the comments have to be based on scientific literature in the respective field. Most of the dispute in the plenary sessions revolved around the question of what has to be included in the summaries and what not. Due to the consensus principle all delegates have to agree to the final wording. Opposing positions have to be articulated and explained in the plenary session and if no compromise between opposing positions can be found, the discussion will be continued in smaller contact groups. Although this mechanism in most cases delivers acceptable solutions, sometimes certain countries try to push their claims even further. In this case when absolutely no compromise could be reached in the small groups, a dissenting vote will be included in the text naming the dissenter. Since this dissent is made public through this procedure, countries usually dislike to fall back on this option—especially because it is mostly the same small number of countries with clear political or economic interests, like the major oil producing countries, that try to weaken certain statements in the report (for examples cf. footnotes in IPCC, 1995). Therefore, they have to fear loss of reputation and credibility when they cannot provide sufficient scientific or technical arguments for their positions. Moreover, lead authors are present at the final plenary sessions of the working groups and have a very strong position due to their scientific expertise and due to the fact that all statements in the summaries have to be consistent with the bulk of the underlying reports. Experience has thus shown that these procedures could not lead to significant changes or a weakening of the final documents.

The third assessment stuck to these procedures and added so-called “review editors”, who were in charge of supervising the process of peer review by tracking the comments from the reviewers and the resulting changes in the drafts prepared by the lead authors (IPCC, 1999). Although the review editors were another element in the

review process, the additional time requirements for them remained marginal. Nevertheless, not all authors regarded the introduction of review editors a completely helpful improvement of the process, since not all of the review editors were similarly diligent in fulfilling their job. While some regarded it rather trivial, others took their demanding task very seriously—a task that required reading and consideration of the various versions of the chapter drafts and of up to 200 comments. This process provided another element of the already highly sophisticated rules of procedure which eased the influence of individual national governments in the assessment process.

In sum, although nation states are granted a sizeable influence in the final approval of the documents, in particular of the summary for policy makers, the rules and the informal dynamics of the process are strong enough to level out national biases and interest-based claims. The rules in place largely restricted governmental influence to cases where there is dispute among scientists, but they accomplished to protect scientific integrity against the particular political interests of national governments.<sup>15</sup>

#### 4. Conclusions

In the attempt to grasp the role of nation states in international assessments this paper employed three criteria which have been identified as being relevant for an assessment's effectiveness in the political process. Firstly, the design of the science-policy interface is crucially important not only for the effectiveness of the assessment itself but also for the possible influence national governments could have on the assessment process and through that on international politics. Secondly, the simple presence of governmental representatives in the process has been found as a fruitful criterion for the measurement of the influence of individual nation states and of the group of nation states as a whole. Governments have to be integrated in the exchange of information within the assessment process in order to be able to influence the process. On the other hand, governments could even have a grip on the process through the involvement of scientists from their country which do not necessarily have to maintain government positions but they might communicate national research priorities, standards or convictions. Thirdly, the design of conflict resolution mechanisms in assessment processes seems relevant for the influence of national governments. Voting procedures as well as measures for quality assurance such as

peer-review mechanisms have proven to be elementary for who has a say in the assessment process.

By and large, the analysis of the role of nation states in the IPCC based on these three criteria revealed a decreasing tendency in their influence on this international assessment process. The design of the science-policy interface between the IPCC and the political negotiation processes in the framework of the COP conferences has evolved tremendously since its beginning in 1988. Ever more institutions have been established at this boundary leading to a decreasing influence of individual nation states in the whole process due to the growing rule of new institutions and mechanisms on the intergovernmental level. In addition, the increasing participation of more and more national governments in the IPCC sessions and in the review procedures reveals a similar tendency. Putting it in more generalised terms, one could maintain that more players led to a decreasing influence of the individual player. However, national governments still have an influence on the review procedures and they are granted their veto power through the consensus principle. On first glance, these incidences provide good arguments for the thesis of an increasing influence of nation states over time, but a closer view on the experiences with the decision making procedures within the governmental approval mechanism in the IPCC could show that individual nation state interests are levelled out in their influence on the whole process.

What can be concluded about the role of nation states in international political processes vis-à-vis national political strategies to combat climate change? Given the assumed relationship between the design elements, and the overall effectiveness of an assessment, we could conclude that the evolution of the IPCC has led to a decreasing influence of national governments on the climate negotiation process through the assessment process. Whereas this influence is rather indirect, national governments as parties to the COP strongly and directly influence the international political process. To assess the changes along this path throughout the different phases of the climate negotiation process would be a promising topic of further research.

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### Acronym List

AOSIS	Alliance of Small Island States
COP	Conference of the Parties (to the UNFCCC)
GEA	Global Environmental Assessment Project
IPCC	Intergovernmental Panel on Climate Change
JWG	UNFCCC/IPCC Joint Working Group
NGO	Non-Governmental Organisation
OECD	Organisation for Economic Cooperation and Development
SBSTA	Subsidiary Body for Scientific and Technological Advice
SBI	Subsidiary Body for Implementation
TFI	IPCC Task Force on National Greenhouse Gas Inventories
WMO	World Meteorological Organisation
UN	United Nations
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change

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