

Key issues during the first decade of IPCC Activities

By **Bert Bolin**

IPCC Chairman 1988-1997



The formation of the IPCC and its work during its sixteen years of existence is described elsewhere in this brochure. I wish here rather to present my personal views on some issues that have been most essential for the IPCC's success in providing accurate and timely information to politicians and thereby also to the broader public.

The formation of the IPCC meant that the more informal co-operation amongst scientists to assess the scientific knowledge about a possible human-induced climate change that was organised during the 1970s and 80s was formalised through an agreement between UNEP and WMO in 1988.

It is important to note that thereby two parallel processes were under way: The World Climate Research Program, WCRP, that had been created in 1980 for planning and coordination of national research efforts into a global program, and on the other hand, the IPCC that should provide assessments of available knowledge to serve the political process that was aimed at protecting the globe from the consequences of a possible human-induced climate change, i.e. "a dangerous anthropogenic interference with the climate system", as worded in the Climate Convention. It seemed most important that the scientific community would remain in the lead of planning and implementing its joint research efforts and that WCRP activities should not be part of the much more politically driven assessment of available knowledge, that was given to the IPCC.

The IPCC was an intergovernmental panel, and country delegates to its plenary sessions dealt directly with its reports and conclusions, The IPCC therefore took on an independent role in the UN system relative to its two parent organisations, UNEP and WMO. The question was asked by the scientists: Would not the assessment process be politicised, when country delegates to the IPCC plenary sessions were chosen by governments, often by their Foreign Offices? The climate issue had, however, not yet become much of a political issue and there was largely good scientific/technical representation at IPCC plenary sessions. Actually, its independent role has largely been retained since then, and the IPCC Bureau was given considerable freedom to organise its work. Clearly, success of its efforts had to be based on the quality of forthcoming reports. They would have to be accepted by the scientific community at large and the best scientists had to be attracted to the job.

Most important was also the early decision to organise a large number of workshops and conferences during the one and a half years that were available until the First IPCC assessment report was due in 1990, and to introduce a procedure of scientific peer-review of the reports being prepared. In this way a large number of scientists in addition to those that wrote the reports were brought in to criticize and improve the work of the Panel. This open attitude towards the scientific community was essential in order to secure the IPCC position as an independent and competent scientific body.

The procedures adopted worked well for Working Group I, concerned with the science of climate change, and its assessment found broad acceptance in the scientific community. Working Group II, concerned with impacts, encountered more difficulties, and Working Group III, responsible for response strategies, suffered during this initial phase because of its simultaneous consideration of technical information, and political judgements of future developments. This experience called for a clear separation of these two aspects of the issue.

In summary, the successful outcome of the Working Group I assessment was crucial for the positive judgement of the overall IPCC achievements during this first phase of its existence and this was in turn most important for its continued engagement when the UN established the Intergovernmental Negotiating Committee (INC) in 1990. Its task was to propose the text for a Climate Convention to the up-coming UN Conference on Environment and Development planned for Rio in 1992. It is remarkable that this was achieved in less than two years. The first IPCC assessment was essential for this process. Actually, I attended all INC sessions during this period of time in order to keep the government representatives up to date on scientific issues.

The IPCC work changed in character when 156 countries had signed the UN Framework Convention on Climate Change, UNFCCC, in 1992. The IPCC had been recognised in the convention text as a

valuable partner, although a Subsidiary Body for Scientific and Technological Advice (SBSTA) would be responsible for these issues within the Convention. This was an excellent solution and provided a clear basis for the IPCC to continue its work on scientific assessments and, the SBSTA to prepare for the political handling of these issues by the Conferences of the Parties to the Convention.

After the Rio-conference a much wider interest in the issues of climate change was obvious. In particular, industry feared restrictions on the use of fossil fuels, being the most commonly used form of primary energy. Non-governmental organisations were eager to become engaged. There were, on one hand, claims that the dangers of human interference with the climate system had been grossly exaggerated, but environmentalists maintained the opposite view that climate change might be disastrous for a large number of people. The plenary sessions of the IPCC and its Working Groups were open to non-governmental organisations that had registered and there were heated debates at these sessions as well as in news media. The strict separation of the role of the IPCC and the policy process in the INC (later the UNFCCC) was very valuable. The latter would also commonly use the IPCC analyses as their key source for scientific information.

