

Special Session 1

Human Dimensions of Global Environmental Change Research and the Global Science-Policy Interface

Session Report

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The Session was opened by the Chair, Prof. Eckart Ehlers, Past-Chair of the IHDP Scientific Committee, who introduced the rationale and objective of the seminar. There are a large number of international scientific advisory processes concerning various environmental issues, particularly those related to global environmental change. The majority of scientists appointed to these bodies, or listed in their expert rosters, are natural scientists. This raises a number of questions, such as what would be the consequences and effects of involving more social scientists in these advisory processes? The workshop objective is to foster a dialogue between producers of knowledge, social scientists in IHDP projects, users of knowledge at the global level, and to explore what further steps can be taken to improve the interchange between these two groups. Dr. Jill Jäger, former Executive Director of IHDP then gave a short introduction the objective and activities of the programme.

Oran Young, chair of the Institutional Dimensions of Global Environmental Change (IDGEC) project in his presentation *Managing the Carbon Cycle: The Case for Action-Based Measures* raised two major questions regarding institutional responses to large scale environmental problems:

- Why are some institutional arrangements more effective than others?
- How do the institutional responses fit with the physical and socio-economic aspects of the problem?

Looking at the United Nations Framework Convention on Climate Change and the accompanying Kyoto Protocol as the empirical example, he discussed these questions from the aspect of using either targets and timetables or action based measures. Targets and timetables for greenhouse gas emissions are now the core of the Kyoto Protocol, and the argument in favour of this approach is that it would lead to greatest efficiency, as exemplified by the experience in some countries. Prof. Young argued that there are characteristics of the international setting which make the fit of this approach unfavourable. The obstacles for the measures to be implemented at all are much larger. Action based measures, on the other hand, would be easier to verify compliance with and face less risk to be watered down by loopholes in the regime. The policy relevant conclusion from their research is that, in terms of the problem fit, a successful regime requires a good match between the institutional design, the environmental problem and its large socio-economic setting. For the climate issue, action based measures may have more to recommend them, yet this runs counter to the fundamental provisions of Kyoto protocol.

Prof. Mike Brklacich, chair of the Global Environmental Change and Human Security Project (GECHS), talked on the theme *Vulnerability and Climate Change – Linking Science and Policy*. He stressed that response options and analysis and involvement with the policy community are at the heart of their project and for that it is not enough only to do good science. The strengthening of human security centres on:

- building of capacity,
- redistribution of resources and,
- access to power in society

While policy is often identified in relation to one problem, vulnerability is a system property which exists before the various environmental hazards have their impact. However, Prof. Brklacich stressed that there is a need to consider societal change as well as environmental change in the same analysis. Change in the environment *and* society can affect our exposure to the environment and can affect our coping capacity to address those changes. A policy relevant approach would be first to identify areas with largest vulnerability, and then move on to analyse how to improve adaptation capacity or even mitigation. Karen O'Brien continued the presentation by illustrating how the concept of vulnerability to both environmental and social change can be operationalised in research with a case study about globalisation and climate change in India. The objective of the study is to assess the vulnerability of agriculture to expected climate change—manifested as changes in rainfall—in the context of major likely changes in the agricultural sector when India enters the WTO regime. Both climate change and globalisation affect farmers in this scenario and those who will be doubly exposed will experience a very different impact. The project will analyse key factors in villages that make people less or more vulnerable and enable or constrain adaptation to these impacts.

Mr. Markku Aho, Counsellor for Global Environmental Affairs in the Ministry of Foreign Affairs in Finland, and the first speaker on from the "user" side, spoke on the theme *Entry Points for the Science-Policy Interface: Some Examples from the UNCCD Viewpoint*. Mr. Aho first made the reflection that science policy interrelationships should not be addressed at the global level without touching on global ethics issues and cross cultural communication. He then continued with his major theme. The first entry point for discussing the science-policy interface is the potential for synergies and linkages between all Multilateral Environmental Agreements (MEAs), where joint work programmes between their scientific advisory bodies should include cross-cutting themes such as socio-economic dimensions. However, it is much more difficult to achieve those linkages at the level of the affected communities where successful interventions should be based on social and economic realities as well as best practices. Institutional experts and political scientists could give input on the area of co-operation horizontally across UN agencies and vertically across layers of governance at different levels. The second entry point is the issue of empowerment and participatory strategies. Desertification is generally conceptualised as a process of degradation of land and natural resources, and surprisingly the vulnerability of dryland communities to these processes, or their potential to resolve problems related to desertification, does not attract much attention by policy makers. There are a number of research approaches where a strengthened contribution of social sciences and social policy could enhance empowerment of civil society and genuine participatory strategies, including interdisciplinary research on such areas of intervention as:

- decision-making
- power structures impacting land use
- benefit sharing mechanisms
- sustainable livelihood strategies and
- gender mainstreaming.

