Survey of Social Sciences Scholars on Engagement in Global Environmental Change Research

International Human Dimensions Programme on Global Environmental Change (IHDP)

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Mr. John Crowley, Senior Programme Specialist – UNESCO
Dr. Heide Hackmann, Executive Director – ISSC
Dr. Eduardo Brondizio, Associate Professor – University of Indiana
Dr. Heidi Prozesky, Lecturer – Stellenbosch University
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Note that any mistakes in framing or interpretation are solely the responsibility of the authors, and do not reflect on IHDP, its sponsors, or the Steering Committee.

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SUMMARY

The global environmental change (GEC) research agenda has largely been framed from within the natural sciences. Biophysical dimensions of the problem—from carbon emissions to rising sea levels to biodiversity loss—are well-accepted, and the human activities that generate environmental change have been quantified. What is lacking in GEC research, however, is a clear and comprehensive framework for the social dimensions of the problem. The International Human Dimensions Programme on Global Environmental Change (IHDP) is one of four global environmental change research organizations falling under the Earth System Science Partnership (ESSP), and is the only one charged with investigating the social, behavioral, cultural, economic and political dimensions of global environmental change. As such, IHDP, in collaboration with UNESCO and the International Social Science Council (ISSC), and with support from the Packard Foundation, undertook this project to determine the barriers and incentives to, and priorities for, engagement by social sciences and humanities scholars in global environmental change research.

Under the guidance of a Steering Committee, a set of survey questions was designed to determine the extent to which scholars in the extended IHDP and ISSC network are already participating in social dimensions of global environmental change research, and to take input on the priorities for, and barriers and incentives to, engagement by social sciences and humanities scholars in such research. The survey was launched on 7 February 2011. Approximately 10 social science networks around the world received the survey over the next month. A total of 1,276 survey responses were received as of 29 March 2011, including respondents based in 103 countries. The most well-represented regions included Western and Central Europe (32.5%), Sub-Saharan Africa (17.2%), and the US and Canada (16.2%).

The primary finding of this survey is that a large group of diversely trained social and natural scientists from around the world, who are conducting interdisciplinary research related to global environmental change, feel that the social dimensions of the topic are very important but under-addressed. The highest priority research areas identified included: (1) equity/equality and wealth/resource distribution; (2) policy, political systems/governance, and political economy; (3) economic systems, economic costs and incentives; and (4) globalization, social and cultural transitions. Over 80% of these scientists would like to see additional funding and opportunities for such research, and 90% support an Assessment of social sciences and humanities research findings applicable to global environmental change. Moreover, this support was backed up by over 87% (768 individuals) saying they would consider participating in such an Assessment.

In response to this mandate, IHDP will convene a broad group of scholars to undertake a global assessment and synthesis of social sciences and humanities findings of relevance to global environmental change. Priority research areas will include the four identified above. The main questions to be addressed by the Assessment will include identifying the direct and indirect drivers of unsustainable behaviors, and figuring out how to leverage societal transformations towards social and environmental sustainability.

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INTRODUCTION

The global environmental change (GEC) research agenda has largely been framed from within the natural sciences. Biophysical dimensions of the problem—from carbon emissions to rising sea levels to biodiversity loss—are well-accepted, and the human activities that generate environmental change have been quantified. What is lacking in GEC research, however, is a clear and comprehensive framework for the social dimensions of the problem [1]. As a consequence, there is little agreement on how particular behaviors are generated. We understand even less about how to redirect societies toward more sustainable pathways. While important research has been conducted on the roles of institutions and technological systems in the transition toward sustainability, there is little GEC research on the connections between beliefs and values, social and economic structures, and changing behaviors. Finally, there is no agreement on how to approach the normative questions about societal change. What should be the goal or intended outcome of any transition? Based on which values and priorities?

The Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report has identified human behavior evolution, scenarios of how societies will develop in the future and other social sciences topics as among their list of questions requiring further research [2-3]. Two of the five "Grand Challenges" emanating from the International Council for Science (ICSU) visioning process on GEC research target societal response and innovation [4]. There is a growing intention among both funders and practitioners of global environmental change research to move towards a more integrated "coupled socio-economic and environmental system" approach to questions of environmental impacts and societal adaptation [5-6].

In order to bring the social sciences and humanities into the global environmental change research community more fully, these scholars must be given a lead role in framing the research questions and agenda. It is not effective to ask scholars from the social sciences and humanities to work on questions defined by the natural sciences. A natural sciences framing might ask, "How much displacement of species ranges might we expect from an average warming of two degrees centigrade?" while a social sciences framing might ask, "What are the social, economic and political factors that block successful climate change treaty and biodiversity conservation negotiations?" Both types of questions are equally important.

The International Human Dimensions Programme on Global Environmental Change (IHDP) is one of four global environmental change research organizations falling under the Earth System Science Partnership (ESSP), and is the only one charged with investigating the social, behavioral, cultural, economic and political dimensions of global environmental change. As such, IHDP, in collaboration with UNESCO and the International Social Science Council (ISSC), and with support from the Packard Foundation, undertook this project to determine the barriers and incentives to, and priorities for, engagement by social sciences and humanities scholars in global environmental change research.

The goals of this portion of the project, as stated in the defining documents, were as follows:

1. To gain a better understanding of the social science research landscape on GEC issues;

2. To gain a better understanding of the disincentives and possible incentives for engaging the broader social science community in GEC research;

3. To gain a better understanding of how the social science community perceives their role and contribution to the GEC fora.

