

1. Social sciences in a changing global environment

General introduction

by

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Global environmental change is linked to and exacerbates other social, economic and political crises such as poverty and inequality. Global sustainability requires urgent action to protect the planet and ensure human equity, dignity and well-being. The social sciences need to research the human causes, vulnerabilities and impacts of environmental change more effectively and inform responses to the challenges society faces. Social scientists need to work with each other and with colleagues from the natural and physical sciences to deliver credible, useful knowledge to help solve the world's problems.

The International Social Science Council (ISSC) is proud to present the second in its series of *World Social Science Reports*. The first, in 2010, was entitled *Knowledge Divides* (UNESCO and ISSC, 2010). It provided an overview of social science knowledge production, dissemination and use across the world, addressing the capacities of the social sciences to respond to fast-changing global realities. The ISSC decided that subsequent editions in the series should each have a thematic focus, directing the social gaze onto specific problems of global significance and taking stock of social science contributions to solving them.

The issue confronted in this *World Social Science Report 2013* is global environmental change, a phenomenon that encompasses all the biophysical changes occurring on the planet's land areas and in its oceans, atmosphere and cryosphere. Many of these changes are driven by human activities such as fossil fuel consumption, deforestation, agricultural intensification, urbanisation, the over-exploitation of fisheries, and waste production. Global environmental change includes biodiversity loss, large-scale shifts in water resources, fundamental changes in the nitrogen and phosphorus cycles, ozone depletion and ocean acidification. It also includes climate change, which according to the Intergovernmental Panel on Climate Change (IPCC), is the most serious of today's global environmental issues for humanity. All these changes are intimately connected to accelerating production and consumption, a growing population, socio-economic and cultural globalisation, and widespread patterns of inequality. Together they comprise a major feature of contemporary life, requiring innovative policy and social transformation.

Why a social science report on global environmental change?

Global environmental change has potentially grave consequences for the well-being and security of people all over the world. They are so grave, in fact, that warnings about an impending global humanitarian emergency are proliferating (e.g. Rockström et al., 2009; Brito and Stafford Smith, 2012; Ehrlich and Ehrlich, 2013). Such warnings are indeed pertinent: most environmental trends are negative, accelerating and in some cases mutually reinforcing, and the consequences of these changes are real and unfolding, affecting individuals and communities everywhere. When it is recognised how these problems interact with and exacerbate other social, economic and political crises – including persistent poverty, increasing inequality and socio-political discontent – a clear sense of urgency emerges. Equally clear is the challenge before society: to secure a sustainable world through effective responses to today’s interacting processes of environmental and social change.

Global sustainability requires concerted action to protect the planet’s bounty and, simultaneously, to safeguard social equity, human dignity and well-being for all

The *World Social Science Report 2013* picks up this challenge by issuing an urgent and decisive appeal to the social sciences¹ to research more effectively the human causes, vulnerabilities and impacts of environmental change, and thus to inform societal responses to the sustainability challenges that society now faces. It urges social scientists to work closely not only with each other, but also with colleagues from the natural, physical, engineering, health and human sciences on accelerating the delivery of credible and legitimate knowledge for real-world problem solving.

Today’s global environmental problems are shared problems that require joint effort, not only across the sciences but also between science and its many stakeholders and users. In this collaborative context, the burden of today’s unrelenting pressure on science to be relevant falls particularly heavily on the social sciences.

What makes it so? There are three defining attributes of today’s changing global realities that call for a fundamental rethinking of how we understand and address global environmental change. Each calls for intensified, and in many instances refocused, social science research.

The inseparability of social and environmental systems and problems

Environmental problems cannot be separated from the other risks and crises that comprise current global realities. They are not disconnected challenges; they do not occur in discrete, autonomous systems rooted in the environment on the one hand, and in society on the other. Instead, they are part of a single, complex system where the environmental, political, social, cultural, economic and psychological dimensions of our existence meet and merge. Consequently, global environmental change is simultaneously an environmental and a social problem.

