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Making Knowledge Work

From Social Science Research to Socially Reflexive Sustainability

Acknowledgements

The views represented in this report reflect the author's interpretation of the diverse input received, and are not necessarily endorsed by the participants listed in Appendices III, V and VI.

Making Knowledge Work

From Social Science Research to Socially Reflexive Sustainability

REPORT ON PILLAR III OF THE ISSC CLIMATE AND GLOBAL
ENVIRONMENTAL CHANGE DESIGN PROJECT

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01 Background

This report summarizes and draws conclusions from one component of a global research funding and coordination design project implemented by the International Social Science Council (ISSC) on social sciences research on climate change: the "Climate and Global Environmental Change Design Project" (hereinafter referred to as the GEC Design Project).

The ISSC works to increase the production and use – in all parts of the world – of social, behavioural and economic science knowledge that can help to address key global problems. In this area of shared concern, the ISSC works closely with UNESCO, within the setting of a six-year Framework Agreement. UNESCO (in particular via the thematic priorities set for its intergovernmental Management of Social Transformations programme (MOST)) and the ISSC are jointly committed to bringing pressing climate change concerns and other global environmental change challenges to the heart of the social sciences, with a view to developing more effective, equitable, sustainable responses to these challenges.

Since January 2011, the ISSC has worked – with the support of the Swedish International Development Cooperation Agency (Sida) – to develop and priortize such an agenda through the implementation of its GEC Design Project (please see Box 1 for further information on the GEC Design Project).

The GEC Design Project, in which UNESCO has been closely involved, responds proactively to the increased demand for social science research on global environmental change and the absence of adequate funding at the international level to meet that demand. The main strategic challenge is to increase social science contributions to crafting more effective, equitable and sustainable responses to climate and global environmental change by strengthening and, indeed, foregrounding social science voices in the development of new, inter- and trans-disciplinary global environmental change research initiatives at the international level.

In addition to developing specific proposals for programme design, the GEC Design Project – which forms the basis of an ISSC proposal to establish a 10-year international funding and coordination programme on climate and global environmental change for the social sciences [2] – has been structured around two main substantive components.

On the one hand, the Project has worked to set a knowledge agenda by identifying what the social sciences need to do to respond to contemporary environmental challenges and what resources they can draw on – or develop as components of new modes of integrated research – in doing so. This knowledge agenda is structured around six transformative cornerstones of social science research for global change. This framework is presented in detail in a companion report.[3] It represents a synthetic, interpretative analysis of the results of an international process of enquiry and consultation, which set out to identify the top priority questions that the social sciences, as well as scholars of history and philosophy, must address in order to deliver knowledge for more effective solutions to some of the most urgent global change challenges of the day.

The six transformative cornerstones – historical and contextual complexities, consequences, conditions and visions for change, interpretation and subjective sense-making, responsibilities, governance and decision making – point at once to blind spots within existing analytical and policy processes and to the areas in which heightened social competence and reflexivity could in principle make a decisive difference to response capacities. Arguably, indeed, the techno-economic paradigm that has dominated international approaches to environmental challenges in the past 20 years implicitly recognizes the importance of these cornerstones. However, rather than dealing with them, it proposes ways of short-circuiting them – precisely because they are complex and challenging. If we had comprehensive and coherent market values, traded on truly liquid markets, for all environmental goods, we could afford to ignore such matters as historical and contextual complexities or subjective sense-making. But no such values exist, and there are no reasons to think that they are likely to emerge.

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1   Throughout this report, the term "social sciences" should be read as referring also to the behavioural and economic sciences.

2   The proposal has been invited by Sida, and will be submitted to Sida and other leading development aid and funding agencies around the world in the course of 2012.

3   Hackmann, H. & A.L. St.Clair. 2012. Transformative Cornerstones of Social Science for Global Change.
    Report of the International Social Science Council. Paris.

On the other hand, the GEC Design Project has looked at the conditions in which the proposed knowledge agenda could make a tangible difference to understanding of environmental challenges and responses to them.

In general terms, within the field of climate change and global environmental change research, the importance of integrating the natural and social sciences is widely recognised and promoted by many existing research networks and international initiatives. However, while it is well known that the proximate causes as well as the consequences of climate change are primarily social, and that changes will disproportionately affect poor and marginalised groups, albeit with long-term implications for all of humanity, the underlying factors that influence individual and collective behaviour, development paradigms, and institutional and political responses to climate change are less well understood.

The cornerstones identified by the GEC Design Project justify a call for the social sciences to take the lead in developing a new science of climate change. An integrated approach that brings the social and natural sciences together to jointly frame, design, execute and apply research on climate change is required, along with broader and more inclusive research agenda that works "with society" and not only "for society".

To ensure the successful integration of the social and natural sciences and an enhanced role for diverse stakeholders in the co-production of knowledge, it is necessary to mobilize and engage the international social sciences community more directly with climate change issues, and to build and expand social science capacities for doing so, building on and extending existing programmes and initiatives.

However, achieving the social transformations needed to ensure a sustainable future requires not just the production of relevant social science knowledge but also its effective utilization by policy-makers and other social actors. Pillar III of the GEC Design Project, guided by Expert Advisor John Crowley, Team Leader for Global Environmental Change in the UNESCO Division of Ethics, Science and Society, focused precisely on the issues entailed by making knowledge work for social change: understanding best practice in the knowledge-society and science-policy interfaces, securing effective and timely interaction with policy makers and finding ways of engaging civil society actors, industry and other stakeholders in the co-production of knowledge.

This report reviews the issues involved in making knowledge work on the basis of two main sources.

On the one hand, a workshop was convened in Paris on 22-23 September 2011 to clarify the main issues in knowledge utilization, with specific reference to climate change and broader global environmental change (GEC), and to develop proposals for how relevance, impact, take-up and other utilization indicators should be built into social science research programming. The workshop was organized in association with the MOST programme, and with the participation of its Scientific Advisory Committee. It brought together a small but diverse group of stakeholders, including both academics and policy-makers with expertise in social science knowledge production and deployment.[1]

On the other hand, complementary information on the issues addressed was collected through the questionnaires administered and interviews conducted within the knowledge agenda setting activities of the Project. In general terms, the expert views expressed present considerable overlap. However, in a number of cases, respondents highlighted somewhat different themes or angles from those raised in the workshop, which are reflected as appropriate in this report.

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1   Please see Appendix I for the workshop concept note, Appendix II for the agenda, and Appendix III for the list of participants.

BOX 1
The ISSC's Global Environmental Change (GEC) Design Project

The Climate and GEC Design Project has been undertaken by the ISSC on the invitation of – and with support from – the Swedish International Development Cooperation Agency (Sida).

The overall project objective is: **To design a 10-year research funding and coordination initiative for the social sciences on climate change and global environmental change.** This work is being done in collaboration with ISSC members, co-sponsored programmes, partners and the wider international social science research, funding & policy communities. Within the context of the project, "social science" includes behavioural and economic sciences; the project has also extended its scope to the humanities by including the disciplines of history and philosophy.

The project will run until June 2012 and comprises four key areas of activity:

– **PILLAR 1 - DEFINING THE KNOWLEDGE AGENDA**
 Establishing a consolidated global change research agenda for the social sciences, drawing also on existing international agenda-setting activities;

– **PILLAR 2 - IDENTIFYING INTERNATIONAL FUNDING MODALITIES & MECHANISMS**
 Investigating appropriate funding arrangements and associated instruments for the proposed future initiative;

– **PILLAR 3 - MAKING KNOWLEDGE WORK**
 Understanding best practice in the science-policy- and society interfaces, securing effective and timely interaction with policy makers and finding ways of engaging civil society actors, industry and other stakeholders in the co-production of knowledge;

– **PILLAR 4 - OUTLINING GOVERNANCE AND SUPPORT SYSTEMS**
 Developing steering and oversight structures for the proposed initiative, as well as evaluation and accountability arrangements, and solid support systems.

The four pillars are supported by a horizontal mapping exercise that sets out to map key elements and trends of climate change and global environmental change research within the international social science landscape. The project also builds on existing and upcoming ISSC activities in the field of global change research, including the Council's 2013 World Social Science Report - for further information please see **www.worldsocialscience.org**

The project has been guided by an international Steering Group, which brings together experts and key partners. This Group was chaired by the ISSC's Vice-President for Scientific Affairs, Alberto Martinelli (University of Milan, Italy) and included as members:

– Tariq Banuri (former Director, Division for Sustainable Development, UN DESA, US)
– John Crowley (Social and Human Sciences Sector, UNESCO, France)
– Anders Granlund (Sida, Sweden)
– Heide Hackmann (ISSC, France)
– Renée van Kessel-Hagesteijn (Division of Social Sciences, Netherlands Research Organisation [NWO])
– Germán Palacio (IHDP Scientific Committee Member, Colombia)
– Martin Parry (PROVIA Scientific Steering Committee Chair, UK) – observer
– Katri Pohjolainen Yap (Sida, Sweden)
– Emir Sader (Latin American Council for Social Sciences [CLACSO], Brazil)
– Ebrima Sall (Council for the Development of Social Science Research in Africa [CODESRIA], Senegal)
– Asunción Lera St. Clair (Center for International Climate and Environmental Research – Norway [CICERO])
– Peter Utting (UNRISD, Switzerland) – observer
– Coleen Vogel (independent scholar, South Africa)
– Kevin Watkins (The Brookings Institution, US)

02 Context and objectives of the September 2011 workshop

Welcome addresses were delivered to the workshop by representatives of UNESCO, the MOST Scientific Advisory Committee and ISSC, who outlined their respective expectations. It was stressed that, while there is an expanding knowledge base that covers many aspects of the social challenges related to environmental change, including its potential to drive new patterns of conflict and violence, it remains insufficiently consolidated and integrated, as well as inadequately used.

Alongside a strong social science knowledge base, societies therefore need, in order to respond to environmental challenges, an effective conduit between knowledge and policy-making. These concerns correspond to the priorities of the MOST programme, to the forward-looking focus of UNESCO's programmes in the social and human sciences, and to the objectives identified for cooperation between UNESCO and ISSC, and other partners. In addition, mobilizing knowledge to address environmental challenges fits with the agenda of major upcoming international conferences on climate change (UNFCCC COP-17) and on sustainable development more generally (Rio + 20).

In discussion, participants presented their own concerns and expectations which, while confirming the orientation proposed by the organizers, also added some complementary angles.

