



International Strategy for
Disaster Reduction

Integrated Research on Disaster Risk
addressing the challenge of natural and human-induced environmental hazards

Second Meeting of IRDR Scientific Committee

21-23 October 2009
ICSU Secretariat, Paris

SUMMARY REPORT

Members present:

Gordon McBean (Chair), Omar Darío Cardona, Raymond Chan, Richard Eiser, David Johnston, Michel Lang, Allan Lavell, Maria Patek, Ortwin Renn (part), Kuniyoshi Takeuchi, Angelika Wirtz

Ex officio:

Reid Basher (ISDR), Howard Moore (ICSU)

Apologies:

Steven Sparks, Coleen Vogel, Heide Hackmann (ISSC)

Other participants:

Susan Cutter (Univ. of S. Carolina), Veronica Grasso (GEO Secretariat), Patricia Ocampo-Thomason (ICSU), Paul Cutler (ICSU), Michel Béland (Environment Canada)

Opening and introduction of new participants

The Chair opened the meeting at 14.00 by welcoming all those present, members and observers alike. He announced that Bill Hooke had been obliged to resign from the Committee due to substantially increased work with the American Meteorological Society. Astri Suhrke had also announced her intention to withdraw. It had been agreed with the Chair that they would be replaced for the moment by one new member, and Prof. Susan Cutter was in the process of being nominated to serve. Pending formal approval by the governing bodies of the co-sponsors, she had agreed to participate in the Second Meeting in the capacity of guest specialist.

Approval of Agenda

In order to allow individual members of the Committee to take part in discussions of particular interest to them, the agenda items scheduled for day two were re-ordered. A revised agenda was subsequently adopted (see Annex 1).

Matters arising from Summary Record of First Meeting

The Summary Record of the First Meeting was approved without change, and no matters not covered elsewhere in the present agenda were raised.

Open discussion on collaboration possibilities

The Chair made a short presentation on the International Group of Funding Agencies for Global Change Research (IGFA) following contact, earlier that day in Paris, with individuals attending its Annual Meeting. IGFA is a forum (established in 1990) through which national agencies that fund research on global change identify issues of mutual interest and ways to address these through national and, when appropriate, coordinated international action. IGFA is primarily concerned with the four International Global Change Research Programmes WCRP, IGBP, IHDP and DIVERSITAS under the aegis of ICSU, and the Earth System Science Partnership (ESSP). The IGFA system is currently undergoing review, and contact between IRDR and IGFA is highly desirable.

The Chair reported on informal discussions he had had with Prof. A. Busalacchi, Chair of the World Climate Research Programme (WCRP), especially concerning the WCRP cross-cutting theme on climate extremes. WCRP is reported to be ready to modify its research programme according to our identified needs. This would cover the climate extremes – the events of extreme temperatures, storms, droughts and floods. One practical way forward would be for IRDR to have a seat on the WCRP Working Group; the person who would represent IRDR needs to be identified. In the meantime, the Chair will attend the 31st session of the Joint Scientific Committee of WCRP on 15-19 February 2010 in Antalya, Turkey.

A meeting with Dr David Parsons, Director of World Weather Research Programme (WWRP) had led to a verbal agreement that IRDR and WWRP should work together, and that IRDR will give input on WWRP's ten research foci. This needs following up through some form of Memorandum of Understanding.

Angelika Wirtz reported briefly on a recent meeting of the WWRP Working Group on Societal and Economic Research and Applications (SERA) meeting she had attended on behalf of IRDR at the request of the Chair. After a somewhat formal start, there had been a useful brainstorming on concrete projects. The following actions had been decided upon:

1. Development of a warning information system - built on an Internet-based system from Austria, to be expanded into other regions (e.g. Africa)
2. Build-up of a disaster information system to forecast weather information. Angelika to be involved and Munich Re to support a meeting shortly in Munich.
3. Establishment of a flash flood warning system. Discussion centred on the instrumentation required. Group will be co-chaired by the Weather Bureaux of Australia, South Africa and Switzerland.
4. Comparison on warning thresholds. Are reactions same or difference? This would involve a literature research.
5. How do we rank countries affected by disasters – according to GDP, nature of building codes, etc.? A Working Group is to be set up.

SERA remains very interested in linking up with IRDR. It could be regarded as the principle point of interaction between IRDR and the WWRP, and an effective means of gaining direct access to social scientists familiar with weather issues. If we were to take on a joint activity, could we expect to expand its purview? At present it is wholly weather-oriented, although risk reduction is the broad objective.

The Chair reported on a meeting he had had during the Second UN Global Platform with the Secretary-General of the International Federation of Red Cross and Red Crescent Societies, Mr Bekele Geleta. The Red Cross emphasis is naturally on response-recovery but it is interested in working with IRDR to identify key research areas of common interest and to that extent would wish to join workshops, etc. The Red Cross has a large community on the ground and could be a key partner in outreach activities. A key question would be how to optimize the work of such volunteers.