For this reason, researchers across the disciplinary spectrum have for some time spoken of “social-ecological” or “coupled human-natural” systems. Social science research helps us to comprehend the complex dynamics of these systems. It examines how problems are connected: for example, how climate change interacts with water and food security, economic development, social inequality, poverty, migration and conflict. It explores how people’s vulnerabilities to different types of change are interrelated, and what human consequences the actions taken in response to one set of problems may have for another.

If society is to be serious about slowing or reversing global environmental trends, about reducing vulnerabilities, minimising impacts and improving human well-being, the social sciences must step forward more forcefully to inform understanding of these social-ecological systems. Social science can help explain how these systems unfold and interconnect across space, from the local to the global, and in time, from the past and present into the future. These insights will help unblock the inherent limitations of our current thinking and language about these systems, articulate new narratives that transcend the nature–society dichotomy, and identify opportunities for new and more effective solutions.

A human condition without precedent

Humans are living at a time when the Earth’s land surface and climate, its elemental cycles, oceans, fresh water, ice, air and ecosystems have all been altered fundamentally from the state they were in even just a few centuries ago. This is a remarkable and unique trait of the conditions in which society now finds itself. And scientists know with great confidence that these changes are attributable primarily to human activity. The Nobel Prize-winning chemist Paul Crutzen (2002) proposed calling this unprecedented time the Anthropocene: a new geological era in Earth’s history, in which humans are the defining geological force, and the first in which that force is “actively conscious of its geological role” (Palsson et al., 2013).

In the Anthropocene, people assume centre stage. This makes the causes, consequences and responses to global environmental change fundamentally social in nature. Global environmental change is about humans changing global environments, and about humans, individually and collectively, shaping the direction of planetary and social evolution.

The social sciences thus have a vital role in enriching society’s understanding of what it means to live – and maybe thrive – in the Anthropocene, and in raising awareness of the opportunities, accountabilities and responsibilities this brings with it. The social sciences need to help answer questions about how the role of humans as environmental culprits can be reconciled with their role as inheritors and even victims of the environmental problems we create. They must also help society understand what defines or increases the human potential to break out of either mould, and explore what makes people into agents of deliberate change. Finally, the social sciences can help explain how people find the will and creativity to deploy their agency to safeguard human security in an equitable and environmentally sustainable manner.

Urgent and fundamental social transformation

The third defining trait of this time pertains to the fundamental nature of change that society may either seek out deliberately, or be subjected to involuntarily. If society takes seriously the fact that the planet’s systems are under rapidly growing and unsustainable pressures, and that human systems are inextricably linked to their fate, it becomes clear that human security is at stake. Human security is understood here in the broadest sense. It involves people having the options they need to reverse, mitigate or adapt to threats to their basic needs and rights, and the capacity, freedom and sense of responsibility to pursue these options (GECHS, 1999). Deep social transformation is needed if societies are to maintain or establish human security, and pursue the larger quest for global sustainability in the face of human-caused degradation of essential life support systems.

The social sciences are uniquely placed to clarify what this means. Through engaged research, they can help society as a whole understand the nature and scope of the changes required at individual, organisational and systemic levels, and how such changes could be realised in politically feasible and culturally acceptable ways.

A further important task for the social sciences is to understand the role of science in fostering deliberate, inclusive, democratic and hence deliberative processes of transformation. And it is equally vital for the social sciences to advance society's understanding of how scientific and other forms of knowledge can be integrated to achieve culturally sensitive, locally appropriate, yet globally effective transitions to sustainability.

Given these features of today's global realities, the case for greater engagement by the social sciences is clear. Their knowledge is indispensable for a clearer understanding of the causes and consequences of global environmental change, and for informing more effective, equitable and durable solutions to today's broader sustainability problems. This is what makes the *World Social Science Report 2013* on global environmental change both relevant and timely.

Objectives of the Report

The *World Social Science Report 2013* has five specific objectives.

First, to **develop a social science framing of global environmental change and sustainability**. It highlights how the questions change, the understanding deepens, and the options for interventions open up when critical social science questions are posed and when the challenges at hand are viewed through a social lens.