Particular emphasis was put at the outset on the fact that the climate change knowledge base, however solid may be the science that underpins it, is not – and is certainly not perceived to be – neutral, uncontroversial and shared. On the contrary, it was noted that attention should be paid to indigenous challenges to the universalism of science; to social struggles around the legitimacy of various kinds of knowledge; to policy-makers' scepticism about the authority of scientific consensus; and to the ethical issues framing knowledge production. In addition, it was stressed that the scientific knowledge base, while well-developed, remains incomplete. It requires better integration between the natural and social sciences, as well as paradigm shifts within the social sciences, notably with respect to the default rational choice assumptions that continue to dominate much work in economics.

These concerns overlap with those expressed by many questionnaire and interview respondents, who explicitly raised the political issues bundled up with the produc-

tion and use of social science knowledge. In this respect, two distinct but not conflicting claims were made. On the one hand, it was widely felt that the politicization of the social and human sciences tends to limit their credibility and authority as sciences in the public domain. However, it was not generally concluded that the social and human sciences should, for this reason, be *depoliticized*. On the contrary, there was a broad consensus that their subject matter and methods have an inherently political dimension in so far as they bear on the ways in which power, authority, material resources and various kinds of symbolic capacity are distributed within societies. To this extent, the social and human sciences are inherently political. The challenge, however, is to develop a political stance, or an alternative mode of politicization, that, rather than importing into social science external ideological assumptions, derives its political thrust from its analysis.

This approach implies a distinction between the epistemic and social authority of scientific knowledge, for which the social and human sciences provide a theoretical basis. It led workshop participants, paralleled by many interview and questionnaire respondents, to emphasize the need for knowledge to connect to action in general, and to policy in particular, through *narratives*.

Climate change, like other environmental challenges, is not something (unfortunate) affecting societies from the outside. It is, rather, a set of dynamics driven by the ways in which societies function – including such powerful drivers as population, urbanization, energy consumption, agriculture. The narrative challenge is therefore to embed *reflexivity* in the knowledge production and utilization process. It follows, as several participants noted, that neither the problems of nor the solutions to climate change can be envisaged in purely technical terms. They are, on the contrary, "people" problems that require reflection not just

on *what* policy should do, but *how* it should do it. Indeed, even the word "solution" may be misleading in the context of climate change, which is perhaps better understood as a condition to be lived with rather than a problem to be solved. *Making sense* of the condition is thus as important as understanding its systemic dynamics.

It is thus precisely the reflexive approach to climate change that points to the importance of social science engagement with such central political issues as the core dilemma of sustainable development: dealing with climate change means using less fossil fuel which may conflict with the need for economic growth to resolve poverty. The possibility that sustainability – properly understood – might clash with development – as conventionally interpreted – is the shadow hanging over all international negotiations in this area. It is also a direct challenge for the social sciences as participants in genuinely integrated science. The boundary conditions that constrain sustainability are not simply matters of belief – reasons to believe that the capacity of future generations to meet their needs might be impaired by our current actions need to be grounded as rigorously as possible in analysis of the planetary socio-ecosystem. Nor, however, are these boundary conditions simply external. In so far as sustainability is defined in terms of meeting human needs, it depends on contested self-understandings and collective choices. How we understand our needs, and the possible future needs of others, determines the sustainability constraints under which we operate. In that sense, sustainability is inseparably an issue of *analysis* and of *commitment*.

In so far as it can navigate between the symmetrical traps of spurious neutrality and purely external politicization, reflexive social science can help to understand both the problem and the solution in this regard. More generally, it was suggested that what is required is a new social contract between science and society in the service of a "reform" agenda that entails grasping and accepting the limits of knowledge, while recognizing that they will continually be expanded.

Subsequently, the specific expectations for the project as a whole and for the workshop were presented in more detail by ISSC and by UNESCO. Participants were reminded that

the GEC Design Project derives from an overview of ongoing global change / integrated Earth system science research initiatives, as well as specific initiatives related to the social sciences. The challenge is to define what should specifically be achieved in the area of social science research.

The specific objectives of the workshop were defined as mapping the key issues that bear on the mobilization of social science knowledge to respond to climate change problems at the policy and social levels, with a view to informing the possible design parameters of a funding programme that can achieve improved effectiveness in:
– filling knowledge gaps
– disseminating knowledge to a broad community of
  potential users
– making a difference to real-world outcomes in relation
  to climate change mitigation and adaptation

It was noted that the key design parameters that will need to be considered include:
– what kinds of research to target (in terms of disciplines,
  topics, scope and scale, geography etc.)?
– how to target, in terms of specific programming tools
  (including reflection on the modalities of work – networks, projects, training, academic exchanges, publication, dissemination etc.)?
– how to connect the research process (and at what levels)
  with societal processes that can make use of knowledge
  (through the cycle from priority-setting to programming,
  evaluation and transfer / capacity-building)?

In very crude terms, critical reflection on how these processes currently do not work might be helpful. It was suggested that points deserving attention in this regard include:
– arbitrary political priority-setting,
– opportunistic responses by researchers,
– absence of connection between research programming
  and pre-existing institutional patterns,
– a spurious and mechanical approach
   to interdisciplinarity,
– a decorative approach to dissemination
  (as well as to ethics, gender and other issues),
– failure to take account of the plurality and contested
  nature of knowledge.

In order to meet these objectives, the workshop was structured around six key questions, each of which was the subject of a round table discussion.[1]

1. Why do we care about making knowledge work?
2. How do we actually know whether knowledge "works"? Is there just one way for knowledge to work or are there several? Does knowledge that works need to be a different kind of knowledge?
3. How can specific forms of knowledge be fostered?
4. How do knowledge users access, absorb and use knowledge? What is or should be the role of knowledge users in knowledge production?
5. Are new mechanisms required to connect knowledge producers and users? Do we need new spaces of dialogue, discussion, exchange, or new intermediaries?
6. In light of the answers to questions 1-5, who should do what?

Interviews were organized around a different structure, since they were designed to inform the project as a whole, and not simply Pillar III. Furthermore, they were concerned more with background analysis than with the specific conclusions that might serve to shape the parameters of the future research programme.[2] Nonetheless, one questionnaire cluster (D) focused specifically on "Making Knowledge Work".

In Cluster D, respondents were invited to reflect on three sets of questions, which overlapped with workshop questions 4 and 5:

– "What prevents social science research from being heard and used in relation to the problems of climate/GEC? How do we increase the relevance of social science knowledge?" By implying that it would be desirable for social science to be "heard", this question also left space for respondents to comment on *why* the relevance of social science is an important issue for a world facing climate change, and not simply for social scientists facing funding pressures. Many respondents did indeed take up this implicit invitation, thereby contributing also to workshop question 1.

– "What type of relations and interfaces between science and policy do we need to develop? Do you have examples of good practice that you can share with us in this regard?"

– "What about relations and interfaces between science and other stakeholders or users, including industry? What relations should we prioritise and how can we best develop them?"

For convenience, the present report follows the structure of the workshop.

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1 See further Appendices I and II.

2 The questionnaire is included hereafter as Appendix IV, and the lists of respondents as Appendices V and VI.

03 Why knowledge matters

Participants were invited to discuss the evidence that knowledge gaps relate to "implementation gaps" – to use the language adopted by the international community to frame the 2012 United Nations Conference on Sustainable Development ("Rio+20") – and that there are specific social science issues in this regard.

Critical analysis is required in this regard of the prevailing consensus of the international community, according to which key concepts such as "sustainable development" are entirely clear and adequate, calling only for greater political will and increased financial resources.

Furthermore, the feedback of knowledge utilization on the knowledge process itself needs to be reviewed. The possibility that an instrumental approach to social science funding might not be beneficial to knowledge production (either in general or specifically in relation to climate change) should be considered. A further concern in this regard is to clarify the role of "critical" social science knowledge in enriching an action-relevant knowledge base. Possible differences in assessment between stakeholder communities on this point need exploration.

The objective initially set for this segment of the workshop was to establish a clear and if possible shared diagnosis of the gaps in knowledge production and/or utilization that hamper policy and social capacities to act in response to environmental challenges. In fact, however, much of the discussion tended to challenge the way in which the question had initially been framed.

In the introduction by Asunción Lera St Clair, Expert Advisor to Pillar I of the GEC Design Project, it was emphasized that the dominant knowledge that is available is shaped by agendas that do not respond to the needs of the people most affected by environmental change. Among the problems that social science can help to address are power and its implications, which is precisely what social science is all about – though the extent of the issues tends to go unrecognized when even science is itself co-opted into a dominant discourse that is imposed on societies from the outside. In other words, responsible knowledge needs to evolve in connection with social responsibility about environmental change. One important question that social scientists need to ask is whom they should serve. Enhanced reflexivity about the social functions of social science would contribute to enhanced science-based social reflexivity about environmental problems in general.

With this in mind, a series of challenges were flagged that operate at both epistemological and institutional levels. The social sciences have developed, historically, to respond to modernity. In order to address contemporary challenges, particularly in the environmental area – which means unpacking and reinterpreting high-carbon lives, and at the same time imagining alternative futures –, it may be necessary to undo that constitutive connection. In other words, the observable gaps between science and policy are related not just to (internal) changes in science and policy but also to broader change in society.

In parallel, it was suggested that there is a need to be more aware of the limits of knowledge, including the limits of social science knowledge. Identification of the problems does not, in itself, provide solutions. With this in mind, it may be important to open up a series of questions about the social nature and significance of "knowledge", including the status of indigenous knowledge, the role of non-scientific forms of knowledge, and the relation between problems that can be solved in technical terms and problems that have no technical solution because they are fundamentally about values. Political processes of deliberation are thus required in connection with science democratization, which entails a more radical rethinking of policy than simply the quest for improved efficiency of a better evidence base.

In discussion, it was noted that some of the issues referred to may relate to a clash or tension between two fundamentally different views of why knowledge "matters": problem-solving and world-shaping. Workshop participants generally agreed that while this tension is real and important, it should not be seen as a "contradiction" or a "clash". It was argued in particular that recognizing the importance of radical agendas does not mean that there is no space for more technical problem-oriented contributions from social science. Indeed, problem-solving can (cumulatively and over time) be world-shaping. Many respondents strongly expressed the same view.

Picking up on the theme of challenging traditional ideas of "knowledge", it was also noted that the social sciences need deeper reflection on what it might mean to "dethrone" themselves. New technologies lead to a form of "disinter-mediation" of knowledge that encourages better recognition of diversity of expertise. In the logic of a renewed interpretation of the "double hermeneutic", the social sciences may therefore need to abandon the reductionist claim to "know" and become rather facilitators of diverse forms of socially reflexive knowledge. In reference again to the work of Anthony Giddens, knowledge societies need to be *knowledgeable* societies.