In order to meet these goals, we undertook a global survey of our extended network and that of our collaborator ISSC, asking questions about their research involvement, what they consider to be the primary research priorities and gaps, their view on incentives and disincentives for social sciences engagement in global environmental change research, and which audiences they try to reach and influence with their research findings. In this report we present the methodology used to develop and implement the survey and reach survey participants, a summary of the results of the survey, and a discussion of the significance of these findings and what IHDP plans to do in response to them.

METHODOLOGY

A set of survey questions was designed to determine the extent to which scholars in the extended IHDP and ISSC network are already participating in social dimensions of global environmental change research, and to take input on the priorities for, and barriers and incentives to, engagement by social sciences and humanities scholars in such research. See Annex A for the final set of questions asked of survey respondents. These survey questions were developed between December 2010 and February 2011. A Survey Steering Committee (SSC) provided input and feedback during the design process. SSC members included John Crowley, Senior Programme Specialist – UNESCO, Heide Hackmann, Executive Director – ISSC, Eleanor Hadley Kershaw, Communications and Outreach Consultant – ISSC, Eduardo Brondizio, Associate Professor – University of Indiana, Heidi Prozesky, Lecturer – Stellenbosch University, Anantha Duraiappah, Executive Director – IHDP, and Deborah Rogers, Academic Officer – IHDP. Eight pilot survey testers, all social scientists, took the survey and provided feedback, which was incorporated before the survey was finalized.

The survey was launched on 7 February 2011. We asked member organizations of ISSC and others to make the survey available to their social science and humanities networks around the world. We heard back from the following organizations or networks, all of whom agreed to send the survey out to their members:

- International Human Dimensions Programme (IHDP)
- The Organization for Social Science Research in Eastern and Southern Africa (OSSREA)
- The Asia-Pacific Network for Global Change Research (APN)
- International Sociological Association (ISA)
- International Peace Research Association (IPRA)
- Population-Environment Research Network (PERN)
- International Union of Psychological Science (IUPsyS)
- China Climate and Environment listserve
- Royal Society of New Zealand, Social Sciences Division (RSNZ**)**
- Society for Social Studies of Science (4S)
- International Union of Scientific Study of Populations (IUSSP)

- International Studies Association (ISA)

The survey distribution was not designed to provide a representative sample of the global population of social scientists. Instead, the survey was a response to calls from the ICSU and Belmont visioning processes, which have highlighted the need for better integration of the social sciences and humanities communities into global environmental change research. As such, the sample was designed to provide insights into the experiences and thinking of such scholars in the extended IHDP and ISSC networks, in order to inform upcoming processes such as the ICSU-ISSC-Belmont Forum's *Earth System Sustainability Initiative* and the IHDP's *Assessment of Human Dimensions of Global Change*. The sampling process involved a clear selection bias, both because only members of these related networks received the invitation, and because it is likely that scholars more involved in research on social dimensions of global environmental change would be more likely to make time to answer the survey. Thus results in the survey cannot be inferred to be representative of all social scientists and humanities scholars.

The survey, conducted by consultants Dalberg Global Development Advisors, was posted on Survey Monkey, an internet-based software that allows rapid, pre-programmed analysis of survey results. Descriptive statistics gathered on survey participants included:

* response rate for IHDP (based on mass mailing software that tracked the number of survey solicitation recipients who clicked on the survey link),
* completion rate for surveys,
* education and employment characteristics of survey participants,
* research interests,
* geographical location,
* geographical focus of research,
* research methodologies used, and
* extent of participation in global environmental change (GEC) networks and research.

Descriptive statistics gathered on views of survey participants included:

* research groupings considered to be high priority and gaps in understanding,
* Millennium Development Goals considered to be high priority and gaps in understanding,
* ICSU Grand Challenges considered to be high priority and gaps in understanding,
* perceptions of incentives and disincentives for research on social dimensions of GEC,
* constituencies or institutions they are trying to influence, and
* support for a global assessment of social science and humanities research findings relevant to GEC, and interest in participating.

Survey responses were broken down in two ways. First, responses were categorized by those who knew of IHDP before the survey, and those who did not know of IHDP. Second, responses were categorized into three groups: (1) the target group of social scientists and humanities scholars who have not been as involved in global environmental change research—those with an educational background in anthropology, education, history, linguistics, literature, philosophy, political science, psychology or sociology, (2) those with an environmental science, IT or engineering background, and (3) those with an educational background in law, demography, business, economics, geography, health or another field. Note that these three groups were

designed to distinguish between those scholars who have already been fairly involved in global environmental change research (groups 2 and 3), and those who to date have not (group 1). In the results that follow, we generally contrast results for Groups 1 and 2. Because of the limitations of the Survey Monkey analysis tool, it was not possible to separate responses of those who had a purely social sciences background from those who had a mixed educational background (training in both fields).

Survey results were downloaded and analyzed on two dates: 2 March 2011 and 29 March, 2011. Between these dates, an additional 108 individuals took the survey; thus the latter pool of respondents was slightly larger.

RESULTS

Survey Response Rate

A total of 1,276 survey responses were received as of 29 March 2011. This represents a response rate of 18.3% (706 responses) for those on the IHDP listserve, which could be tracked directly. In addition, 570 responses were received from the other organizations and networks. The completion rate for all surveys initiated on or before 29 March 2011 was approximately 76% (974 completed out of 1276 started).