Second, to **showcase some unique contributions that the social sciences can make**, taking different disciplinary and interdisciplinary perspectives into account, and writing from or about different regions of the world. While this cannot be an exhaustive review of all the social science work being done, it does illustrate how the social sciences shed light on a range of global environmental challenges. It reveals important aspects and differences about how environmental change unfolds in context, and how attempts to transition to a more sustainable way of living on Earth are experienced across the globe.

Given the urgent need to curtail destructive human impacts on the planet and enable people to adapt to already changing circumstances, a third objective of the Report is to **explore and assess how well social science knowledge about changing global environments is linked to policy and action**. The social sciences have much to contribute to a better understanding of how research (from any discipline) and policy are linked, and to reflect on the challenges that this linkage poses to the production and use of knowledge. The Report offers insights into these dynamics, alongside examples of how the social sciences are attempting to change their own interactions with the world of policy and practice.

The two final objectives move from description and analysis to action. As the contributions to this Report reveal, particularly in Part 2, the present capacity of the social sciences is highly uneven across the globe, and inadequate everywhere, to deliver the knowledge of global environmental change and sustainability which is now called for. In this light, the Report aims to show the need for more environmental social science and for more environmental social scientists, and in this way, to **influence research programming, science policy-making and funding at national, regional and international levels**.

Finally, and perhaps most importantly, this Report aims to **mobilise the wider social science community to engage more effectively, and take the lead in developing a more integrated and**

transformative science of global change and sustainability. This is directed at all social scientists, those already working on these issues, and particularly those whose work is relevant to this topic but not labelled “environmental”. For example, social scientists researching social movements, other historical periods of deep social transformation, or human responses to existential threats, can offer highly relevant insights on the environmental challenges at hand.

The more than 150 authors of this Report are drawn from across the globe. They all speak in their own voices to these five objectives, though none alone can meet all of them. And while the individual contributions to the seven parts that follow come from the full range of social science disciplines, from some of the human sciences (philosophy, history and the arts), and from interdisciplinary fields of study, the Report is organised around core themes rather than disciplines. Disciplinary knowledge provides an important foundation for understanding different aspects of lived reality. Yet on their own, disciplines are limited in their ability to grasp the full complexity of what was, is and might be. Experiences, practices, geographically and socially situated actions and interactions, policies and decisions, are always multilayered, and defy such bounded perspectives. At the same time, viewing a single issue from different disciplinary vantage points can deepen and enrich our understanding, and inform policy or programmatic interventions. Thus disciplinary contributions and more interdisciplinary and synthetic perspectives all have a place in this Report.

The context: A changing environment for global environmental change research

A brief history of social science research on global environmental change

Systematic research on global environmental change by social, behavioural and economic scientists, and by the humanities, dates back to the 1950s. Apart from human geographers, anthropologists pioneered the study of the human–environment interaction, with “cultural ecology” emerging in the 1950s and “ecological anthropology” in the 1960s. “Ecological economics”, “environmental sociology”, “environmental history”, “environmental philosophy”, “literary ecocriticism” and “ecolinguistics” all followed in the 1970s, and “environmental psychology” emerged in the 1980s, followed by “ecopsychology” and “historical ecology” in the 1990s (Palsson et al., 2013; Gardner and Stern, 2002; Roszak, Gomez and Kanner, 1995).

Today, environmental problems, particularly climate change, are acknowledged research domains in most social science disciplines, and increasingly in the humanities. These important efforts are highlighted in the contributions to this Report from the international social science associations, research consortia and related organisations that are members and partners of the ISSC.

In 1990, the ISSC established what is today known as the International Human Dimensions Programme on Global Environmental Change (IHDP). The aim was to assist in building the capacity and critical mass among social scientists which was needed to contribute to a better understanding of the social and human dimensions of global environmental change. Through the voluntary commitments of leading social scientists across the world and by the organisation of internationally collaborative research projects, the IHDP contributed significantly to building the social science knowledge base on global environmental change and indeed to bringing the social sciences to the heart of international global environmental change and sustainability research. The achievements of its international projects are highlighted in Part 7 of this Report.