However, this should not be taken as a restatement of the fairly traditional view that the social sciences should focus on interpretation, while the natural sciences engage in explanation, prediction and control. On the contrary, both workshop participants and respondents expressed the concern that a form of epistemological timidity tends to hamper social science attempts to contribute to social and policy agenda-setting. Interpretation is an important task – it is indeed one of the six transformative cornerstones identified by the Project. But it cannot be the only thing the social sciences do. Furthermore, reflexivity is a challenge for the natural sciences as well. Every complex system that is of significance for global environmental change is in some respects physical, biological and social, and therefore demands an integrated approach within which human self-understanding constitutes a significant feedback loop.

In addition to these general epistemological points, the discussion also considered the ethical, institutional and political dynamics of the knowledge-policy nexus. It was argued that the attempt to "bridge" the gap between knowledge production and knowledge utilization might, even in principle be self-defeating, and also problematic if knowledge is mobilized to entrench existing power relations. At the minimum, it entails an ethical judgement on the fit between the two dimensions of sustainability, which is at once an instrumental requirement for our own survival and an ethical requirement in terms of the moral standing of future generations.

There are a number of major and well-known difficulties in this regard. Basically, sustainability is problematic because it assumes something we simply do not know: what the future will look like and what its values might be. We undoubtedly have a duty to act *in the present* on the basis of our values and the integrity of the systems to which we belong. Yet the specific implications of such a duty are elusive if the analytical basis of sustainability is underspecified. The underlying problem is sharpened by reference to the alternative notion of resilience, which while analytically clearer than sustainability has a less obvious ethical coding.

Quite apart from these abstract concerns, a number of participants stressed the practical limits of a purely systemic approach to sustainability or resilience. Evolutionary perspectives may be viewed as conflating outcomes or behaviour (in the animal realm) with intentions (in the human realm). Yet there is simply no way of moving *directly* from the systemic requirements of ecosystems to human attitudes towards them. Mediation by beliefs and values is of central importance, but is typically handled poorly not just by policy systems but also by the mental maps of policy-makers. Social innovation can reduce layers of government if designed in the right way on the basis of trust – which admittedly is currently in short supply in the international system. Another way of putting the same point is that social capital can (perhaps) supplement natural capital, and thereby attenuate pressure on natural resources. The social sciences obviously have an important role to play in this regard, on condition they can produce the kind of disaggregated, contextual knowledge that can do justice to the diversity of local circumstances and incorporate value questions in the formulation of practical approaches to evaluation.

The discussion concluded with a reminder that all of these points need to be seen in light of the imperative need for *integrated* science to address environmental challenges. It may appear paradoxical to call at once for greater integration and greater disaggregation – but this is in fact just another way of recognizing that our knowledge systems tend to be both too broad (geographically) and too narrow (thematically).

04 How knowledge works

Participants were invited to consider whether there is just one way for knowledge to work, or rather several. Does knowledge that "works" need to be a distinctive kind of knowledge?

In order to introduce the discussion, the questions were framed a little more precisely.

If impact assessment is an essential component of climate change adaptation and mitigation policies, then it should presumably apply also to research policies. Methodologies for identifying knowledge impacts tend to be both *ad hoc* and *ex post facto*. Can we do better? Is there a basis for assessment at the programme design or project evaluation stage of likely impacts? If not, on what basis should funding decisions be taken? An aspect of this analysis is that "impact" is not a unitary notion, particularly with respect to social science. Alongside purely instrumental applications that produce "better" policies according to some agreed problem definition, there are transformative applications of social science that potentially reshape the policy/social universe, or at least expand the imaginative horizons within which consideration of environmental challenges is set. The stronger the emphasis on social engagement, the more likely it is that knowledge will be thus transformed in being deployed. Finally, it was proposed to discuss whether concern with impact introduces a bias towards certain kinds of social science research, and if so what the (positive or negative) impacts of such a bias might be.

The expected outcome of this section of the workshop was improved understanding of how "impact" can be operationalized as an assessment tool at the various stages of the research programming, funding and evaluation process.

The discussion was therefore structured around the key notion of "impact", considering the criteria, the metrics etc. required to make a practical assessment, taking account of the background question what counts as knowledge, as addressed in section 3 above. In programme design, it will be essential in due course to develop clear standards by which to judge "success".

It was noted that, to know if knowledge is "working", it is necessary to be able to specify the values and objectives of particular societies. With this in mind, knowledge that "works" needs to be value-laden and value-driven (in the case of climate change, framed by specific objectives such as avoiding dangerous anthropogenic interference with the climate system) and it needs to be communicated to the public in an effective and democratic way. Dissemination, to this extent, is a structural and not an incidental dimension of impact. However, it is equally important to bear in mind the burden that dissemination places on scientists who may be ill-equipped to cope with it. For example, the requirement for scientists to communicate scientific results has led, in some cases, to the burgeoning of consultants who provide scientific communication services, thereby diverting scarce resources from core scientific activities. On balance, it is perhaps the research funding agencies that are best placed to take charge of dissemination.

Concerns about communication were expressed even more strongly by questionnaire and interview respondents. It was noted that the success of natural scientists and (in some cases) economists in shaping public agendas relates to their capacity to offer a highly simplified picture of complex phenomena, which lends itself to reformulation as policy common sense. Conversely, resistance to science in public debate is often connected to complexity – in particular to the failure of non-specialized audiences to grasp what scientists mean by "uncertainty".[1]

On the other hand, the distinctive contributions of the social sciences tend to highlight the complexity of phenomena and the need to take account of connections that may escape the attention of common sense. Social science knowledge thus has often taken precisely the form to which public debate is resistant. In addition, professional dynamics in the social sciences may in some cases reinforce these tendencies. It is, in particular, pointless to express surprise that publications written for academic audiences, addressing academic quarrels, and adopting an academic mode of discourse, fail to find a non-specialist audience. In the view of many respondents, the social sciences are currently too inward-looking and too reluctant

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1   It has been established empirically that, from an early stage in the public debate about climate change, vested interests opposed to the IPCC consensus targeted uncertainty as the key variable determining public acceptance and successfully funded public interventions effectively equating scientific uncertainty with scientific ignorance.

to make bold, empirically falsifiable claims. One respondent quoted Yeats to dramatize the predicament of public indifference the social sciences find themselves in: "the best lack all conviction, while the worst are full of passionate intensity".

Nonetheless, there are numerous examples of social science results that have set policy agendas – subject to the right strategies of influence, which include publishing books in the right kind of format, articulating counter-intuitive ideas that offer an alternative common sense, and, where necessary, engaging with policy-makers on their own terms. In some cases, the research involved was itself questionable or even simplistic – the success of the phrase "clash of civilizations" is exemplary in this respect. But it is not impossible in principle for the same strategies of influence to be deployed in support of more sophisticated applied research results. The condition is that understanding should be improved and shared with respect to the social and political processes by which ideas on climate change are produced, circulate and in turn shape attitudes, beliefs and behaviour.

A final point, emphasized by several respondents, notably by Elinor Ostrom, is that expectations with respect to influence and impact tend to be unrealistic. "Big ideas" in the social sciences tend to operate in a quasi-subterranean fashion, gradually reshaping perceptions to the point that they come, after 20 years, to be part of new common sense. As for specific research evidence, it tends to be interpreted in terms of the currently prevailing common sense, and therefore to depend for its impact on the "big ideas" that make sense of it in theoretical and methodological terms. There is a need, in other words, to be at once more ambitious (in terms of the degree of impact) and more modest (in terms of the timeframe for it to occur).

Among the areas suggested for future social science research to favour the emergence of such a template for socially, politically and culturally feasible climate change responses were the following:
– The knowledge processes characteristic of key institutions and dynamics within which the international agenda on climate change is shaped.
– Identification of policy tools that can achieve climate goals with minimal social equity impacts.
– Identification of barriers (including political barriers) to effective climate change action.
– Analysis of the factors that could motivate individuals, businesses etc. to change behaviour in ways that could feed into transformed outcomes.
– Development of a global sharing formula for greenhouse gas emissions that is effective, politically possible and fair, building on suggestions made e.g. for "Contraction and Convergence".
  A systematic inventory of global sharing formulas could be a helpful first step in this regard.

It was recognized that research in these areas will not in itself transform policy or social processes, even if adequately disseminated. On the one hand, critical social science approaches necessarily clash with prevailing corporate and political agendas. On the other hand, there are a series of "language barriers" that prevent research outputs being directly transferred to non-specialist audiences, along with a background scepticism about "science" – and perhaps more generally about "expertise" – that impedes the take-up of certain kinds of knowledge-based policy prescriptions, whether from the natural or the social sciences.

One important implication of these remarks, consistent with the points made in section 3, is that the knowledge process should not be seen in dualistic terms (production / utilization), but rather as a more variegated field in which certain actors are, inseparably producers and users of knowledge. This is the case in particular of community environmental activism, including the negative success of "sceptical" movements in discrediting the international scientific consensus on the basis facts of climate change. More generally, social science is not inherently progressive. A pluralistic environment of multiple knowledge brokers, including hybrid institutions such as think tanks, offers some reasonable guarantees in this regard. Societal capacity-building is thus a key impact criterion. It needs to respond to the nature of the asymmetries of power and capacity that characterize environmental issues – which do not simply oppose "North" and "South" – and to give appropriate voice to the voiceless through participatory modalities.

Cultural concerns were also mentioned in this regard. Social science in the areas discussed in the workshop is shaped by natural science paradigms that make social science structurally dependent, and by formatting constraints (such as pressure to publish in English) that reflect scientific hegemonies and create communication barriers. Furthermore, there is a preponderance of climate change within environmental problems that favours various forms of scientific opportunism, with almost any issue being repackaged as "climate change" to increase the chance of obtaining funding.

Participants also considered the methodological issues involved in impact assessment. Current evidence-based standards focus on randomized experiments, but these are difficult to apply to social science issues of environmental transformation first because such experiments depend on replicability, whereas many of the most urgent problems the world faces are *sui generis*, and secondly because randomized experiments provide no information about why and how particular outcomes occur. They thus elide, for instance, the institutional structures and settings that are of key concern to the social sciences. A possible implication is that a comprehensive social science approach to climate change and other environmental challenges requires, among other things, an alternative evaluation model.