Characteristics of Survey Respondents

Survey respondents work across the spectrum of social sciences and humanities, with strong participation by researchers working in environmental studies or geography (see Tables 1, 2 and 3 at end of report). The majority of respondents have Doctorates (66%), while 29% have a Master's degree and 5% a Bachelors as their highest academic degree. The gender breakdown of respondents is 61% male and 39% female. Seventy one percent of respondents are based at universities, followed by government departments, NGOs, research councils and others (Tables 4, 5). Research is conducted at all levels, from individual to global, using virtually all methodologies, from direct observation and surveys through experiments and modeling.

Respondents based in 103 countries answered the survey, with responses from the USA, India and Germany leading the country totals (Tables 6, 7). The most well-represented regions include Western and Central Europe (32.5%), Sub-Saharan Africa (17.2%—especially Nigeria, South Africa, Ethiopia and Kenya), and US and Canada (16.2%). Though nearly half of all respondents were based in Europe and North America, the geographic research focus was much more evenly split across the global South, although with an emphasis on Sub-Saharan Africa (Tables 8, 9).

Sixty eight percent of respondents knew of IHDP prior to taking the survey, and 32% did not. Fifty three percent of respondents who know IHDP are active in the IHDP network—either very engaged, regular participants or occasional participants in IHDP activities (Table 10). These active members of the IHDP network tend to be more educated, have more experience, and be more likely to be based in universities compared to all survey respondents.

Eighty one percent of all survey participants already conduct research into the social and human dimensions of global environmental change (Tables 11, 12). Of these researchers, 11.6% focus

on this field only, 60.8% consider it an important area of their research, and 27.6% consider it a small area of their research.

Because the survey questions on training and background allowed respondents to select as many areas of training as they wanted, it was not possible to have a clean break-down into separate categories of social sciences training versus environmental, IT or engineering training. Instead, it was necessary to group everyone with the target social sciences or humanities training even if they also had natural sciences training (Group 1), and everyone with environmental studies, IT or engineering training even if they also had social sciences training (Group 2)—see Tables 2 and 3. Some of the respondents—14.2%—had training in fields from both of these categories, and thus their answers were included in both categories. For this reason, totals reported below often do not add up to 100%.

When broken down by educational background group, survey results showed the following:

- 36.6% of the survey respondents were trained in Group 1 social sciences, and 46.6% of respondents in Group 2 (environmental sciences, engineering or IT). This includes an overlap (trained in both) of 14.2% of the total respondents. Another 31.2% of respondents were trained in other fields (Group 3)—see Methods section for description of fields in each category.

- 37% of the Group 1 and 69% of the Group 2 respondents are currently working in the field of Environmental Studies. This was the field of work claimed by the highest number of survey respondents.

- For both Group 1 and Group 2, the highest fraction of respondents had just 0 – 5 years of experience, and the second highest fraction had over 20 years' experience.

- The majority of both groups are working at universities rather than other institutions.

- While approximately half of all respondents are from the developing world, there was a marked difference for the two groups (Table 7). Only 38% of Group 1 scholars were based in the developing world, while 65% of Group 2 scholars were based in the developing world. There was almost no difference in region of research focus; only in regional base (where they live).

- Despite the difference in fields of training, there was very little difference between the two groups as to the role of social dimensions of global environmental change in their research activities (Table 12). This suggests that a larger fraction of Group 2 (engineering, environmental sciences and IT-trained) researchers in the developing world may be working on social issues.

Priority Research Topics

Research topics considered by most survey respondents to be of primary importance to understanding the social dimensions of GEC include (1) Equity/equality; wealth/resource distribution; (2) Policy; political systems/governance; political economy; (3) Economic systems; economic costs and incentives; and (4) Globalization; social and cultural transitions (Table 13).

Research gaps, i.e. topics about which there is insufficient research, are considered to be (1) Equity/equality; wealth/resource distribution; (2) Identity; traditions; beliefs; values; (3) Globalization; social and cultural transitions; and (4) Policy; political systems/governance; political economy (Table 14).

However, minor differences in top research priorities appeared when the data were broken down between views of those with a Group 1 social sciences educational background and those with Group 2 (environmental sciences, engineering or IT) education (Table 15). Group 1 social sciences respondents ranked importance of topics as (1) Equity/equality; wealth/resource distribution; (2) Policy; political systems/governance; political economy; (3) Identity; traditions; beliefs; values; and (4) Globalization; social and cultural transitions, while environmental/ IT/engineering respondents ranked importance of topics as (1) Policy; political systems/ governance; political economy; (2)) Equity/equality; wealth/resource distribution; (3) Economic systems; economic costs and incentives; and (4) Education; employment; entrepreneurship.

MDGs and Grand Challenges

Natural resource conservation, least developed or developing countries, and urban areas (megacities) were identified as the most important research priorities for the Millennium Development Goals, while natural resource conservation, least developed or developing countries, and rural areas were named as the most serious research gap by the largest number of respondents (Table 16). "Responding" was identified as the most important of the Grand Challenges by the largest number of these same respondents (Table 17). However, for both these questions, a large fraction of survey respondents chose "none" or "I do not know" or simply skipped the question—see Discussion section below for possible reasons.

Incentives and Disincentives

Nearly half (49%) of all respondents said that there are insufficient incentives for research on the social dimensions of GEC, while another 28.5% were not sure (Tables 18,19,20, 21). Only 22% said yes, there are sufficient incentives. "Inadequate funding" was identified as the primary disincentive limiting research into the social dimensions of GEC, followed by "policy makers don't listen to the results of this work."