From margin to centre: The call for knowledge integration

Despite these efforts, the social sciences have remained marginal to global environmental change research in the post-war era. As contributions to Part 2 show, it is a field that has been and continues to be dominated by the natural sciences. At the same time, and as further discussed in Part 7, global environmental change has failed to capture the attention and imagination of the more traditional, mainstream social sciences, the core of the disciplines which view the social and human world as their focus. For them, social phenomena, relationships, interactions and human behaviours may take place on an environmental stage, but they tend to be understood as being determined by humans alone.

To remedy their marginality, social scientists and their supporters face a dual task: to secure a space for the environment within the social sciences, and an equally important and central space for the social sciences within the broad field of global environmental change research.

Environmental change research now aims more than ever to integrate the social, natural, human, engineering and health sciences. Integration in this case does not imply the loss of disciplinary strengths or identity. On the contrary, it means being confident in one's disciplinary base whilst remaining open to other ways of viewing and studying the world, open to asking new and different kinds of questions that emerge from an appreciation of the contributions that different disciplines and perspectives bring. Integration means engaging with colleagues from other disciplines and fields in the joint, reciprocal framing of problems and research questions, and in the collaborative design, execution and application of research.

Obstacles to knowledge integration

This emphasis on integrated science is dictated by two related facts: the complexity of the interconnected environmental and sustainability challenges that society faces, and the inability of any single discipline or scientific domain to understand, let alone address, such complexity. This emphasis is not new. Appeals for closer collaboration, particularly between the social and natural sciences, date back to at least the 1970s (Tsuru, 1970; UNESCO and ISSC, 2010; Mooney, Duraiappah and Larigauderie, 2013). Yet despite the progress that has been made by many academic groups and in many scientific institutions across the world – reflected in a number of the contributions to this Report – the task of bringing the different sciences together in integrated global change research remains difficult. As a result, the track record on which to draw remains limited.

There are many reasons for this difficulty (see Part 7 of this Report and Chapter 10, *World Social Science Report 2010*). Generally, disciplines still dominate academic and funding practices, and differences persist in the research cultures, standards and norms of different fields. Integration depends on the effective building of relations of trust. Trust is emergent and cannot be imposed. It requires time and supportive rather than competitive institutional environments. Global environmental change research brings yet further challenges. Researchers from different fields frequently accuse each other of naiveté regarding their understanding of the social or the physical world, and while the natural sciences often give preference to analysis at the global scale, the social sciences tend to work at a local or even individual level.

Another obstacle to integration stems from the fact that assessments of what knowledge is or is not relevant to the question at hand have traditionally been determined by the natural sciences. Much work remains to be done beyond this Report, to clarify

what integration means in practice, find effective ways of implementing it, and adjust institutional practices to support it.

New opportunities in integrated, solutions-oriented research for sustainability

Such work is now being undertaken within Future Earth, an ambitious new ten-year international programme of research for global sustainability (see Box 1.1).

This initiative seeks to deliver a step change in the way science for sustainability is produced and used. Central to this ambition is a commitment to engage a wider scientific community and to effectively integrate efforts across scientific fields, in order to find the best scientific solutions to complex, multifaceted problems. Equally important within the Future Earth vision is an emphasis on bringing policymakers, practitioners, business and industry, as well as other sectors of civil society, into the co-design, co-production and co-delivery of knowledge for sustainability.

Future Earth marks significant progress in securing a real commitment from researchers, science policymakers and funders to integrated, solutions-oriented research. It provides a unique and robust institutional basis for accomplishing something that has long been called for: research that brings the natural, social, human and engineering sciences together in timely, meaningful dialogue and collaboration around joint agendas. It fosters knowledge production guided by a vision of science working with society to find solutions for global sustainability. This approach defines the context within which this Report has been prepared and within which the challenges it poses to the social sciences must be understood.