Participants agreed that funding agencies have a strategic role in promoting alternative approaches, not just to evaluation, but also to methodology and problem definition. Funding agencies have the capacity to shape the terms of reference around which research activity is organized and to encourage innovative approaches, or activities with a particular design, e.g. multiple methodologies. The suggestion that methodological pluralism be actively promoted was given specific support in the discussion. More generally, the question was raised whether established criteria for funding might not be crowding out some of the most valuable contributions that social science can make. Strategic reflection is required on what counts as "good" social science, without necessarily assuming that features such as causal explanation, predictive capacity, scalability etc. are desirable in all contexts.

05 How can specific forms of knowledge be fostered?

Sections 3 and 4 strongly suggest that it is not social science in general that can support effective societal/policy responses to climate change, but rather specific forms of knowledge. It is important therefore, following on from the emphasis in section 4 on the strategic role of funding agencies, to consider how research programming can be "targeted" in appropriate ways. Furthermore, given the reservations among participants about the instrumental emphasis on knowledge applications, any approach to targeting needs itself to be plural. Finally, transnational and comparative dimensions call for specific reflection on funding modalities and organization.

Established funding mechanisms tend to be fairly blunt instruments to respond to this complex set of challenges. Conversely, attempts to dictate the outcomes of specific projects or programmes tend to be self-defeating, since they are either rejected by researchers or incite them to put forward conclusions that funders already think they know. It has often been argued in the literature that, in contrast to policy common sense emphasizing accountability and cost-effectiveness, a flourishing "ecosystem" of knowledge production, with no attempt to steer activities at the project level, may be *more* effective in producing the knowledge that societies and policy-makers need. Specific features of environmental challenges lend some weight to this possibility. Precisely because of their cross-cutting and interconnected nature, attempts to ensure relevance at the project level may be self-defeating. Furthermore, a project-centred approach may not be the best way to respond to capacity-building concerns, particularly in developing countries. Finally fostering relevant knowledge, for the reasons discussed in section 4, is not just a matter of substance, but also of format, language and dissemination strategies. Realistically, if social scientists are to engage in public debate in new and more dynamic ways, they will need appropriate incentives and recognition built into institutional and professional processes.

The discussion on this point was intended to produce a shared statement of an appropriate compromise, tailored to the specific features of environmental challenges, between the need to foster a dynamic research environment and the need to ensure accountability for results at the project level. For this purpose, participants broke out into three groups to discuss three categories of programming tools: *priority setting*, *funding mechanisms* and *evaluation*.

With respect to *priority setting*, a growing time lag was noted between environmental changes and the knowledge we have about them. Top-down approaches are largely powerless to capture new trends and to foster innovation. Rather than a "Daddy knows best" approach driven by policy-makers' concerns, it may be important to create a space where researchers can act as autonomous adults. And even bottom-up approaches need to avoid creating excessive uniformity as an indirect consequence of institutional concentration. A laundry list of key thematics, which is the natural outcome of open-ended, one-off consultation, is unlikely to be the best way to proceed. Rather what is required is something more open-ended and experimental. Indeed, one participant suggested that there might be some merit in building a random element into priority setting. Furthermore, social scientists cannot work alone, but need collaboration with natural scientists, policy-makers, civil society.

Whichever process might be adopted, the question of inclusiveness was agreed to be crucial. It is essential to ensure real active participation of developing country scientists, which cannot be guaranteed simply by formal inclusiveness. It was thus argued that, if one looks at the actual publication record, the Millennium Ecosystem Assessment did not, despite best efforts, produce a genuinely global and inclusive epistemic community.

Feedback was provided on one very positive practical experience that was judged interesting by all participants. This involved a four-day meeting to bring together potential innovators in an open space to develop research prototypes, some of which have since been funded. This is effectively a more collaborative project development process than is usually implemented. As he put it, too much predetermination stifles innovation. Conversely, a "market place" for ideas, within agreed thematic priorities, supports new thinking and provides space and time for synergies to emerge and for self-correction of projects. It is important in this respect to bear in mind that what is defined as ignorance today depends very much on the vision one has of the future. Openness about one's future-oriented assumptions – perhaps even a specific requirement in the research programming process to question them – could change the way researchers approach these issues.

Even though participants in the specific process described were basically self-selected, it appears that cooperative process was indeed not just creative but transformative in terms of building trust over time, thereby compensating in part for the lack of systematic, formal quality control procedures.

With respect to *funding*, strong emphasis was put on the need to promote diversity and inclusiveness. Researchers from developing countries were particularly concerned no longer to be the "token" participants in international research collaborations. They emphasized that one condition for this would be for institutions in developing countries themselves to contribute to research funding.

There was also a widely shared concern to avoid imposing a single model of research performance on all beneficiaries of funding. Among modalities that would be desirable but tend to be neglected, reference was made to open-ended funding with no strings attached (recognizing the possible difficulties in terms of accountability) and fast-track initiatives. A number of specific objectives were also noted: funding open access to already available knowledge; ensuring inclusiveness with respect to developing country scholars; including young researchers in multidisciplinary teams; enhancing gender participation; and finally connecting funding mechanisms and reporting requirements to co-production of policy as part of the knowledge process.

It was agreed in discussion that there are conflicting objectives here that cannot be reconciled within any single institutional model. If money goes to individuals, capacity-building objectives may be lost. On the other hand, if money goes to institutions, creativity may be stifled. It is important to keep space for the "brilliant lone researcher" – not everything worth doing can necessarily be done by a traditional "project team". A pluralistic, diversified set of funding mechanisms is best placed to ensure an appropriate balance in this regard. Furthermore, large multi-year programmes impose huge risks on institutions and create major uncertainties. These can best be spread in a pluralistic environment, to which both mainstream research funding bodies and more specialized bodies, such as development agencies, have a valuable contribution to make.

Discussion on *evaluation* started from critical assessment of the standard model by which research funding is allocated – writing a proposal submitted to peer review on the basis of which a decision is made. Can or should this model be changed?

In fact, however, much of the discussion proceeded in terms of the criteria for evaluation rather than the processes by which they are implemented. It was argued, for instance, that research groups should be encouraged to be more explicit about their underlying worldview and future orientation, both at the outset and throughout the execution of the project. The benefits could be significant not just in terms of researchers' learning but also in terms of understanding what lies behind social science thinking, and promoting more sophisticated thinking about the future. In the same way, effective transdisciplinarity can be assessed, at least as a set of intentions, in a project proposal.

Similarly, questions were raised regarding relevance – regarded as an *ex ante* attempt to assess likely impact, for which we currently lack adequate metrics. One suggestion was that relevance could be rethought in terms of "resonance", making an explicit connection with community narratives at the outset, in the way proposals are written up. The benefit of such an approach could be to open up and to pluralize the question *for whom* relevance is to be considered. This is all the more important that direct policy relevance is, for most researchers, unlikely to be achievable – not because of the content of their work but because of the nature of their institutional connections. Something more "fluid" than a direct and instrumental connection is therefore required. It was recognized by all participants that such proposals go against the grain of current fashions in research funding, and to that extent imply significant innovation in the design parameters of the multi-year programme that the project could potentially help to shape.

The time logic of evaluation was also considered from a different angle. *Ex post* evaluation (e.g. of actual performance measured against expected results, of dissemination, of impact etc.) cannot, by definition, be mobilized at the project level, but should nonetheless feed back into programme design. How can this be done, recognizing that past performance is no guide to future success? Without resolving the issue, it was noted that evaluation needs to move away from a single-point approach (whether prior to the funding decision or after project completion) and be defined rather as a continuous process closely connected to learning.

06 Knowledge users

The purpose of this section of the workshop was to consider how knowledge users access, absorb and use knowledge and what is or should be the role of knowledge users in knowledge production.

It was proposed to look in particular at the knowledge transfer process that bridges the gaps between scientific and policy communities. While this is a familiar area in general terms, specific conclusions that might impact on research programming or on policy design tend to be lacking. Issues about the format and language of research outputs, and about the very different timeframes of the various stakeholder communities, need clarification in particular. Dealing with the gaps also raises the question whether the gaps themselves are part of the problem, and if so how they might be reduced by various forms of "co-production", which have been extensively discussed in the literature, but typically on a rather anecdotal basis.

Participants and respondents were invited to concentrate less on epistemological considerations bearing on the nature of knowledge in general than on institutional, political, sociological and other factors that create specific barriers to knowledge circulation, including those that correspond to specific features of environmental challenges. In so far as the social response to environmental challenges depends on the contributions not just of the policy process but also of behavioural and attitudinal change in the various sectors of society, the diversity of knowledge users was a major topic for the discussion.

It was proposed to work towards a shared understanding of the needs and knowledgeability of knowledge users that can sharpen the focus on responding to environmental challenges by an enhanced social science knowledge base. It was noted that, in general terms, this question is hardly new. The challenge, therefore, is to develop fresh angles that can actually make a practical difference to research programming. Three such angles were mentioned: new communications technologies and social constructions thereof; uncertainty (as fundamentally different from ignorance); and the modification of the nature and scope of scientific authority. These, and other related dynamics, combine to create a production / use nexus that is significantly different from what might have been assumed 30 years ago.

It was emphasized from the outset that the category of "users" is highly diverse. Negotiators, policy-makers, rich consumers, people in developing countries, businesses, natural scientists are all relevant, though not necessarily at the same level. It follows that both design and dissemination should be conducted on a case-by-case basis, taking account of the specific features of the research that might be conducted within a hypothetical future programme. Furthermore, use is closely connected to communication, and it is important therefore to understand who needs information, and why. Among examples discussed was raising public awareness about what probabilities mean, using games, in order to foster a more sophisticated public debate about risk.

It was further emphasized that unilateral communication runs the risk of condescension. A two-way, participatory approach to communication with actual or potential users must start from what they already know. Knowledge producers and users, in other words, are overlapping rather than neatly separated categories. Dealing with these issues is a fundamental political challenge that relates in particular to the social construction of the legitimacy of (different and sometimes competing kinds of) knowledge. It was indeed noted, from an activist perspective, that the circulation of knowledge tends naturally to commoditize it. Neither activists nor scholars can avoid working with those who have captured social spaces, but they should beware of taking their world for granted. The same point was also stressed strongly in the interviews and questionnaires, which offered specific examples of how the relevant kinds of engagement can operate (including the work of the Sustainability Institute at the University of Stellenbosch in South Africa, the contribution of Via Campesina to global thinking about food security, and the Global Alliance for Incinerator Alternatives) as well as more general reflections about how social scientists can engage reflexively in "sites of struggle", as they were termed by Patrick Bond, both to understand their dynamics and to shape their framing.