"Funding for research in this field" was identified as the main incentive to encourage greater participation in such research. Other key incentives in order of number of mentions were:

- Opportunity to form / join collaborative research projects
- Professional recognition for engaged researchers
- Opportunity to help frame questions and research agenda
- Better access to colleagues working on similar issues
- Better access to training

When data were broken down into Group 1 social sciences and Group 2 (environmental sciences, engineering or IT) respondents, there was no apparent difference in importance of incentives for more social sciences research on global environmental change between the two groups: both selected more funding as the top choice, and had similar response rates to each of the choices. Nor were there any strong differences in choices of disincentives for Group 1 social scientists engaging in global environmental change research, although a somewhat larger fraction of the

Group 1 chose "This work is framed by the questions of others (such as natural scientists)"—45.4% of Group 1 as opposed to 38.9% of the Group 2 (Table 21).

Audiences to Influence

The survey data (Table 22) reveal that the primary audiences that survey respondents who were already familiar with IHDP are trying to influence are, in order of priority:

1. Academic institutions
2. Governments in high income countries
3. Multilateral organizations related to the environment (e.g. IPCC, UNEP, UNFCCC)
4. Governments in low income countries

Survey respondents NOT familiar with IHDP have somewhat different top priorities for influence:

1. Academic institutions
2. General public
3. Peer review journals
4. Governments in high income countries

When broken down into Group 1 social sciences and Group 2 respondents, the survey data (Table 23) show similar priorities for influence targets. Survey respondents trained in Group 1 social sciences have the following priorities:

1. Academic institutions
2. Governments in high income countries
3. Governments in low income countries
4. Multilateral organizations related to the environment (e.g. IPCC, UNEP, UNFCCC)

Survey respondents trained in Group 2 (environmental sciences, engineering or IT) indicate the following very similar priorities:

1. Academic institutions
2. Multilateral organizations related to the environment (e.g. IPCC, UNEP, UNFCCC)
3. Governments in high income countries
4. Governments in low income countries

Support for Assessment

Survey respondents strongly supported the concept of an Assessment of social science and humanities research findings relevant to global environmental change. The data show that 90% of respondents support the idea of doing such an Assessment, with no difference between those who know IHDP and those who do not (Table 24). There was a difference in terms of interest in participating, however: for those who knew IHDP, 59.2% were interested in participating, 32.4% would consider it, and only 8.4% were not interested. For those who did not know IHDP, 49.1% were interested in participating, 32.0% would consider it, and 19.0% were not interested (Table 25).

Both the Group 1 social sciences and the Group 2 (environmental sciences, engineering or IT) respondents very strongly endorsed the concept of an Assessment of social sciences findings relevant to global environmental change (92.2% and 88.2%), and both groups had a sizable

fraction that indicated an interest in participating (Tables 26, 27). For the Group 1 social sciences respondents, 54.1% were interested, 33.1% would consider it, and 12.0% were not interested. For the Group 2 (environmental sciences, engineering or IT) respondents, 56.7% were interested in participating, 32.6% would consider it, and 10.7% were not interested.

DISCUSSION

The primary finding of this survey is that a large group of diversely trained social and natural scientists from around the world, who are conducting interdisciplinary research related to global environmental change, feel that the social dimensions of the topic are very important but under-addressed. The highest priority research areas identified included: (1) equity/equality and wealth/resource distribution; (2) policy, political systems/governance, and political economy; (3) economic systems, economic costs and incentives; and (4) globalization, social and cultural transitions. Many of these scientists would like to see additional funding and opportunities for such research, and strongly support an Assessment of social sciences and humanities research findings that are applicable to global environmental change.

It is clear that survey respondents are not representative of social scientists and humanities scholars globally. Instead, as the breakdown into "those who know IHDP" and "those who don't know IHDP" shows, they primarily represent the extended IHDP and ISSC network. This was the case both because of how the survey was distributed, and because of the element of self-selection: those who were already tied in to research on global environmental change were probably much more likely to take the survey. As Table 10 shows, a large number of the respondents are aware of or participate in the networks related to IHDP and ISSC. Tables 11 and 12 show that for over 80% of respondents, the social dimensions of global environmental change is at least one component of their research.

This is none-the-less a useful group to survey, for several reasons. First, they are very knowledgeable about the issues of global environmental change and about the constraints on such research. Secondly, they are extremely interdisciplinary, both in training and in their work, as can be seen from the diverse (and often unmatched) fields of training and work shown in Table 2. Furthermore, respondents came from around the world (half from continents other than Europe and North America—see Tables 6 and 7). This latter fact was probably due to our heavy emphasis on distributing the survey in developing world countries.

Despite the fact that this was labeled as a "Social Sciences " survey, a large number of scholars who were not trained in social sciences or humanities took the survey—presumably because they were interested in the questions. This did not seem to pose a problem, however, because responses by the respondents trained in the target social sciences, including anthropology, education, history, linguistics, literature, philosophy, political science, psychology or sociology, and those trained in environmental sciences, IT or engineering were extremely similar. There are two potential reasons for this: one is methodological; i.e. that we were unable to cleanly separate the two groups (an overlap of 179 individuals remained). The other is substantive; i.e. that both groups appear to work on similar research topics (primarily environmental sciences questions) in similar interdisciplinary settings (with unmatched fields of training and work focus), and thus may hold similar opinions.

As mentioned in the Results section, a large fraction of survey respondents chose “none” or “I do not know,” or simply skipped questions, on the Millennium Development Goals (MDG’s) and the Grand Challenges. There are several potential reasons for this. One possibility is that the MDG’s and Grand Challenges are not appropriately split apart into competing choices, but are meant to be taken as a whole. Another possibility is that the MDG’s and Grand Challenges are not framed in such a way that scientists working in the area of social dimensions of global environmental change can understand and relate to them. In either case, it is difficult to know how to interpret these survey responses.