Box 1.1. Future Earth and the Science and Technology Alliance for Global Sustainability

Future Earth was launched during Rio+20, the 2012 United Nations Conference on Sustainable Development held in Rio de Janeiro, Brazil. The programme seeks to provide the knowledge required for societies to respond effectively to the risks and opportunities posed by global environmental change and to support transformation towards global sustainability. It will bring together and build on the strengths of more than three decades of global environmental change research promoted and coordinated by the World Climate Change Research Programme, the International Geosphere-Biosphere Programme, DIVERSITAS (an international programme on biodiversity), the IHDP, and the Earth System Science Partnership.

Future Earth will provide an international hub for the coordination of research on three themes: Dynamic Planet, Global Development, and Transformation towards Sustainability.

Future Earth is sponsored by the Science and Technology Alliance for Global Sustainability. The Alliance, which was established in 2010, is an international partnership based on a shared commitment to promoting the use of science and technology in informing equitable, sustainable solutions to the most pressing questions currently confronting humankind. Its membership includes the ISSC, the International Council for Science (ICSU), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the United Nations Environmental Programme, the United Nations University, a group of major funders of global change research known as the Belmont Forum, and the World Meteorological Organization.

www.futureearth.info
www.stalliance.org

The framework for the Report: Transformative cornerstones of social science research for global change

The engagement of the social sciences will be critical to the success of initiatives such as Future Earth. What can the social sciences bring to integrated global environmental change research? And what are the unique contributions they can and must make to deliver solutions-oriented knowledge for global sustainability?

These are the questions that the ISSC set out to answer in a 2012 report entitled *Transformative Cornerstones of Social Science Research for Global Change* (Hackmann and St. Clair, 2012).² The knowledge framework presented in that report identifies six sets of questions that have to be answered if research on concrete environmental problems is to inform actions that result in ethical and equitable transformations to sustainability. These questions are critical social science questions, bringing the full spectrum of theoretical and empirical, qualitative and quantitative, and basic and applied social science knowledge to bear on the urgent challenges of today (see Box 1.2).

The six transformative cornerstones form the thematic framework for the *World Social Science Report 2013*. This framework was used to solicit contributions to the Report and provides the structure according to which submissions have been selected and organised in the sections that follow.

Box 1.2. Transformative Cornerstones of Social Science Research for Global Change

The *Transformative Cornerstones* report (Hackmann and St. Clair, 2012) provides a research framework for understanding climate and other environmental changes as social processes embedded in specific social systems. The framework provides tools to question and rethink the shape and course of those processes and systems through time. They are called transformative because answers to the questions raised in each cornerstone should inform actions that result in ethical and equitable transformations to sustainability. Below is a summary of the full report.

Cornerstone 1 Historical and contextual complexity

The first cornerstone concerns the complexity of global change. Social science needs to understand the political economy of these processes, and how they relate to other social problems, including persistent poverty. The task here is to distinguish between the interconnected drivers of global change, and to clarify the interdependencies of people's vulnerabilities to these and other social processes, such as migration or conflict. In-depth historical analyses are needed to explain the complex trajectories that have led to today's unsustainable lifestyles and models of progress, and to draw lessons from earlier instances of transformative change. It is also important to understand the influence of context: to address how global change risks, impacts, perceptions, experiences and responses differ across the world, across social classes, gender, race or faith, and between personal or professional identities.

Cornerstone 2 Consequences

Identifying and mapping current and future threats from global environmental change and their impacts on people and communities is the work of the second cornerstone. It is about exposing the diverse realities of living with such change, and calls for a special focus on poor and vulnerable communities. Research on the consequences of environmental change

Box 1.2. **Transformative Cornerstones of Social Science Research for Global Change** (cont.)

advances our understanding of the lives of those affected by processes such as climate change, including their coping mechanisms, responses, innovations and limitations. It raises important questions about social boundaries and tipping points related to environmental pressures on human systems, economies and the social fabric of life. This cornerstone also requires study of the outcomes of policy solutions and technologies, and how both can be improved.