More generally, participants pointed to the contradiction between the huge amount of information out there and its uneven distribution. Social science needs to reflect on the agenda to which it should be responding. It is pointless to pretend to be non-normative in a context where the very definition of user groups is related to implicit definitions of values and interests. The fundamental paradigm "out there" is a growth model. What other framing might one imagine?

With these political and societal concerns in mind, participants argued that a key priority should be to provide a people-centred view on climate change and efforts to address it. Natural scientists, by contrast, may be better at looking at forests from a distance, using technology, than at talking to the people who live in forests. It was suggested that it would be useful to have a strong political science focus on the political economy of environmental policies, in order to understand better how interests and values are constructed and operate. On the other hand, social scientists need to enhance their capacity to read difficult technical documents, which means engaging more actively not just with natural scientists, but also with their methods and techniques.

Participants were invited to be more specific, referring to particular examples of knowledge users confronted with the challenge of knowledge use, but the discussion remained on the whole at a fairly general level, indicative of the prior conceptual clarification that is required before it might be possible to specify *how* knowledge works – which bears on what "use" might entail. Some of the interviews and questionnaires, on the other hand, did, as noted above, provide accounts, occasionally very detailed, of specific instances.

There was a broad consensus that, at a certain level, it is *method* rather than *knowledge* that is crucial. Research can be rethought by emphasizing learning by doing, which is not confined to a specialist community, but relates to all levels of social behaviour. This approach actually requires a lack of specificity. Addressing climate change and other environmental challenges is not a matter of about fixing specific technical problems, but rather of changing fundamental views of the world. The test of success, in this respect, is whether the next generation of social scientists ceases to divide things up in the traditional way, having truly "endogenized" the environment.

However, it was also agreed that, however convincing at the conceptual level, such an argument is a very hard political sell. If the objective is to produce knowledge-based proposals that governments (or agencies) might wish to fund in support of social science to (help) solve environmental problems, then it needs to be recognized that the day-to-day reality of climate negotiations is that governments have to commit to cutting CO_2 emissions, which will have impacts on the livelihoods of some people, and affect lifestyles etc. across the board, albeit not uniformly. This means picking a limited number of priorities with a basis in research. Currently, natural science and economics set the agenda for what might be the most effective modes of action. The question is what can realistically be changed in that regard. The argument that climate change might be better regarded as a condition to be lived with is certainly difficult to put across in policy circles, where the conventional problem-solving approach remains hegemonic.

One way of avoiding the charge of remaining trapped within epistemological meta-discourse, it was suggested, was to emphasize the specific practical implications of the approach proposed for the institutional processes and planning of research. Work in social psychology shows that "messaging" strongly influences behaviour. This points to leverage that can be used to connect a different way of organizing knowledge production with alternative social dynamics to make use of the knowledge produced – in this case, to respond more effectively to environmental challenges.

In conclusion, it was emphasized that the discussion about users brought the argument back to priority setting – and for good substantive reasons for this. Nonetheless, it is essential in practice to make it concrete – including at the problem-solving level. A 10-year research programme will need clear 10-year expected results that can be defined at the start of the programme and frame its design. Participants were reminded in this regard that the Steering Committee, meeting in Paris in June 2011, had defined the overarching long-term objective for 2022 as: "increased knowledge for more equitable solutions to achieve sustainability".

07 Connecting knowledge producers and users

Taking note of the concerns expressed in section 6, participants were invited to consider the new mechanisms that might be required to connect knowledge producers and users. Are new spaces of dialogue, discussion or exchange needed? Or new intermediaries?

Since any research programme will need to pay attention to the institutional gaps referred to in section 6, consideration was given to the modalities that might enhance the capacity of research and policy communities to elaborate shared languages, perspectives and timeframes, thereby improving the potential relevance of social science research along with policy take-up. The need to integrate the perspectives of user communities was noted, along with the fact that scientific knowledge is not the only relevant form of knowledge. Specific attention was given to the various practical modalities for dissemination, popularization, awareness-raising etc., taking due account of the potential for innovation through new technologies and leveraging new forms of social organization. The role of environmental education in establishing communities of concern with a common language and shared epistemic frames was also noted.

The objective of this section of the workshop was to elaborate elements of an agreed mapping of modes of effective knowledge transfer that can be built into research programming for purposes of both evaluation and dissemination.

To facilitate discussion, three breakout groups were established, considering respectively *policy-makers*, *civil society* and the *private sector* in light of an overall framing that started from the opposition between a social science perspective and the prevailing international policy paradigm. The former is adaptation-centred, centred on living with climate change and on human responsibility for the climate based on knowledge. The latter, on the other hand, focuses on reducing emissions growth to mitigate global warming before it gets serious. This opposition is undoubtedly in itself part of the problem. Policy-makers do not really need to be told that there is a problem. What they need are convincing visions *both* for reduction of emissions *and* adaptation to new futures.

The break-out group on policy-makers first discussed the role of social science communities, broadly understood to include bodies such as UNESCO, in major international events such as the UNFCCC and CBD COPs and Rio+20. It was questioned how effective social discourse could be in setting agendas within such tightly constrained diplomatic fora. Some participants suggested in this regard that more research might be needed on the international and national politics of climate change, both for its own sake, and as a contribution to the effective mobilization of scientific knowledge in general.

Consideration was also given to the mechanisms by which social science knowledge can be brought to the attention of policy-makers. It was argued that writing policy briefs, or other kinds of specially tailored outputs, is less important than the process by which the content is developed. There is a need for improved understanding of the different channels by which social science circulates in specific policy contexts. Experience should also be built on attempts to create specific interfaces between social science research, policy-makers and civil society, such as the ministerial fora organized in several regions, on a range of themes, by UNESCO.

In addition, the challenge of policy relevance should not be confused with policy prescription. After all, natural scientists too are uncomfortable making predictions. On the other hand, they can produce a single factor "X" (or a structured set of factors – such as emissions and sinks) as a framing of an issue such as climate change. This is easier to argue for.

In order to overcome reticence with respect to policy relevance, it may be useful to make the normative implications of social science research part of the process by which it is developed and to which it can contribute. One of the reasons why social science tends to be rejected by policy-makers is that it often sounds primarily critical – precisely because its normative underpinnings are insufficiently elaborated.

On the basis of these various arguments, it was agreed that while the difficulties in connecting social science knowledge to policy should not be underestimated, nor should they be exaggerated. There are compelling historical examples of policy-makers listening attentively to social science and using its results in policy design. One example given in discussion was the development of the Scandinavian welfare state, which was strongly influenced by sociology in particular. It would be valuable to understand what made that possible and, conversely, which are the social conditions that have made it possible for economics to win

(at least provisionally) the battle of ideas against sociology – with respect not just to social policy but also to other areas such as the environment. Furthermore, difficulties in influencing international or even national agendas should not be taken as a general sign of failure. Policy-makers at more local (e.g. city) levels might be more accessible and readier to listen to social science results.

The possibility of indirect but nonetheless powerful channels of influence was also discussed. Policy-makers' agendas are shaped *inter alia* via the media and public opinion, and hybrid fora/spaces allow for pluralization of expertise, notably with respect to complex technological or controversial value-driven issues. Any ambitious social science research programme should therefore include an advocacy dimension, strengthening coalitions that can support/promote social science. Education, broadly understood, is an important aspect of this.

At the same time, however, the *civil society* break-out group emphasized the need to specify which groups are being talked about. Civil society is neither a unitary actor, nor homogenous. After all, climate change "denialists" are part of civil society too. The major challenge is thus to identify which groups should be engaged, and on which terms. Education and awareness-raising somewhat beg this question, since they are not value-neutral – still less independent from the controversies to which they relate.

The *private sector* break-out group stressed the need to include the business sector as part of the research design and set-up, with a view to fostering cross-fertilization and encouraging collaborative, cross-boundary initiatives that include business-relevant issues. Among the criteria for the legitimacy and effectiveness of such an approach are the degree of self-learning that is promoted, the degree of competition and pluralism, and the existence of effective barriers to privatization of knowledge that, by its very nature, needs to be in the public domain if societies are to cope with major environmental challenges. Subject to these conditions – which are fairly demanding and probably do not currently obtain in most areas – business can make positive contributions to knowledge sharing and co-creating as well as to social innovation, which is what turns technological change into something useful. After all, engineers know that the social dimensions of environmental change are absolutely critical, because otherwise their inventions simply do not work.

Achieving such leverage, on the other hand, might require major changes in universities, where there are currently many barriers to business involvement. Participants argued that it is precisely the responsibility of the university to establish frameworks to guard against inappropriate relations, such as private appropriation of knowledge designed on a public interest basis. In US universities, such rules exist and, it was suggested, are explicit and strong – but not necessarily everywhere.

08 Conclusions

The workshop was designed to produce action-oriented conclusions, identifying what can be achieved by innovative forms of research programming, and how the various actors engaged in the research programming process can act to favour the desired outcomes, while also mapping the issues involved in making social science knowledge work to respond to environmental challenges that exceed the boundaries of the research process. Ultimately, what is required is a practical action plan to enhance social science knowledge production, transfer and use to respond to environmental challenges through innovative research programming. While the workshop fell short of this objective, some useful pointers were nonetheless provided.

First, there was an agreed emphasis on key knowledge gaps, including in particular "physicalities" (the interfaces between the natural and the social that cannot be adequately understood by any subset of the sciences), possible futures, the goals of science and of policy, cleavages between ethical discourses and ethical choices, and research options. It is striking that these gaps do not correspond to a single set of unanswered research questions, and do not fit into a neat disciplinary framework. Indeed, it could be argued that, at a generic level, they represent a complementary set of lenses that are relevant to key emerging issues other than global environmental change – in particular those of science and technology as social dynamics. In this sense, such gaps concern the *nature* of knowledge in the relevant areas, and not just its specific *content*. They emphasize the need for fairly radical paradigmatic innovation.

Secondly, consistently with these observations, it was argued that there should be no opposition between problem-solving and world-shaping research, nor between local and global knowledge. Rather, the challenge is to articulate these dimensions, via integrated research, in a comprehensive, complex vision. Responding to such a vision requires an understanding of different forms of capital, with particular reference to trust as an underutilized form of social capital. It is also necessary to take account of bounded rationality, which limits the ability to make direct connections between knowledge and decision-making. One aspect of the required paradigmatic shift, in other words, is to recognize that knowledge does not work simply by being "applied" or "transferred", as if its recipients or its diffusion processes had no effect on knowledge itself. On the contrary, a crucial feature of social knowledge about social processes – including the natural processes that intersect with them – is that it is inherently *self-knowledge*.