The Chair had had informal contact with the International Council of Academies of Engineering and Technological Sciences (CAETS) on the occasion of an ICSU-CAETS meeting at the ICSU Secretariat, and he had taken the opportunity of speaking on IRDR. This had proved very useful, and expressions of interest in collaborating with IRDR were received from the CAETS Officers. This needs to be pursued.

Allan Lavell reported on contact with ISDR's Andrew Maskrey, Editor of the *Global Assessment Report*, which arguably represents the largest single research project in the area of disaster risk reduction. IRDR could provide important input into the GAR process in future.

Michel Lang had taken the opportunity presented by the French National Congress to speak of IRDR during the first session devoted to societal impacts and risk management.

The Chair concluded the agenda item by underlining that the major challenge is how to interact with all the multiplicity of programmes. Members need to identify key areas, underline the importance of interdisciplinary research, avoid overlap/duplication, and demonstrate clearly the added value of working with IRDR at the international level. Of course, the Committee would not wish to spend all its time in trying to persuade potential partners; there is an evident lack of capacity at present, but this will change with the establishment of an International Programme Office and the recruitment of dedicated staff.

It was felt that the Committee needs to take the Science Plan and use it as its guide as to what it is to do - starting from the identification of the gaps – and not only talk with potential partners on generalities of cooperation. WCRP had been established by identifying where important gaps existed and by listing scientific questions and developing new plans through themed working groups.

It was underlined that members of the Scientific Committee should continue to use 'meetings of opportunity' to spread the word about IRDR, and discuss ways and means of collaboration and joint programming. It was recalled that the American Geophysical Union has a new focus group on natural hazards, and this group should be pursued as a potential partner.

[Case studies and demonstration projects, scenarios and forensic investigations](#)

The Intergovernmental Panel on Climate Change (IPCC) has commissioned a Special Report (for publication in 2011) on managing the risks of extreme events and disasters to advance climate change adaptation, which represents a major opportunity to bring to the world's attention accumulated knowledge and experience in reducing and managing disaster risk. Several Members of the IRDR Scientific Committee (McBean, Cutter, Lavell, Cardona, plus members of the IRDR Planning Group Burton and Dube) are involved in the writing process. The Chair has convening lead author responsibility for Chapter 9 of the Report on Case studies, and this may represent an opportunity for IRDR-SC. One possibility might be the holding of an IRDR workshop attached to the IPCC process. It was emphasized that the case studies assembled for the IPCC report would not necessarily be those used in IRDR.

It was agreed that a small working group would meet in the coming months to develop a template for the case studies. Notes made by Ian Burton, member of the IRDR Planning Group, may be used as a starting point. [Note: a small workshop on forensic investigations was convened on 2-4 February 2010 in Toronto, Canada. A report thereon will be provided to next meeting of IRDR-SC.]

During the course of the open discussion, the following points were made:

Case studies do not necessarily have to be event-focused, but some could be more theme-like: for example, on insurance issues or vulnerability. There is a dearth of cross-cultural or longitudinal studies, for which research funding is normally difficult to find: here would be the value-added of IRDR in carrying out same. There was support for case studies on disaster response and recovery, although it is recognized that there can be no standard model: similar hazards can give rise to very different disasters

as a result of differing socio-cultural conditions. Other issues considered worthy of consideration were: avalanches and recoveries from a social viewpoint; how countries manage risk, and what are the conditions leading to certain approaches; failure or inadequacy of infrastructures; the role of early warning systems; and illegal squatting as a key factor in vulnerability.

[Decision-making, planning resilience](#)

Richard Eiser gave a presentation on decision-making and resilience planning. He spoke of the political structure around a warning system that may not allow the scientific information to get through. Decision making brings in risk assessment and risk conception, which are not quite the same. Not always dealing with hard numbers, but dealing with trust.

Resilience is the extent to which communities do or do not recover in the aftermath to an event: this has not only to do with building codes, but involves major issues such as how some communities organize themselves to 'bend like a tree in the storm'. What are the social dynamics involved? What determines the potential of events to destroy communities or not? This may be complicated by differing concepts of the stability of one's house; in certain cultures there are expectations that houses will be destroyed and rebuilt.

We have some knowledge on what makes communities vulnerable, but less so on resilience. There is an absence of baselines for risk reduction, and resilience indicators are needed.

There are widely different regional perspectives on concepts such as 'coping', adaptation and resilience.

IRDR could be instrumental in promoting research on what we mean by resilience: the typology; then at the next level: how do you measure it? This could influence things: a standard setting of sorts. How communities prepare for disasters is a hugely social complex. Mutual-help networks are one area it was felt that IRDR must look into. Indeed, social, economic and cultural dimensions must all be examined. Throughout, concepts of scale and time also need to be factored in.