Approximately half of all respondents said that there are insufficient incentives for research on the social dimensions of global environmental change. More funding is identified as the primary solution by those who feel this way; there appears to be no difference in this opinion between those trained in social sciences and those trained in environmental sciences, IT or engineering.

Surprisingly, the primary institution that respondents wish to influence is academic institutions. This may well be a function of the fact that most respondents work in universities, and want to influence their own employer. This is followed by a desire to influence governments in high and low income countries, and multilateral organizations. Respondents who are not familiar with IHDP have the same top priority, but different second and third priorities: they want to influence the public, and peer review journals.

There was very strong support for the concept of a global assessment of social science and humanities research findings of relevance to global environmental change, in order to improve awareness of current research, strengthen collaboration, and develop policy-relevant material. From 88 to 92% of respondents supported such an assessment, whether they knew of IHDP or not, and whether their training was in the social sciences or environmental sciences, IT or engineering. Moreover, this support was backed up by a willingness to participate. From 49 to 59% of respondents—in all of the above-mentioned categories—said they were interested in participating, and an additional 32 to 34% in each categories said they would consider participating.

In brief, these results indicate that there is a large interdisciplinary group of scientists working on issues of global environmental change who feel that there is a strong need to integrate more social sciences perspectives, and who are willing to participate in the effort to do so. Their highest priority research areas were identified as equity and equality, and wealth and resource distribution; policy, political systems, governance, and political economy; economic systems, economic costs and incentives; and globalization and social and cultural transitions.

In response to this mandate, IHDP will convene a broad group of social scientists and humanities scholars to undertake a global assessment and synthesis of social sciences and humanities findings of relevance to global environmental change. Priority research areas will include the four identified by survey respondents (see above) as well as others developed by a Science Assessment Panel. The main questions to be addressed by the Assessment will include identifying the direct and indirect drivers of unsustainable behaviors, and figuring out how to leverage societal transformations towards social and environmental sustainability.

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Table 1. Field of Training and Employment for All Respondents, Broken Down Into Those Who Know IHDP and Those Who Do Not.

	All Trained	Current work	Know IHDP Trained	Current work	Don't know IHDP Trained	Current work
Anthropology	127	89	63	48	39	27
Demography or Population Studies	193	200	68	80	88	87
Environmental studies	354	473	238	329	59	73
Management, Business or Public Administration	80	94	48	59	16	20
Economics	211	152	129	96	60	42
Education	85	118	36	63	26	31
Engineering	92	59	52	28	19	17
Geography	262	242	178	183	36	24
Health	60	115	29	58	21	41
History	62	32	33	24	20	7
Information technology	49	55	30	38	10	8
Law	25	18	15	10	5	4
Linguistics	13	6	6	1	5	2
Literature	32	8	11	4	14	2
Philosophy	52	24	29	15	15	6
Political science	136	128	91	97	19	15
Psychology	71	65	35	33	22	22
Sociology	207	212	105	116	69	65

Table 2. Field of Training and Employment for All Respondents, Categorized as Those with Group 1 Social Sciences Training and Those with Group 2 (Environmental Sciences, IT or Engineering) Training (see text for discussion of specific fields, and overlap).

	All Trained	Current work	Soc Sci Trained	Current work	Env IT Eng Trained	Current work
Anthropology	139	95	139	78	40	37
Demography or Population Studies	207	213	105	96	36	39
Environmental studies	387	518	159	218	387	320
Management, Business or Public Administration	87	103	45	54	43	56
Economics	233	165	91	53	77	55
Education	97	127	97	86	54	70
Engineering	97	59	25	15	97	45
Geography	277	251	91	74	124	119
Health	64	122	44	61	25	38
History	66	37	66	26	19	11
Information technology	53	59	27	23	53	45
Law	28	21	18	12	11	8
Linguistics	16	8	16	7	5	3
Literature	38	11	38	9	12	3
Philosophy	62	30	62	21	17	17
Political science	152	142	152	101	59	59
Psychology	75	69	75	54	21	21
Sociology	236	239	236	181	69	76

Table 3. Current Field of Employment for All Respondents, by Percents, Categorized as Those with Group 1 Social Sciences Training and Those with Group 2 (Environmental Sciences, IT or Engineering) Training.

Current work	Soc Sci	Percent	Env IT Eng	Percent	All	Percent
Anthropology	78	13,3	37	8,0	95	7,8
Demography or Population Studies	96	16,4	39	8,5	213	17,5
Environmental studies	218	37,1	320	69,4	518	42,5
Management, Business or Public Administration	54	9,2	56	12,1	103	8,4
Economics	53	9,0	55	11,9	165	13,5
Education	86	14,7	70	15,2	127	10,4
Engineering	15	2,6	45	9,8	59	4,8
Geography	74	12,6	119	25,8	251	20,6
Health	61	10,4	38	8,2	122	10,0
History	26	4,4	11	2,4	37	3,0
Information technology	23	3,9	45	9,8	59	4,8
Law	12	2,0	8	1,7	21	1,7
Linguistics	7	1,2	3	0,7	8	0,7
Literature	9	1,5	3	0,7	11	0,9
Philosophy	21	3,6	17	3,7	30	2,5
Political science	101	17,2	59	12,8	142	11,6
Psychology	54	9,2	21	4,6	69	5,7
Sociology	181	30,8	76	16,5	239	19,6

Table 4. Type of Employment Institution, for All Respondents, Broken Down Into Those Who Know IHDP and Those Who Do Not.