Thirdly, and again as a logical consequence of the first two conclusions, research programming needs to offer space for experimentation. Making knowledge work is also about producing the "right" kind of knowledge – which is not something that can be unambiguously identified *a priori*. A residual positivism continues to shape much public discussion about environmental and other technological challenges – "if only" science could be strictly depoliticized and policy-making subordinated to correct science, then the policy process would produce "what science demands". This positivism needs to be rejected on both epistemological and political grounds. It follows that it is important to problematize how people see the future in project design and execution, thereby encouraging reflexivity, which is a condition both for good knowledge production and for making it work. From this point of view, an explicit "theory of change" can back up the choices made with respect to the funding programme – on condition it is recognized that a truly environmentally reflexive society will necessarily be, in at least some respects, a fundamentally different kind of society.

Fourthly, and more specifically, the workshop stressed the need to balance funders' concerns with systemic research needs – possibly by a "portfolio" approach – and criticized established peer-review mechanisms. There was also agreement that it is important that developing countries be involved in project funding, in order to reject the "us versus them" approach, however well-intentioned, and that supporting young researchers should be a priority.

These specific concerns bear on the parameters of an ambitious research programme. However, they also have a much broader significance that extends beyond research, even very broadly defined, and extends to the background conditions for knowledge-based policies in which knowledge is

not simply mobilized to respond to predefined purposes. Rather the process of producing knowledge, in parallel with imagining the social forms through which the knowledge will be applied, transforms predefined purposes and enables new possibilities to emerge.

Such an aspiration may seem overblown – in fact, it is strictly correlative with serious attention to what "sustainability" might imply. It corresponds to an overarching emphasis, expressed both in the workshop and in interview and questionnaire responses, on building an environmentally reflexive society. This is also the thrust of the transformative cornerstones that have emerged from the GEC Design Project.

It follows that the connection between problem-solving and world-shaping research, considered as channels for making knowledge work, is not just a matter for research programming. The broad consensus that they should neither be equated, nor reduced one to the other, has a fundamentally political thrust. Overcoming epistemological distinctions between kinds of knowledge also means overcoming socially constructed differences between categories of knowledge actors or modes of engagement. In other words, the ways in which knowledge, power and material resources are produced and distributed are intimately intertwined. Considering the full set of views on which this report is based, this emphasis on the need for a new political understanding of science – including but not limited to social science – is perhaps the most clearly articulated and widely shared conclusion.

One reason for this is clearly the perception that global environmental change offers specific challenges and opportunities in terms of the science/society nexus. Scientific knowledge informs all social problems, but what is distinctive about environmental issues is that they are, to a very large extent, *constituted* by science. Indeed, environmental issues have long given rise to hybrid domains in which scientific knowledge is constituted in response to activist agendas and politically motivated activism drives science from the inside. This should not be a matter for regret or applause, but rather a fundamental parameter of socio-epistemological reflection. Considered as a normative, and not merely practical, challenge, making knowledge work with respect to global environmental change thus invites reflection on a new model of politics a central feature of which will necessarily be scholarly / social scientific / activist engagement. Governance cannot be immune

from the kind of fundamental interrogation of conceptual categories that follows from consideration of the distinctive features of global environmental change.

The point is not that concern for the environment in any general sense is inherently scientific. On the contrary, philosophical or aesthetic environmentalism long predates contemporary concerns. No doubt the early uses of fire were dismissed as interfering with the natural order of things, and rock paintings were criticized as ugly and intrusive. But contemporary environmental concerns have a different dynamic – though they may of course overlap with philosophical or aesthetic concerns. Climate change, for instance, cannot exist at all as a political "problem" without the knowledge base that provides convincing evidence not just of past trends but of the causal connections that underpin analysis of the possible future results of our actions.

By contrast, it is a major challenge to establish that crime or poverty (or any other classic social science question) is a scientific, as distinct from a moral, issue. Generally speaking, what social science competes with in public debate is not the natural sciences, but common sense. In challenging common sense, by establishing causal connections that are too diffuse and long-range to be accessible to ordinary experience, environmental problems create a potential space for a new kind of knowledge politics. The key word in the previous sentence is of course "potential". It is striking that attempts to dismiss both the specific concerns of climate change, biodiversity loss, and other systemic issues, and the knowledge on which they are based, tend to operate precisely through appeals to common sense. Yet even such appeals – notably in the case of climate change – are compelled to adopt the language of science, either by offering specific theoretical, methodological or empirical criticisms of the mainstream consensus, or by elaborating (or at least asserting) alternative paradigms. The environmental agenda thus induces a step change in social reflexivity that creates the conditions for – though it does not guarantee – a new set of science-society relations in which integration between the sciences is a necessary feature and not simply an optional desideratum. Making knowledge work is not merely a matter of establishing connections, through appropriate research programming, between science and policy – important though that task is. Rather, it implies a vision of a different kind of knowledge society: in the words of Sheila Jasanoff, responding to the questionnaire, "a new socio-technical imaginary".

APPENDICES
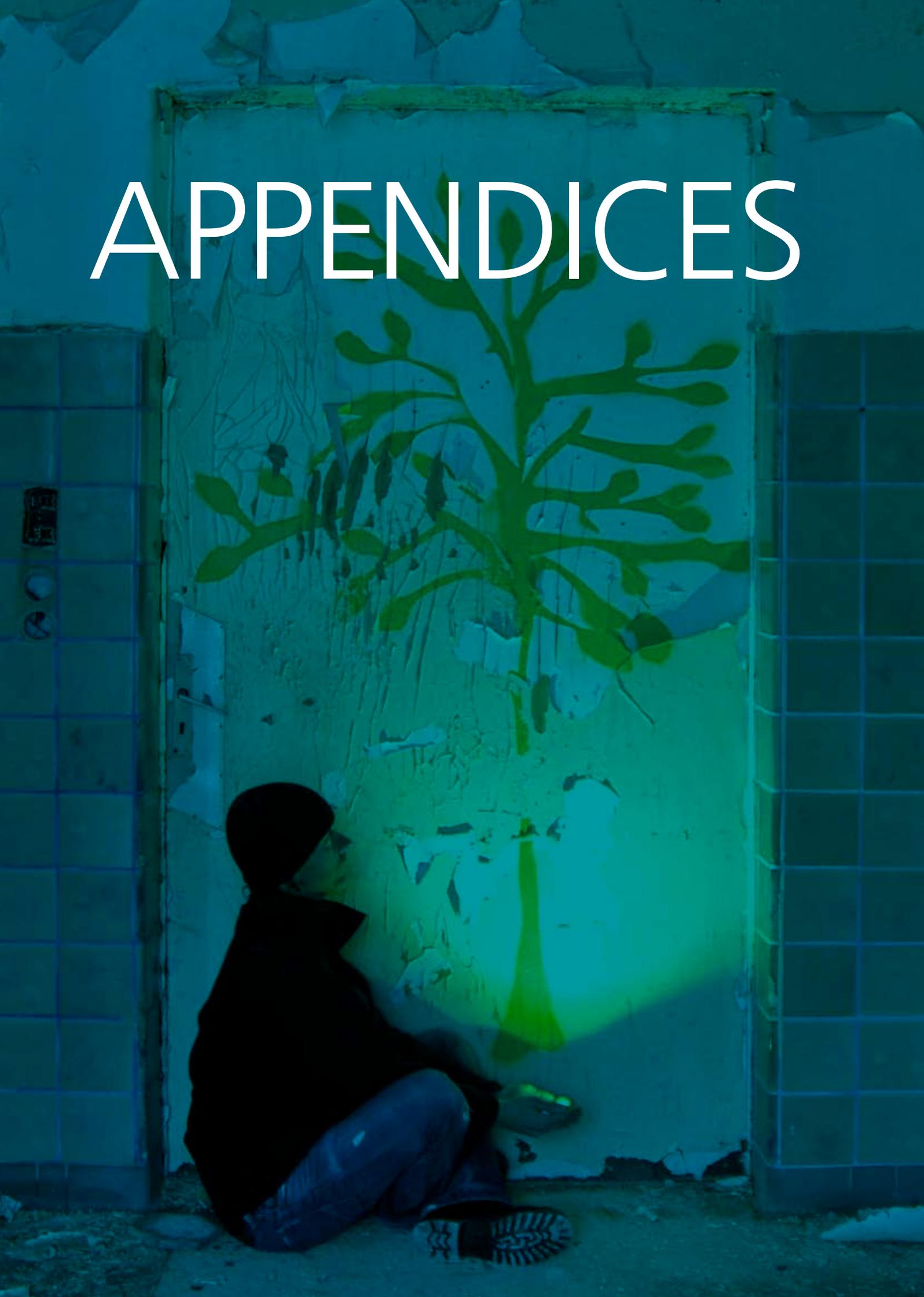
APPENDIX I MAKING KNOWLEDGE WORK
Concept note for a workshop to be held at UNESCO on 22-23 September 2011

OBJECTIVE OF THE MEETING

To map out the key issues that bear on the mobilization of social science knowledge to respond to climate change problems at policy/social level, with a view to informing the possible design parameters of a funding programme that can achieve improved effectiveness in:

– filling knowledge gaps
– disseminating knowledge to a broad community of potential users
– making a difference to real-world outcomes in relation to climate change mitigation and adaptation

It is proposed that the meeting produce two distinct kinds of outcomes, which will be combined in the final report. On the one hand, the discussion should enable an overview of the general issues relevant to improved articulation between knowledge production and knowledge utilization in relation to climate change, or if appropriate to environmental change more generally. Efforts will be made to publish this part of the report in an appropriate international journal. On the other hand, it will be necessary to reach specific conclusions that will bear on practical issues of research programming, taking due account of the results of pillars I and II of the project.

PARTICIPANTS

The meeting, to be organized in association with the intergovernmental MOST programme and with the participation of its Scientific Advisory Committee, will bring together a diverse group of stakeholders, including academics, policy-makers, media representatives and experts knowledgeable about private sector engagement in social science knowledge production and deployment.

KEY QUESTIONS

Rather than organizing the meeting around thematic presentations or case studies, it is proposed to focus on 6 sets of key questions, each of which will be the subject of a round table discussion with one introductory presentation, a moderator and a rapporteur.