Cornerstone 3 Conditions and visions for change

This cornerstone is about social change: how it happens, at what levels and scales, and what directions it might take. The purpose is to understand what drives individual and collective change, including changing social practices. It identifies what kind of leadership and what other capacities are required for successful change to occur, while being absolutely clear about the limitations and democratic pitfalls of deliberate intervention. Another goal is to shed light on criteria for successful, transformative actions towards equitable sustainability at the local, community level, and on how to scale these up into transformative global thinking. Feasible visions for change matter, but so do the methods and procedures by which they are built and the ways in which global change and its consequences are framed. This cornerstone raises questions about different narratives of socially desirable change, lifestyles and alternative futures. It also addresses concerns about social engineering, and asks about the feasibility of participatory approaches to achieving alternative visions of the future. Building consensus in ways that include marginalised and non-scientific views is a key challenge.

Cornerstone 4 Interpretation and subjective sense-making

This cornerstone confronts the values, beliefs, interests, worldviews, hopes, needs and desires that underlie people's experiences of and responses (or lack thereof) to global change. These in turn shape personal narratives and social discourses about the nature of the world and the environment, and so drive people's views on the necessity for a transformation to global sustainability. It challenges social scientists to make sense of the assumptions and blind spots that underlie choices and priorities. These assumptions can block awareness of what needs to change and keep systems deadlocked in inaction. This cornerstone raises questions about the nature and role of transformative learning, and investigates the reasons for indifference, scepticism and denialism in the face of potential cataclysms such as climate change.

Cornerstone 5 Responsibilities

The double injustice imposed by the effects of environmental change on already vulnerable populations and on those without a voice calls for urgent work on what it takes to foster global and intergenerational solidarity and justice. It cannot be assumed that all responses will be "just" interventions. This cornerstone foregrounds obligations, duties and responsibilities to poor and vulnerable people and to future generations, bringing these concerns into the legitimate space of scientific inquiry, policy and practice. It addresses methods, evaluation systems and policy mechanisms, and ensures ethical approaches in the development of new visions and the building of new social systems. It focuses an ethical lens on all interpretations of and responses to environmental change, be they of a technical, political, economic or discursive nature.

Box 1.2. **Transformative Cornerstones of Social Science Research for Global Change** (cont.)

Cornerstone 6 Governance and decision-making

Many of the policy processes related to environmental change are poorly understood. Social science knowledge is needed on how decisions are made in the face of uncertainty; what pathways are available for influencing decision-making; what determines the success or failure of political agreements; and what drives political will. Knowledge is also needed of the possible effects of different ways of framing environmental change on policymakers and practitioners. Not all expert input has the same policy appeal or is given an equal hearing by those in power. It is important to understand the role of science in policy processes, to know what makes knowledge work, whose knowledge counts, and where the limits of expert knowledge lie. This cornerstone focuses on institutional design and reform, and on building structures to enable dialogue across competing interests, values and worldviews, under conditions of uncertainty.

Source: Hackmann, H. and A. L. St. Clair (2012), *Transformative Cornerstones of Social Science Research for Global Change*, International Social Science Council, www.worldsocialscience.org/documents/transformative-cornerstones.pdf.

Development of the Report

The ISSC developed this Report as part of its strategic partnership with UNESCO and under the guidance of a Scientific Advisory Committee composed of renowned scholars from different scientific disciplines and geographical regions of the world.

In 2012, the ISSC issued a global call for contributions via the networks of the Council's membership and partners, including UNESCO. A large number of abstract submissions were received and reviewed by the Report's editorial team. Full papers were requested on the basis of quality and fit. Where gaps in the coverage emerged, the ISSC commissioned authors to write on specific topics. A bibliometric analysis of the production of social science research on issues of climate change and global environmental change was also commissioned. In addition, the ISSC invited its regional social science councils and professional disciplinary associations, unions and co-sponsored programmes, as well as the Organisation for Economic Co-operation and Development (OECD) and UNESCO, to prepare brief overviews of their contributions and accomplishments in global environmental change research. All commissioned and invited contributions were submitted for external peer review. Throughout the selection and commissioning process, attention was paid to the geographical, gender and disciplinary distribution of the more than 150 authors of this Report.