[Long-term databases and monitoring systems and tools](#)

Susan Cutter introduced the discussion on this topic by describing the different types of data: from specific information on past events to large data sets associated with remote-sensing operations. There are problems in obtaining data, then maintaining database architecture. There is a great deal of room for a major research effort in reconciling and improving data bases. The ISDR Scientific and Technical Committee has identified the subject as one requiring priority attention, and the dangers of overlap between its newly established data subcommittee and any IRDR initiative are self-evident and need to be avoided.

EM-DAT has carried out an assessment of all existing databases at the international and national levels, dealing with reliability, quality checks and validation. On methodology, good progress has been made, although there is need of further discussion, research work and the linking up of levels (national, regional, and international). We lack reliable data on individual disaster: each event seems to result in varying figures for losses, for example. There is an ongoing search for common standards by a group consisting of EM-DAT, Munich Re and Swiss Re.

Data and information systems presently seem to be not up to the task for policy makers. Even a basic question such as: 'is disaster risk increasing?' is very difficult to answer. Mortality is relatively well covered, whereas qualitative data is missing, and there is no information on the long-term situation. Migration data is not available, for example.

There was some discussion on restrictions of access to databanks held by the major reinsurance companies. Munich Re has freed up its policy and datasets can be obtained on demand, once the precise needs are known.

Regional programmes on hazards and disasters, and their articulation with IRDR

In opening discussion on this item, the Chair welcomed Patricia Ocampo-Thomason, Officer in the ICSU Secretariat responsible for liaison with the three ICSU Regional Offices in Kuala Lumpur, Pretoria and Rio de Janeiro. Allan Lavell recalled that the question of articulation between the regional programmes and the global IRDR initiative had been raised repeatedly during the planning process (with some members of the Planning Group also serving on the various regional committees) but without conclusion. He had agreed to provide a brief assessment of the regional hazards programmes being planned by the three ICSU Regional Offices. He described differences in approach to research between the three, in part reflecting the diversity between communities. He compared the hazard-based approaches of Africa and Asia and the Pacific with the more socially-linked themes addressed by the Latin American and Caribbean team, and underlined the need for strengthening holistic approaches to research.

He listed four options for possible collaboration, integration and synergy between global and regional programmes:

- creation (or consolidation) of standardized, comprehensive disaster risk databases that would facilitate cross-continent comparative analysis
- establishment of research training facilities to allow cross-regional exchanges and consolidation of research visions and methodologies
- promotion of disaster risk reduction decision-making studies in a cross-cultural perspective, and
- implementation of cross-continent post-mortem studies based on clear criteria for comparative analysis.

Overall, IRDR could play an important brokering role in breaking down the divide between the natural and social sciences.

David Johnston and Kuniyoshi Takeuchi reported on the ICSU Third Regional Consultation for Asia and the Pacific that they had attended in Penang on 13-14 October 2009. Discussions on regional/global programmes on disasters had taken as their starting point the IRDR two-pager as it described objectives and cross-cutting approaches. There was general satisfaction over the establishment of the IRDR IPO within the Region. The Asian mandate is similar to that of IRDR; key areas are public understanding, the use of science knowledge, and how policies are played out. There is a call for better hazards and vulnerability mapping and getting the results to decision makers. Case studies – learning from the past but with a view to looking to the future – are strongly supported and will seek to establish why disasters happen, and why some local communities are able to develop programmes that are making a difference. Capacity building for integrated disaster management is being stressed, with funding seemingly available, perhaps a reflexion of the current emphasis on the relationship between disaster risk reduction (DRR) and climate change adaptation (CCA)

The Directors of all three ICSU Regional Offices had taken part in the discussions as to how regional efforts can link into the global effort, and how to take things forward with inter-regional consultation. The absence of SOPEC representatives meant that the programme devoted to small islands had not been adequately discussed. Small islands offer the opportunity for having a cross-cutting project dealing with DRR and CCA. The Fiji/Samoa tsunami could be offered as a case study.

Discussion revolved around the establishment of three case studies as a way of moving ahead in a concrete way: on the vulnerability of small islands, forward-looking strategies for megacities and a transverse theme for Latin America. In addition, the Committee considered regional hazard and vulnerability mapping in the context of the next Global Assessment Report (GAR) (it was understood that mapping would go beyond the purely physical risk to encompass the human dimension). Angelika Wirtz indicated that Munich Re would be willing to share its experience in the development of indices for a megacities initiative.

The importance of getting down to projects for the visibility of IRDR was stressed, as was the need for the Committee to be clearer in its thinking.