The FCCC emphasis on the stabilisation of climate caught increasing attention. Scientific and technical analyses were naturally still at the centre of IPCC attention also when addressing this issue, but the socio-economic aspects were becoming increasingly important. After all, decisions on how to act must be based on weighing the costs for preventive actions against the benefits of avoided damages. This was in itself no simple matter because of the very long-term perspective that was rather seldom dealt with by economists. The choices must obviously not exclusively be based on economic considerations. The expression “dangerous anthropogenic interference” used in the Climate Convention is largely a value judgement and thus in the broad sense a political issue. Again, the necessity to keep scientific analysis apart from political negotiations was obvious.

A Second Assessment Report emerged in 1995. It might be of some interest to note that three scientists in the field of environmental chemistry were awarded the 1995 Nobel Prize in chemistry just a few days before the IPCC Plenary session began. It was sensed by many as one of the most important expressions of recognition of the role of fundamental science in efforts to resolve key environmental issues. On this occasion it was related to the threat of a declining ozone layer, because of human emissions of CFC gases into the atmosphere.

The Second IPCC Assessment Report was very voluminous, altogether some 2500 pages. The need for succinct Summaries for Policymakers was greater than ever. It is not surprising that the condensation of the key conclusions to about a mere 10 pages for each of the three Working Groups became a troublesome task. Skilful negotiations were required to reach scientifically correct and balanced statements. It was not a matter of judging whether the scientific conclusions in the bulk reports were right or wrong. The 52 chapters in the three-volume report had been accepted by respective Working Groups as fair summaries of the present state of knowledge and they were published in the names of the teams of authors. They provided the scientific basis. The key issue rather became the choice of conclusions amongst those drawn in the bulk reports to be brought into the summaries, and their wording in an abbreviated and appropriate form. It is not surprising that controversies arose.

The IPCC conclusions served as the basis for the decisions taken at the Third Conference of the Parties to the Convention in Kyoto in 1997.

In the course of the ten years 1988 to 1998 the issue of a human-induced climate change developed from a plausible hypothesis, however not yet proven, to increasing evidence that this suspicion might very likely be true. The Third Assessment Report finally confirmed this conclusion. In parallel, the emphasis of the scientific analyses gradually shifted from considerations of “global warming” to analyses of what this might imply with regard to a possible increase of the occurrence of extreme events, whether damages might be serious or not, and where they might most likely occur. This issue is obviously of great practical concern, but more work is required to reach conclusions.

Certainly, trustworthy assessments of the scientific and technical knowledge will be most essential also in the future. I think, however, that “Summaries for Policy Makers” in the future should focus even more clearly than now on key political issues at the time and bring together relevant information in a form that is directly useful for the ongoing political discussions.

Reflections on the IPCC

By **Robert Watson**

IPCC Chairman 1997-2002



The strength and success of the IPCC is in its transparency and credibility, based on involving the best experts in the world, coupled to a rigorous peer-review system, and being policy-relevant, but not policy-prescriptive. This success is not simply the high quality reports it publishes, albeit they have greatly influenced climate and energy policy formulation at both the national and international level, but the ownership of the process by governments, the scientific community, NGOs and the private sector. This is a remarkable achievement, which in my opinion is in no small measure due to the personal qualities of the first chair of the IPCC, Dr. Bert Bolin. Dr. Bolin's personal integrity coupled with his intellectual abilities drew the best scientists in the world to participate in the preparation and peer-review of the first and second assessment reports. His honesty and willingness to listen to all views, but to ensure that the reports were based on solid scientific evidence and not ideological views, resulted in earning him and the IPCC the trust of the users of the reports, i.e., governments, private sector and NGOs.

Compared to the first two assessment reports, the Third Assessment Report (TAR) broke new ground by more explicitly placing the issue of climate change in the context of sustainable development, placing greater emphasis on the regional dimensions of climate change with respect to impacts and adaptation, recognizing the inter-linkages with other regional and global environmental issues, i.e., loss of biodiversity, land degradation, stratospheric ozone depletion, and regional acid deposition, and responding to the needs of governments by providing policy relevant, but not policy prescriptive, advice with respect to nine policy-relevant scientific questions in the Synthesis Report. In addition, in the early stages of preparation for the TAR, it was recognized that there were a series of cross-cutting issues that needed to be addressed in a consistent manner across all three Working Groups, i.e., development, equity and sustainability; costing methodologies; decision-making frameworks; and uncertainties.