	University	Think tank	Government department	Research council	NGO	Media organisation	Business	Independent	Total
All	768	45	71	57	62	3	20	48	1074
Know IHDP	432	26	28	41	27	1	12	21	588
Don't know IHDP	189	11	28	9	17	0	4	15	273
Other*	147	8	15	7	18	2	4	12	213

* Other refers to respondents who answered this question but cannot be classified as knowing or not knowing IHDP

Table 5. Type of Employment Institution, for All Respondents, Categorized as Those with Group 1 Social Sciences Training and Those with Group 2 (Environmental Sciences, IT or Engineering) Training.

	University	Think tank	Government department	Research council	NGO	Media organisation	Business	Independent	Total
All	836	48	79	61	70	3	21	53	1171
Soc Sci	410	25	32	17	28	2	4	27	545
Env IT Eng	288	15	44	30	27	1	12	15	432

Table 6. Region of Employment Base for All Respondents, Broken Down into Those Who Know IHDP and Those Who Do Not.

Region	All	Know IHDP	Don't know IHDP	Other*
Sub Saharan Africa	194	91	55	48
Middle East / North Africa	21	5	9	7
Western and Central Europe	366	215	82	69
Eastern Europe, Turkey and the Southern Caucasus, Central Asia	12	6	5	1
US and Canada	182	105	43	34
Caribbean	4	0	2	2
Latin America	72	45	14	13
South Asia	111	63	33	15
South-East Asia	38	25	4	9
East Asia	43	29	6	8
Pacific	82	33	33	16

Table 7. Region of Employment Base for All Respondents, Categorized as Those with Group 1 Social Sciences Training and Those with Group 2 (Environmental Sciences, IT or Engineering) Training.

Region	All	%	Soc Sci	%	Env IT Eng	%
Sub Saharan Africa	194	17,2	91	14,7	55	19,2
Middle East / North Africa	21	1,9	5	0,8	9	3,1
Western and Central Europe	366	32,5	215	34,8	82	28,7
Eastern Europe, Turkey and the Southern Caucasus, Central Asia	12	1,1	6	1,0	5	1,7
US and Canada	182	16,2	105	17,0	43	15,0
Caribbean	4	0,4	0	0,0	2	0,7
Latin America	72	6,4	45	7,3	14	4,9
South Asia	111	9,9	63	10,2	33	11,5
South-East Asia	38	3,4	25	4,1	4	1,4
East Asia	43	3,8	29	4,7	6	2,1
Pacific	82	7,3	33	5,3	33	11,5

Table 8. Region of Research Focus for All Respondents, Broken Down into Those Who Know IHDP and Those Who Do Not.

	All	Know IHDP	Don't know IHDP	Other*
Sub Saharan Africa	323	177	81	65
Middle East / North Africa	81	43	21	17
Western and Central Europe	289	166	77	46
Eastern Europe, Turkey and the Southern Caucasus, Central Asia	88	53	25	10
US and Canada	190	105	45	40
Caribbean	44	27	7	10
Latin America	198	131	35	32
South Asia	169	98	47	24
South-East Asia	186	119	35	32
East Asia	117	74	20	23
Pacific	101	56	30	15

Table 9. Region of Research Focus for All Respondents, Categorized as Those with Group 1 Social Sciences Training and Those with Group 2 (Environmental Sciences, IT or Engineering) Training.

	All	%	Soc Sci	%	Env IT Eng	%
Sub Saharan Africa	342	30,9	148	29,2	117	28,0
Middle East / North Africa	86	7,8	37	7,3	36	8,6
Western and Central Europe	322	29,1	170	33,6	134	32,1
Eastern Europe, Turkey and the Southern Caucasus, Central Asia	94	8,5	46	9,1	41	9,8
US and Canada	212	19,2	112	22,1	88	21,1
Caribbean	47	4,2	24	4,7	22	5,3
Latin America	219	19,8	109	21,5	90	21,5
South Asia	180	16,3	72	14,2	66	15,8
South-East Asia	196	17,7	87	17,2	88	21,1
East Asia	124	11,2	56	11,1	53	12,7
Pacific	108	9,8	61	12,1	56	13,4

Table 10. Level of Engagement in IHDP and other Related Scientific Networks, Categorized as Those with Group 1 Social Sciences Training and Those with Group 2 (Environmental Sciences, IT or Engineering) Training.

	Very engaged (e.g. member of staff)	Regular participant (e.g. active network member)	Occasional participant (e.g. meeting attendee)	I only know of them	I do not know them
IHDP	42	112	329	451	249
WCRP	12	29	109	573	373
IGBP	14	49	120	429	472
DIVERSITAS	5	16	96	571	389
ISSC	10	18	106	632	339
ICSU	6	26	97	521	444

Table 11. Importance of Social Dimensions of GEC in Research, for All Respondents, Broken Down Into Those Who Know IHDP and Those Who Do Not.

	All	Know IHDP	Don't know IHDP
Social/human dimensions of GEC is the only area of my research	9,4%	11,3%	5,6%
Social/human dimensions of GEC is an important area of my research	49,5%	61,5%	28,5%
Social/human dimensions of GEC is a small part of my research	22,5%	19,6%	27,4%
I have not participated in any research relevant to social/human dimensions of GEC	18,6%	7,5%	38,5%

Table 12. Importance of Social Dimensions of GEC in Research, for All Respondents, Categorized as Those with Group 1 Social Sciences Training and Those with Group 2 (Environmental Sciences, IT or Engineering) Training .