The United Nations Convention to Combat Desertification (UNCCS) is making a serious attempt to revitalise the performance of its body on science and technology and has formed a group of 25 experts who should establish a strategy towards meeting specified demands and then interact with national and international networks of researchers and developers. However, they clearly lack experts in the social field and

Mr. Aho stressed that appropriate and flexible approaches, including through networks, should be explored to address this.

Dr. Arthur Dahl, Senior Advisor with UNEP, spoke on *Social Sciences and the International Advisory and Assessment Processes* but started with the comment that the title should in reality be "the *lack* of social science input to advisory processes" confirming the rationale for the seminar. He outlined the many entry points for scientific input in the environment and sustainable development field:

- a large number of formal scientific advisory processes to various MEAs and other policy processes
- UN agencies through their Secretariats
- work on indicators within international bodies
- international conferences and Summits.

However, in all of these there are comparatively few social scientists. Yet, in some cases the UN is actively looking for these experts, for example on issues of vulnerability and resilience and the development of scenarios on security and governance. The proposed Intergovernmental Panel on Global Environmental Change (IPEC) is envisioned to use global systems models of the integrative impact of all changes. The question for social scientists is significant: Can they model the human system's feed back to these impacts? Another question which is in the domain of social science is how scientific knowledge itself influences policy and why it does not in many cases. Moving people to take action after they have become aware of a problem concerns values, motivations and perceptions which are all issues which stretch far beyond natural science and into social sciences. In closing Dr. Dahl raised two issues which are more generic for the social and natural sciences and their delivery of appropriate knowledge to users, particularly in the South. There is an important role for science produced at local level in empowering people in poverty, but this requires more accessible kinds of science. Also strengthening the voice of scientists from the South in international arenas will also strengthen their voice with national policy makers.

As the first of the commentators, Ali Kazancigil, former Director of the MOST Programme (UNESCO) argued that users of science do not take social scientists seriously as experts who can contribute hard data, facts and models. However, the strength of social science is something else, it is the ability to make relations between a large set of variables and to approach issues in a reflexive mode. Looking at all the impacts on the environment, they link to human population dynamics, institutions, patterns of resources use, consumption etc. all of which relate to the social sciences. To the social science domain belongs also the research-policy interface itself. The very tools to make the linkages between science and policy are to be found in social science.

Prof. Coleen Vogel, the Chair of the IHDP Scientific Committee, as the last speaker, reminded the audience of the major focus in the World Summit on Sustainable Development in Johannesburg, that of implementation, and the role of science in this regard. She raised the question whether we need a new type of science or just more creative processes of science-policy integration for this purpose.

After a short summary of the main points by the Chair, Prof. Eckart Ehlers, the audience was invited to join the discussion and they raised further issues such as: the language divide which excludes large sections of the academic community, the role of local knowledge systems of relevance for global problems, and the need to research success stories which would contribute more to positive action than models.

In closing the Chair concluded that the presentations had given many examples that the users in the global science-policy interface *do* acknowledge the work of the social science community and this community *is* interested to convey their knowledge. Yet it seems there is very little interchange between these two communities. The question to the panel was then, how the dialogue be improved and the interface strengthened? What concrete steps can be taken? The panelists gave several suggestions:

- more coherence and links between strategic partnerships established in international agencies on thematic issues and the ongoing work within UN bodies.
- the major obstacle may not be in the advisory processes themselves but their focus, which needs to be more on national and local level implementation where issues of performance, impacts and assessment of success and failures are at the centre.
- ensure that the research which is carried out has an audience.
- train scientists in how to communicate with policy makers, how to put their results in language which is understandable and useful.
- every programme needs to have a person who can package information for the users.
- get social scientists into the national delegations to Conventions and their scientific bodies, that is where they could have a significant impact both on raising the awareness of the possible contributions from social science and exemplifying that with their own contributions to the issue at stake.
- social science programmes like IHDP can also get more involved in existing processes and partnerships such as the Integrated Global Observing Strategy, IGOS.
- social scientists in the international research programmes should take the science-policy interface as an object of study, showing that the old model where good science trickles down to policy is a much more multivariate field.

This list of concrete action items, as well as the many of the other points raised in the seminar, should continue to be explored by both the producers and users of science in the global environmental arena.