The draft agenda is structured around the following key questions:

1. Why do we care about making knowledge work?

It will be important to discuss the evidence that knowledge gaps relate to implementation gaps, and that there are specific social science issues in this regard. Critical analysis is required in this regard of the prevailing consensus of the international community, according to which key concepts such as "sustainable development" are entirely clear and adequate, calling only for greater political will and increased financial resources. Furthermore, the feedback of knowledge utilization on the knowledge process itself will need to be reviewed. The possibility that an instrumental approach to social science funding might not be beneficial to knowledge production (either in general or specifically in relation to climate change) should be considered. A further concern in this regard is to clarify the role of "critical" social science knowledge in enriching an action-relevant knowledge base. Possible differences in assessment between stakeholder communities on this point need exploration.

Expected outcome: a clear and if possible shared diagnosis of the gaps in knowledge production and/or utilization that hamper policy and social capacities to act in response to environmental challenges.

2. How do we actually know whether knowledge "works"? Is there just one way for knowledge to work or are there several? Does knowledge that works need to be a different kind of knowledge?

If impact assessment is an essential component of climate change adaptation and mitigation policies, then it should presumably apply also to research policies. Methodologies for identifying knowledge impacts tend to be both ad hoc and ex post facto. Can we do better? Is there a basis for assessment at the programme design or project evaluation stage of likely impacts? If not, on what basis should funding decisions be taken? An aspect of this analysis is that "impact" is not a unitary notion, particularly with

respect to social science. Alongside purely instrumental applications that produce "better" policies according to some agreed problem definition, there are transformative applications of social science that potentially reshape the policy/social universe, or at least expand the imaginative horizons within which consideration of environmental challenges is set. The stronger the emphasis on social engagement, the more likely it is that knowledge will be thus transformed in being deployed. Finally, it will be necessary to discuss whether concern with impact introduces a bias towards certain kinds of social science research, and if so what the (positive or negative) impacts of such a bias might be.

Expected outcome: improved understanding of how "impact" can be operationalized as an assessment tool at the various stages of the research programming, funding and evaluation process.

3. How can specific forms of knowledge be fostered?

Assuming (as seems likely) that consideration of questions 1 and 2 suggests that it is not social science in general that can support effective societal/policy responses to climate change, but rather specific forms of knowledge, it will be important to consider how research programming can be "targeted" in appropriate ways. Furthermore, the instrumental emphasis on applications might not be the only one favoured, in which case, targeting might itself be plural. Finally, there are transnational and comparative dimensions that may need specific reflection on funding modalities and organization. Familiar funding mechanisms tend to be fairly blunt instruments in this respect, and conversely attempts to dictate the outcomes of specific projects or programmes tend to be self-defeating, since they will either be rejected by researchers or incite them to put forward conclusions that funders already think they know. It might indeed be considered that a flourishing "ecosystem" of knowledge production, with no attempt to steer activities at the project level, might be *more* effective in producing the knowledge that societies and policy-makers need, at the cost however of a clash with currently prevailing notions of accountability and cost-effectiveness. Specific features of environmental challenges lend some weight to this possibility. Precisely because of their cross-cutting and interconnected nature, attempts to ensure relevance at the project level may be self-defeating. Furthermore, a project-centred approach may not be the best way to respond to capacity-building concerns, particularly in developing countries.

Expected outcome: a shared statement of an appropriate compromise, tailored to the specific features of environmental challenges, between the need to foster a dynamic research environment and the need to ensure accountability for results at the project level.

4. How do knowledge users access, absorb and use knowledge? What is or should be the role of knowledge users in knowledge production?

Discussion is necessary on the knowledge transfer process that bridges the gaps between scientific and policy communities. While this is a familiar area in general terms, specific conclusions that might impact on research programming or on policy design tend to be lacking. Issues about the format and language of research outputs, and about the very different timeframes of the various stakeholder communities, need clarification in particular. Dealing with the gaps also raises the question whether the gaps themselves are part of the problem, and if so how they might be reduced by various forms of "co-production", which have been extensively discussed in the literature, but typically on a rather anecdotal basis. It is proposed that the discussion concentrate less on epistemological considerations bearing on the nature of knowledge in general than on institutional, political, sociological and other factors that create specific barriers to knowledge circulation, including those that correspond to features of environmental challenges. In so far as the social response to environmental challenges depends on the contributions not just of the policy process but also of behavioural and attitudinal change in the various sectors of society, the diversity of knowledge users should be a major issue for the discussion.

Expected outcome: a shared understanding of the needs and knowledgeability of knowledge users that can sharpen the focus on responding to environmental challenges by an enhanced social science knowledge base.

5. Are new mechanisms required to connect knowledge producers and users? Do we need new spaces of dialogue, discussion, exchange, or new intermediaries?

Assuming, as seems likely, that any research programme will need to pay attention to the institutional gaps referred to in question 4 (and not simply to transfer across them), it will be important to discuss what kinds of modalities might enhance the capacity of research and policy communities to elaborate shared languages, perspectives and timeframes, thereby improving the potential relevance of social science research along with policy take-up. In addition to building on extensive research in this area, it will be valuable to integrate the perspectives of user communities and to remain sensitive to the fact that scientific knowledge is not the only kind relevant in this regard. Specific attention is proposed to the various practical modalities for dissemination, popularization, awareness-raising etc., taking due account of the potential for innovation through new technologies and leveraging new forms of social organization. The role of environmental education in establishing communities of concern with a common language and shared epistemic frames will also be relevant.

Expected outcome: an agreed mapping of modes of effective knowledge transfer that can be built into research programming for purposes of both evaluation and dissemination.

6. In light of the answers to questions 1-5, who should do what?

The conclusions that the meeting should aim at producing are action-oriented. The objective is to identify what can be achieved by innovative forms of research programming, and how the various actors engaged in the research programming process can act to favour the desired outcomes, while also mapping the issues involved in making social science knowledge work to respond to environmental challenges that exceed the boundaries of the research process. While conclusions addressed to other actors (corporations, governments, NGOs) may be appropriate, it will be important to keep the expected practical outcomes of the meeting at the forefront of the discussion.

Expected outcome: a practical action plan to enhance social science knowledge production, transfer and use to respond to environmental challenges through innovative research programming.

APPENDIX II MAKING KNOWLEDGE WORK
A UNESCO-MOST (Management of Social Transformation)
and ISSC (International Social Science Council) Advisory Workshop
for the ISSC Climate Change Design Project

22-23 SEPTEMBER 2011
Room XVI
UNESCO Bonvin Building
1 rue Miollis, 75015, Paris

AGENDA
Co-Chairs
John Crowley
Team Leader: Global Environmental Change, UNESCO,
Social and Human Sciences Sector
Heide Hackmann
Executive Director, International
Social Science Council (ISSC)

Thursday 22 September
08:30-09:00
ARRIVAL AND REGISTRATION

09:00-09:30
WELCOMING REMARKS

Elizabeth Longworth *Deputy Assistant Director General,
UNESCO Social and Human Sciences*

Nazli Choucri *Chair of the Scientific Advisory Committee
of MOST*

Heide Hackmann *Executive Director, ISSC*

09:30-10:15
ROUND OF INTRODUCTIONS

10:15-11:00
BACKGROUND
The International Social Science Council's
Climate Change Design Project
Heide Hackmann

Making Knowledge Work: Overview
and Purpose of the Meeting
John Crowley

11:00-11:30
TEA/COFFEE BREAK

11:30-12:45
SESSION ONE: WHY KNOWLEDGE MATTERS
**Question: Why do we care about
making knowledge work?**
Expected outcome: a clear and if possible shared diag-
nosis of the gaps in knowledge production and/or utiliza-
tion that hamper policy and social capacities to act in
response to environmental challenges

Rapporteur: Nazli Choucri

12:45-14:30
LUNCH

14:30-15:45
SESSION TWO: HOW KNOWLEDGE WORKS
**Questions: How do we actually know whether knowl-
edge "works"? Is there just one way for knowledge
to work or are there several? Does knowledge that
works need to be a different kind of knowledge?**
Expected outcome: improved understanding of how
"impact" can be operationalized as an assessment tool at
the various stages of the research programming, funding
and evaluation process

Rapporteur: S. Romi Mukherjee

15:45-16:15
TEA/COFFEE BREAK

16:15-17:30
SESSION THREE:
FOSTERING KNOWLEDGE PRODUCTION
**Question: How can specific forms
of knowledge be fostered?**
Expected outcome: a shared statement of an appropriate
compromise, tailored to the specific features of environ-
mental challenges, between the need to foster a dynamic
research environment and the need to ensure account-
ability for results at the project level

Rapporteur: Germán Palacio

18:30-21:00
DINNER
(UNESCO HEADQUARTERS, PLACE DE FONTENOY)

Friday 23 September

09:30-11:00
SESSION FOUR: KNOWLEDGE USERS
Questions: How do knowledge users access, absorb and use knowledge? What is or should be the role of knowledge users in knowledge production?
Expected outcome: a shared understanding of the needs and knowledgeability of knowledge users that can sharpen the focus on responding to environmental challenges by an enhanced social science knowledge base

Rapporteur: Riel Miller

11:00-11:30
TEA/COFFEE BREAK

11:30-12:45
SESSION FIVE: INNOVATIVE MECHANISMS
Questions: Are new mechanisms required to connect knowledge producers and users? Do we need new spaces of dialogue, discussion, exchange, or new intermediaries?
Expected outcome: an agreed mapping of modes of effective knowledge transfer that can be built into research programming for purposes of both evaluation and dissemination

Rapporteur: John Mugabé

12:45-14:30
LUNCH

14:30-16:00
CONCLUSIONS
Report by each Session Rapporteur
Discussion

APPENDIX III
List of workshop participants, 22-23 September 2011

ISSC SECRETARIAT

Françoise Caillods
Senior Advisor to the 2013 World Social Science Report
International Social Science Council

Heide Hackmann
Executive Director
International Social Science Council
Project Leader, ISSC Climate Change Design Project

Eleanor Hadley Kershaw
Project Coordinator

Orla Martin
Research and Admin Assistant

Amy Solar-Doherty
Intern

UNESCO SECRETARIAT

John Crowley
Team Leader: Global Environmental Change
Ethics of Science and Technology
UNESCO
ISSC Climate Change Design Project Steering Group
and Core Design Team Member

Cecilie Golden
Programme Specialist
Policy and Cooperation in Social Sciences Section
UNESCO