	All	%	Soc Sci	%	Env IT Eng	%
Social/human dimensions of GEC is the only area of my research	108	9,4	54	10,2	42	9,9
Social/human dimensions of GEC is an important area of my research	567	49,1	262	49,2	232	54,7
Social/human dimensions of GEC is a small part of my research	262	22,7	117	22,0	99	23,3
I have not participated in any research relevant to social/human dimensions of GEC	217	18,8	99	18,6	51	12,0

Table 13. Top Research Priorities Indicated, for All Respondents.

Descriptor Used in Survey	Fourth most important	Third most important	Second most important	Most important	Total Points
Equity/equality; wealth/resource distribution	77	87	121	191	476
Policy; political systems/governance; political economy	79	112	122	139	452
Economic systems; economic costs and incentives	77	96	89	72	334
Globalization; social and cultural transitions	97	82	86	56	321
Education; employment; entrepreneurship	70	85	74	84	313
Identity; traditions; beliefs; values	80	70	78	92	320
Health care; food security; nutrition	50	73	107	81	311
New technology; innovation	93	66	60	33	252
Population growth/decline; age and gender ratios	62	53	47	75	237
Emergency response; disaster and risk mitigation	53	61	47	37	198
Urban/rural migration; displaced populations	45	61	55	30	191
Behavioral psychology; behavioral economics	47	43	45	55	190
Freedom; autonomy; human rights; political empowerment	65	50	37	36	188
Multilateral dialogue; negotiations; treaties	58	46	35	44	183
Ethnic/resource conflict; conflict resolution	47	41	32	19	139

Table 14. Biggest Research Gaps Indicated, for All Respondents.

	Fourth least research	Third least research	Second least research	%	Least research	%	Total points
Equality	75	88	92	9,5	150	15,4	405
Identity	78	67	89	9,1	148	15,2	382
Behaviour	45	55	91	9,4	77	7,9	268
Policy	60	79	76	7,8	68	7,0	283
Globalization	92	81	84	8,6	61	6,3	318
Freedom	68	65	55	5,7	55	5,7	243
Education	57	59	51	5,2	54	5,5	221
Disaster	41	58	47	4,8	47	4,8	193
Dialogue	59	38	34	3,5	47	4,8	178
Innovation	64	56	36	3,7	46	4,7	202
Migration	54	59	57	5,9	43	4,4	213
Population	38	42	35	3,6	43	4,4	158
Conflict	62	68	77	7,9	40	4,1	247
Incentives	47	53	62	6,4	39	4,0	201
Health	54	60	53	5,4	37	3,8	204

Table 15. Top Research Priorities Indicated, for All Respondents, Categorized as Those with Group 1 Social Sciences Training and Those with Group 2 (Environmental Sciences, IT or Engineering) Training.

Descriptor Used in Survey	Soc Sci Total Points	rank	Env IT Eng Total Points	rank
Equity/equality; wealth/resource distribution	221	1	166	2
Policy; political systems/governance; political economy	213	2	174	1
Economic systems; economic costs and incentives	135		127	3
Globalization; social and cultural transitions	154	4	112	
Education; employment; entrepreneurship	135		122	4
Identity; traditions; beliefs; values	172	3	117	
Health care; food security; nutrition	136		99	
New technology; innovation	97		110	
Population growth/decline; age and gender ratios	101		72	
Emergency response; disaster and risk mitigation	78		79	
Urban/rural migration; displaced populations	87		61	
Behavioral psychology; behavioral economics	84		75	
Freedom; autonomy; human rights; political empowerment	103		74	
Multilateral dialogue; negotiations; treaties	94		72	
Ethnic/resource conflict; conflict resolution	74		50	

Table 16. Top Research Priorities for Millennium Development Goals, for All Respondents, Categorized as Those with Group 1 Social Sciences Training and Those with Group 2 (Environmental Sciences, IT or Engineering) Training.

	Biodiversity conservation	Natural resource conservation	Access to sanitation	Access to drinking water	Improve lives of slum dwellers	None	I do not know	% answering None or Do Not Know, or Skipped Question
One highest priority area for social/human dimensions of GEC research	133	342	74	239	114	39	78	29,2
One most serious gap for social/human dimensions of GEC research	138	178	127	115	215	40	184	37,5

Table 17. Top Research Goals for "Grand Challenges," for All Respondents, Categorized as Those with Group 1 Social Sciences Training and Those with Group 2 (Environmental Sciences, IT or Engineering) Training.

	Forecasting	Observing	Confining	Responding	Innovating	None of the above	I do not know	% answering None or Do Not Know, or Skipped Question
One highest priority area for social/human dimensions of GEC research	191	120	87	352	188	16	40	26,3
One most serious gap for social/human dimensions of GEC research	131	84	84	303	278	18	84	29,9

Table 18. Answers to "Do you believe there are adequate incentives for researchers to participate in social/human dimensions of GEC research?" for All Respondents.

	All	% of those who answered
Yes	225	22,3
No	496	49,2
Not sure	287	28,5

Table 19. "What Incentives Would Help?"--answers for All Respondents who answered "no" or "not sure," Categorized as Those with Group 1 Social Sciences Training and Those with Group 2 (Environmental Sciences, IT or Engineering) Training.