Members of the editorial team wrote the introductions to each section of the Report, and the entire Report was externally reviewed by four prominent scholars from different regions of the world.

Structure and audiences of the Report

Part 1 sets the stage for the Report, with a number of social science perspectives on the big picture complexities of global environmental change and sustainability. These contributions address aspects of Cornerstone 1. Part 2 augments this global introduction with a review of social science capacity and research activity in different regions of the world. In Part 3, the Report turns to the consequences of global environmental change (Cornerstone 2), providing a number of examples of how the social sciences study them

across issue areas and regions of the world. Part 4 focuses on visions and conditions for change, as well as subjective interpretations and sense-making (Cornerstones 3 and 4). Part 5 picks up the difficult topic of ethics and responsibilities (Cornerstone 5), while Part 6 addresses the increasingly important issue of governance and decision-making (Cornerstone 6). Part 7 provides an overview of the contributions made to global environmental change research by ISSC members, programmes and partners, including international disciplinary associations and projects of the IHDP. The conclusions draw out the larger findings and messages of this Report. They recommend a range of priority action steps that could strengthen social science's ability to help shape effective, equitable and durable solutions to global environmental change and sustainability.

The annexes give more detail of the bibliometric analysis undertaken in support of the regional assessments discussed in Part 2. In line with the ISSC's commitment to provide regularly updated information on the state of global social science knowledge production in each *World Social Science Report*, statistical indicators of such production are also provided in the annexes.

The *World Social Science Report 2013* was prepared with multiple audiences in mind. All have a crucial role to play in promoting understanding of the human dimensions of global environmental change, developing the requisite social scientific knowledge base, building the necessary research capacities, mobilising the social science community to become engaged, and ultimately applying the resulting knowledge. All are crucial to realising the new charter for the social sciences promoted in the conclusions of this Report.

Social scientists themselves are the first audience. So are colleagues in the natural, engineering, medical and human sciences concerned with global environmental change and sustainability. Both need to reach out to the other. But they will do so more often and faster if they find support from several of the other audiences for this Report. These include international scientific councils like the ISSC and ICSU, the professional associations they bring together, global programmes such as Future Earth, as well as international organisations including UNESCO and other relevant UN agencies and programmes. Then there are universities and academies in all fields of science, and those agencies and foundations that are financing and evaluating research at the international, regional and national levels, and in the public and private sectors. And finally, this Report aims to speak to those who might look towards and work with the social sciences to produce new knowledge and generate new insights: decision-makers, policy shapers, practitioners, civil society organisations, and the rapidly changing world of the media and other science translators.

Moving forward

The *World Social Science Report 2013* is a truly collaborative effort. Contributions from across the world have been brought together into a unique and rich overview of how researchers from different social science disciplines, and interdisciplinary teams, are applying the transformative cornerstones of social science research to concrete global change challenges.

The Report does not represent a single, unified social science voice, nor should it. And while it makes an effort to cover some of the biggest problems of global environmental change, and related social challenges confronting contemporary society today, it cannot cover everything. The contributions reflect current preoccupations and trends

in a constantly changing and expanding area of work, as much as existing and growing capacities to pursue them. It is indicative of past accomplishments but does not limit future possibilities. The field is growing, wide open, and rife with opportunity to broaden and deepen what social scientists do on the topic of global environmental change and sustainability.

Much like an artful elephant installation appearing unexpectedly on an urban plaza or at the edge of the sea, this Report invites its readers to consider new or unusual perspectives, gather new insights and understandings, and perhaps walk away thinking differently. The implications of using a social lens to examine global environmental change and sustainability, and taking the insights resulting from that changed perspective seriously, are indeed profound.

Notes

1. Throughout this Report, and in line with the ISSC's scientific membership base, reference to the "social sciences" should be understood as including the social, behavioural and economic sciences.
2. This was conducted in partnership with UNESCO, the IHDP and the United Nations Research Institute for Social Development, and supported by the Swedish International Development Cooperation Agency and the Belmont Forum.

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