Elizabeth Longworth
Deputy Assistant Director General for Social
and Human Sciences
UNESCO

S. Romi Mukherjee
Asst. Programme Specialist
Ethics of Science and Technology
UNESCO

Elise Biggers
Asst. to the Chief of Section
Ethics of Science and Technology
UNESCO

PARTICIPANTS (LISTED ALPHABETICALLY)

Nnimmo Bassey
Chair, Friends of the Earth
Executive Director, Environmental Rights Action

Nazli Choucri
Professor of Political Science
Associate Director, Technology and Development Program
MIT
President, MOST Scientific Advisory Committee

Sarah Cook
Director
UN Research Institute for Social Development (UNRISD)

Anantha Kumar Duraiappah
Executive Director
International Human Dimensions Programme on Global
Environmental Change (IHDP)

Alex Hannant
Director of Programmes
LEAD International

Asunción Lera St. Clair
Centre for International Climate and Environmental
Research, CICERO
ISSC Climate Change Design Project Steering Group
and Core Design Team Member

Temba Masilela
Deputy CEO Research
Human Sciences Research Council (HSRC)

Charly Gabriel Mbock
Anthropologist, Cameroon
Member of the MOST Scientific Advisory Committee

Riel Miller
Strategic foresight designer and practitioner
Canada/France

John Mugabé
Professor, Research Associate
Graduate School of Technology Management
Institute for Technological Innovation
University of Pretoria

Robert Paehlke
Professor Emeritus
Environmental and Resource Studies
Trent University

Germán Palacio
Appointed Member of the Scientific Committee,
International Human Dimensions Programme on Global
Environmental Change (IHDP)
ISSC Climate Change Design Project Steering
Group Member

Jack Spaapen
Senior Policy Office
Policy Advice: Research & Knowledge Division
Royal Netherlands Academy of Arts and Sciences

Timo Voipio
Senior Advisor, Global Social Policy
Ministry for Foreign Affairs, Finland

Katri Pohjolainen Yap
Senior Research Advisor
Swedish International Development Cooperation Agency

APPENDIX IV
QUESTIONNAIRE

Social Sciences Research on Climate Change:
A Global Research Funding and Coordination Design Project
JULY 2011

QUESTIONNAIRE
DEFINING THE KNOWLEDGE AGENDA
Please do not feel obliged to answer each individual question if you prefer to address the cluster as a whole. If not all of the clusters are of interest to you, please feel free to answer only those that are. Enter your responses within this document, or on a separate sheet, according to your preference.

CLUSTER A
Key contributions, research priorities and gaps

– Why are the social sciences important for tackling the problems of climate and broader global environmental change (GEC)? What is the main climate/GEC issue or problem that the social sciences have to take the lead on tackling?

– What are the two or three most important and urgent research questions that social scientists should provide answers to in order to help tackle the problems of climate/GEC?

– What are the critical research gaps in this field, areas in which insufficient research is being conducted by social scientists?

– What are the key climate/GEC issues and related social science research questions that need to be addressed?

CLUSTER B
Dialogue across disciplines and scientific fields

– With reference to climate/GEC research, is there sufficient collaboration between disciplines within the social sciences? If not, how can we best stimulate this?

– What are the 2 or 3 main challenges for social scientists of undertaking inter- or cross-disciplinary GEC research across the social, physical and natural sciences? How do we best tackle these?

CLUSTER C
Opportunities and obstacles, incentives and disincentives

– Are there sufficient intellectual, organizational and financial incentives for social scientists – and particularly mainstream social scientists – to become involved in climate/GEC issues? If not, what additional incentives are most urgently needed?

– What are the most urgent capacity needs (individual, institutional or systemic) in relation to increasing the production of social science knowledge relevant to climate/GEC?

CLUSTER D
Making knowledge work

– What prevents social science research from being heard and used in relation to the problems of climate/ GEC? How do we increase the relevance of social science knowledge?

– What type of relations and interfaces between science and policy do we need to develop? Do you have examples of good practice that you can share with us in this regard?

– What about relations and interfaces between science and other stakeholders or users, including industry? What relations should we prioritise and how can we best develop them?

CLUSTER E
Institutional issues
and interest in participation

– Do you think there is a need for a global research funding programme that supports inter-disciplinary, comparative social science research on climate/GEC? If so, what would you say the key elements of such a programme should be – what types of activities (training, collaborative research, policy dialogues, etc.) should it fund, what types of review or evaluation mechanisms should be used, how should it be governed, what should it avoid doing, etc.?

APPENDIX V
LIST OF QUESTIONNAIRE RESPONDENTS

Susana Adamo	Center for International Earth Science Information Network (CIESIN) - Columbia University	US
Samuel Awoniyi	Department of Agricultural Economics, Jospeh Ayo Babalola University	NIGERIA
Hans A Baer	Development Studies Programme, School of Social and Political Sciences, and Centre for Health and Society, University of Melbourne	AUSTRALIA
Payal Banerjee	Sociology, Smith College	US
Zheng Baowei	Director, Research Center of Journalism and Social Development; Commissioner, Social Science Committee, Ministry of Education	CHINA
Jon Barnett	Dept of Resource Mgt and Geography, University of Melbourne	AUSTRALIA
Patrick Bond	School of Development Studies, University of KwaZulu Natal	SOUTH AFRICA
Hans Guenter Brauch	Free University of Berlin	GERMANY
Nicola Bullard	Focus on the Global South	THAILAND
Annie Chaloux	University of Sherbrooke	CANADA
Emmanuele Cuccillato	Adapting to Climate Change in China	CHINA
Lesley Head	School of Earth and Environmental Science, University of Wollongong	AUSTRALIA
Leiwen Jiang	Climate and Global Dynamics Division of National Center for Atmospheric Research, Boulder	US
Noah Lewin-Epstein	Sociology, Tel Aviv University	ISRAEL
Stewart Lockie	School of Sociology, College of Arts and Social Sciences, The Australian National University, Canberra	AUSTRALIA
Jake Lynch	Centre for Peace and Conflict Studies	AUSTRALIA
Ursula Oswald Spring	National University Mexico - UNU-EHS Chair on Social Vulnerability	MEXICO
Alison Park	National Centre for Social Research (London)	UK
Thomas Anton Reuter	University of Melbourne, Asia Institute	AUSTRALIA
Marlyne Sahakian	Graduate Institute of International and Development Studies	SWITZERLAND
Deborah Shmueli	Department of Geography and Environmental Studies, University of Haifa	ISRAEL
Merrill Charles Singer	Dept. of Anthropology and Community Medicine, University of Connecticut	US
Tom W. Smith	Director of the Center for the Study of Politics and Society NORC/University of Chicago	US
Youba Sokona	Sahara and Sahel Observatory (OSS)	TUNISIA
Anna Taylor	University of Cape Town	SOUTH AFRICA
Gina Ziervogel	Dept. of Environmental and Geographical Science, University of Cape Town	SOUTH AFRICA

APPENDIX VI
LIST OF INTERVIEW RESPONDENTS

Bina Agarwal	Institute of Economic Growth, Delhi University	INDIA
Katrina Brown	Programme on Climate Change and International Development; Deputy Direct for Social Sciences, Tyndall Centre for Climate Change Research, University of East Anglia	UK
Guillermo Castro	PNUMA Regional / Ciudad de Saber	PANAMA
Anthony Clayton	University of the West Indies	JAMAICA
Rafael Colmenares	Foro Nacional Ambiental	COLUMBIA
Fatima Denton	IDRC/DfID Climate Change Adaptation Programme	SENEGAL
Susan George	Transnational Institute	FRANCE
Anthony Giddens	London School of Economics and Political Science	UK
Avi Gottleib	Tel Aviv University	ISRAEL
Bronwyn Hayward	School of Social and Political Sciences, University of Canterbury	NEW ZEALAND
Lori Hunter	Institute of Behavioral Science, University of Colorado at Boulder	US
Saleemul Huq	Climate Change Group, International Institute for Environment and Development	UK / BANGLADESH
Sheila Jasanoff	Harvard University: Kennedy School	US
Richard Klein	Stockholm Environment Institute	SWEDEN
Myanna Lahsen	Earth System Science Center, Brazilian Institute for Space Research (INPE)	BRAZIL
Enrique Leff	Programa de Naciones Unidas para el Medio Ambiente (PNUMA)	MEXICO / PANAMA
Philip McMichael	Cornell University	US
Robin Mearns	Lead Specialist and Cluster Leader for Social Resilience, Social Development Department, World Bank	US
Thandika Mkandawire	Department of International Development, LSE / Institute for Future Studies in Stockholm	UK
Richard Moss	Joint Global Change Research Institute at the University of Maryland	US
Rebecca Nadin	Adapting to Climate Change in China	CHINA
Elinor Ostrom	Indiana University; Arizona State University	US
Ted Parson	University of Michigan	US
Dan Rabinowitz	Tel Aviv University	ISRAEL
Jomo Kwame Sundaram	UNDESA	MALAYSIA
Mark Swilling	Sustainability Institute at the University of Stellenbosch	SOUTH AFRICA
Nancy Tuana	Rock Ethics Institute, Penn State	US
John Urry	Lancaster University	UK
Sander E van der Leeuw	School of Human Evolution and Social Change, Dean: School of Sustainability, Arizona State University	US
Elke Weber	Columbia University	US

About the ISSC

The International Social Science Council (ISSC) is the primary body representing the social, behavioural and economic sciences at an international level. Established by UNESCO in 1952, the ISSC today is an independent non-governmental organisation, which has a wide and growing membership. ISSC members include international professional associations and unions, regional and national social science academies and research councils, and other organisations with major interests in the social sciences.

The ISSC's main objective is to increase the production and use of social science knowledge in all parts of the world in order to help address global priority problems. This involves the Council in:
– Scoping and agenda-setting
– Advocacy and promotion
– Capacity development
– Networking
– Information brokerage and dissemination
– Science policy development and resource mobilization

These diverse roles are given substance through a broad portfolio of international scientific programmes, events, publications and partnerships, which include:
– A series of World Social Science Reports
– Regular World Social Science Fora
– A World Social Science Fellows Programme, including Cross-Science Networking Conferences for Young Scientists
– Co-sponsorship of international research pro-grammes and networks
– Active membership of international science policy fora and initiatives
– Design and development of new international research activities and funding programmes
– International Prizes
– Special focus events and agenda-setting workshops

The Council is governed by a General Assembly and an elected Executive Committee, and coordinated by a Paris-based Secretariat.

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FOR FURTHER INFORMATION
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