	All	%	Soc Sci	%	Env IT Eng	%
The opportunity to help frame questions and research agenda in this field	378	48,9	184	50,7	150	50,3
Funding for research in this field	679	87,8	320	88,2	268	89,9
Professional recognition for the researchers engaged in this research	402	52,0	191	52,6	159	53,4
Better access to colleagues working on similar issues	317	41,0	154	42,4	114	38,3
The opportunity to form or join collaborative research projects in this field	490	63,4	224	61,7	194	65,1
Better access to training	302	39,1	126	34,7	118	39,6
Unlikely that any incentives could encourage greater participation	13	1,7	5	1,4	4	1,3
Additional incentives are not needed	9	1,2	2	0,6	2	0,7

Table 20. "What Incentives Would Help?"—identified by all Respondents Who Answered "yes," Categorized as Those with Group 1 Social Sciences Training and Those with Group 2 (Environmental Sciences, IT or Engineering) Training.

	All	%	Soc Sci	%	Env IT Eng	%
The opportunity to help frame questions and research agenda in this field	125	56,1	61	64,9	48	62,3
Funding for research in this field	184	82,5	77	81,9	62	80,5
Professional recognition for the researchers engaged in this research	99	44,4	45	47,9	41	53,2
Better access to colleagues working on similar issues	97	43,5	39	41,5	39	50,6
The opportunity to form or join collaborative research projects in this field	139	62,3	57	60,6	54	70,1
Better access to training	95	42,6	40	42,6	38	49,4
Unlikely that any incentives could encourage greater participation	8	3,6	4	4,3	3	3,9
I do not need additional incentives	14	6,3	5	5,3	4	5,2

Table 21. Disincentives that Limit Research into the Social/Human Dimensions of GEC, Identified by All Respondents, Categorized as Those with Group 1 Social Sciences Training and Those with Group 2 (Environmental Sciences, IT or Engineering) Training.

	All	%	Soc Sci	%	Env IT Eng	%
This work is not relevant to the academic field of many researchers	189	25,2	89	24,8	65	22,8
This work is not relevant to the academic research interests of many researchers	160	21,3	72	20,1	57	20,0
This work is framed by the questions of others (such as natural scientists)	301	40,1	163	45,4	111	38,9
There is inadequate funding	516	68,7	246	68,5	199	69,8
Social/human dimensions of GEC research are not regarded as important or relevant by others in the GEC field	305	40,6	152	42,3	120	42,1
Social/human dimensions of GEC research are not regarded as important or relevant on the part of social scientists and humanities scholars	204	27,2	104	29,0	73	25,6
This work does not lead to adequate recognition in social sciences and humanities fields	245	32,6	129	35,9	94	33,0
This work is a fashion and will pass	41	5,5	18	5,0	11	3,9
Policy makers don't listen to the results of this work	336	44,7	157	43,7	126	44,2

Table 22. Preferred Audience to Influence, for All Respondents, Broken Down Into Those Who Know IHDP and Those Who Do Not.

	Know IHDP	Do not know IHDP
Governments in high income countries	333	100
Governments in middle income countries	266	70
Governments in low income countries	291	81
Multilateral organisations related to the environment (e.g. IPCC, UNEP, UNFCCC)	336	65
Multilateral organisations related to people (e.g. UNHABITAT, UNICEF)	224	52
Multilateral processes (e.g. RIO+20, Millennium Development Goals)	231	32
Private sector enterprises	213	64
Non-profit, non-governmental organizations	198	96
Foundations	165	39
Academic institutions	349	156
Peer review journals	201	110
General public	201	127
Mass media	192	45
No one	8	38

Table 23. Preferred Audience to Influence, for All Respondents, Categorized as Those with Group 1 Social Sciences Training and Those with Group 2 (Environmental Sciences, IT or Engineering) Training.

	All	Soc Sci	Env IT Eng
Governments in high income countries	471	228	188
Governments in middle income countries	361	161	142
Governments in low income countries	397	175	156
Multilateral organisations related to the environment (e.g. IPCC, UNEP, UNFCCC)	424	171	192
Multilateral organisations related to people (e.g. UNHABITAT, UNICEF)	296	127	118
Multilateral processes (e.g. RIO+20, Millennium Development Goals)	280	118	122
Private sector enterprises	301	143	136
Non-profit, non-governmental organizations	318	167	136
Foundations	215	95	92
Academic institutions	545	258	215
Peer review journals	331	158	124
General public	352	166	142
Mass media	256	123	108
No one	48	22	7

Table 24. Support Assessment of Social Science and Humanities Research Findings, for All Respondents, Broken Down Into Those Who Know IHDP and Those Who Do Not.

	% All	% Know IHDP	% Don't know IHDP
Yes	90,1	89,3	91,8
No	9,9	10,7	8,2

Table 25. Interest in Participating in Assessment, for All Respondents, Broken Down Into Those Who Know IHDP and Those Who Do Not.

	% All	% Know IHDP	% Don't know IHDP
I am interested	55,7	59,2	49,1
I would consider it	32,3	32,4	32,0
I am not interested	12,0	8,4	19,0

Table 26. Support Assessment of Social Science and Humanities Research Findings, for All Respondents, Categorized as Those with Group 1 Social Sciences Training and Those with Group 2 (Environmental Sciences, IT or Engineering) Training.

	All	%	Soc Sci	%	Env IT Eng	%
Yes	877	90,0	413	92,2	320	88,2
No	97	10,0	35	7,8	43	11,8

Table 27. Interest in Participating in Assessment, for All Respondents, Categorized as Those with Group 1 Social Sciences Training and Those with Group 2 (Environmental Sciences, IT or Engineering) Training.

	All	%	Soc Sci	%	Env IT Eng	%
I am interested	480	54,9	222	54,1	181	56,7
I would consider it	288	33,0	139	33,9	104	32,6
I am not interested	106	12,1	49	12,0	34	10,7