The single most important and policy-relevant conclusion of the TAR was: "There is new and stronger evidence that most of the observed warming over the last 50 years is attributable to human activities". Other important findings included: "Projected climate change will have beneficial and adverse effects on both environmental and socio-economic systems, but the larger the changes and rate of change in climate, the more the adverse effects predominate", "Adaptation is a necessary strategy at all scales to complement climate change mitigation efforts – together they can contribute to sustainable development objectives", and "There are many opportunities including technological options to reduce near-term emissions, but barriers to their deployment exist".

While the issue of climate change was placed in the context of development, equity, and sustainability (DES), the DES issues were in many instances dealt with only superficially. Given that climate change is not simply an environmental issue, but is a development issue for all countries, impacting on this and future generations, it is essential that these issues are addressed in the future in a more comprehensive and fully integrated manner. This will require engaging a broader community of scholars from the social sciences and humanities, as well as development experts, than was involved in the preparation of the TAR.

Assessing the regional dimensions of climate change continues to be critical. However, to quantitatively assess the vulnerability of different sectors to climate change will require improved regional scale modelling of climate, especially with respect to changes in climate variability and extreme weather events, and more national scale studies of the multi-sectoral impacts of climate change in the context of other stresses.

While significant progress was made in recognizing the inter-linkages among climate change and the loss of biological diversity, land degradation, stratospheric ozone depletion, air and water quality, and regional acid deposition, more can and must be done to assess the scientific and policy inter-linkages. The resulting information would help inform the Parties to the major global environmental conventions (United Nations Framework Convention on Climate Change (UNFCCC), Convention on Biological

Diversity (CBD), Convention to Combat Desertification (CCD) and the Ramsar Wetlands Convention) on how best to optimize policy and technological solutions among the different environmental issues. In this regard, the Technical Paper on Climate Change and Biodiversity was especially important in describing the implications of climate change on biodiversity and the potential impacts of activities undertaken to mitigate or adapt to climate change on biodiversity.

One of the most important facets of the TAR was the preparation of the Synthesis Report that addressed nine key policy questions. This allowed information from across the three working groups to be synthesized around issues of importance to governments. To be of even greater value to all users of the IPCC, the Synthesis Questions should be jointly developed by the IPCC and the full user community, i.e., governments, the private sector and non-governmental organizations. A short concise Synthesis Report that addresses key policy-relevant questions posed by governments and other users is a vital and useful component of the IPCC. It is the best mechanism for integrating and synthesizing information spread across the different Working Groups.

The Special Reports prepared to date by the IPCC have been invaluable to both the scientific and policy communities. For example, the Special Report on Land Use, Land-Use Change and Forestry was particularly influential by providing policymakers with information they had specifically requested to assist the negotiations to the Kyoto Protocol.

While significant progress has been made in involving experts from all regions of the world, and from all disciplines and stakeholder groups, a number of deficiencies remained in the TAR, i.e., inadequate involvement of (i) experts from the private sector, especially in regards to issues of mitigation policies and technologies; (ii) the leading macro-economists; (iii) social scientists addressing issues of equity; and (iv) development experts who work on policy and institutional issues in agriculture, water resource management, fisheries, forestry and human health. The IPCC could consider improving the involvement of experts from the private sector through a "private sector forum", counter-balanced by an "NGO forum" or a consolidated private sector/NGO forum to ensure appropriate input into the IPCC process. In addition, there needs to be a significant improvement in the integration of the natural and social scientists in all aspects of the IPCC.

Outreach and communications to all sectors of society is critical. The web page, coupled with the publications and CD ROMs were a significant step forward in the TAR, but the information contained in the IPCC Reports needs to be in a form digestible to school children, civil society, the private sector and governments. This will require special partnerships with other organizations.

The IPCC is an incredible institution. Because of its credibility it has influenced decisions of individuals, the private sector and governments. The credibility is largely based on the sacrifice of the experts who volunteer their time without financial compensation for the preparation and peer-review of the IPCC Reports. This is a public service rarely acknowledged. Given the contentious nature of the debate surrounding human-induced climate change, and the polarized views among the governments and private sector, the continued success of the IPCC is critical to informed policy formulation for this and future generations.