[Cooperation with the ISDR system](#)

Reid Basher described the ISDR Secretariat and its work. ISDR is not a typical UN body. It does not enjoy regular programme funding enjoyed by the UN Specialized Agencies, and has therefore to be entrepreneurial in spirit. ISDR's original orientation was political/social, but in 2005 came the realization that science was missing from the equation. An ISDR Scientific and Technical Committee was established, with a mixed membership of representatives of key organizations and institutions plus experts named in their personal capacity. The Committee has held three meetings, but is still seeking a role. This role must be a strategic one, identifying gaps and advising as to what governments should be thinking about science. It does not do or commission research. The Committee reported to the Second UN Global Platform in mid-2009 on how science should be used to serve decision-making in the policy area. A subcommittee on early warning is to be chaired by Dennis Wenger (NSF). Another, on data availability, is headed by Prof. Virginia Murray of the University of London. Strong connections are needed between the data subcommittee and IRDR-SC to ensure synergy and avoid duplication of effort.

The ISDR Secretariat has continuing to work within the Copenhagen process and was a key driver in the decision of the IPCC to commission the Special Report on Extremes. An application in for funding for the building up a literature base to be available to all, scientists included. The Committee may give ideas on types of information to be included; and specialist groups will need to be put together to carry out rapid literature reviews. Regional activities are important to ISDR, and the Secretariat is seeking ways to better support local and regional scientists.

Links being forged between IRDR-SC and the Global Assessment Report team are encouraging. The next GAR will appear in 2011, and there has been a greater engagement with stakeholders during the preparatory process. Interaction with GAR might be best achieved through a subcommittee; the Chair suggested this could be discussed at the forthcoming IPCC meeting in Panama, coordinated by Allan Lavell.

Some 40 National Platforms exist within the ISDR system, but there are, as yet, no institutional links between the Platforms and IRDR. It was felt that IRDR could help build links between Platform and scientists, and create a better balance within the Platforms themselves (there is need to get both scientists and development-based actors on board).

[IPCC Special Report on Climate Extremes](#)

As was reported above, the Intergovernmental Panel on Climate Change (IPCC) has commissioned a Special Report on managing the risks of extreme events and disasters to advance climate change adaptation. Several Members of the IRDR Scientific Committee are involved in the writing process, with the first editorial meeting scheduled for November in Panama.

Reid Basher reported that IPCC is also moving ahead with Fifth Assessment Report – IRDR authors should also be prepared to engage in the production of this from the DRR viewpoint, and may be approached. The meeting was asked to consider how IRDR could play a role in encouraging reports and research that will feed into the Fifth Report and provide a body of research for the Sixth. So far, there is no likelihood of IPCC wanting to change the structure of IPCC Working Groups. Mention was made of the relaxation of rules regarding peer review literature; to some extent this has already happened, with the inclusion of grey and blue literature.

[Vulnerability and risk – quantification and modelling](#)

Ortwin Renn gave a presentation on the quantification and modelling of vulnerability and risk. It was noted that terminology needs to be clarified in order to be helpful in assessments. Given that there are hazards, then exposure is important and this is, in part, determined by zoning so planning of settlements can reduce exposure. For exposed populations, vulnerability is the critical factor and there

will be variations in coping with stress. How fast recovery can take place will depend on many factors but it is important for the system to recover and continue with its main functions. For IRDR the critical issue is how can science intervene? In the future there will be changes to hazards, climate and culture, so there is need to examine probability uncertainties. Main topics highlighted included rapidly urbanising areas that lead to large assemblies of people and potentially greater numbers of victims; and the adaptation capacity of agricultural areas which can result in different patterns of vulnerability. Organizational capacity and the possible role of private-public partnerships are issues and there is a need to look at better models to give better incentives to individuals. Mandatory insurance arrangements and general role of insurance are related topics.

In the discussion, rapid urbanization was identified as a priority issue, with China as a possible case study. On public-private partnerships there is the issue of mandatory insurance: essentially, those not at risk pay for those that are. The example was given of the wholesale cancellation of insurance in Germany (government intervention followed by cancellation of insurance). Understanding the organizational chart of different institutions helps with understanding. Civil defence institutions now include other bodies (and civil society institutions). The World Bank and Inter-American Development Bank, for example, have new policies on DRR which they are promoting with government and the people.

[Rapid development of IRDR flagship project on people, risk and human vulnerabilities](#)

Richard Eiser made a presentation on the Assessment and Interpretation of Risk. Risk and risk perception are of interest to both Natural and Social Sciences but from different perspectives that are still inadequately integrated. Natural scientists and funders recognize the need for communication and engagement to translate science into prevention, protection and loss reduction. The social scientists are increasingly motivated and pressured to address global issues. These perspectives come together in relation to how specific hazards are assessed, interpreted and acted upon by scientists, policy-makers and communities at risk, and how these assessments, etc. change over time. Hazard risk exists in a continuum, but events (e.g. volcanic eruption) provide the discontinuity. There is no single criterion or cut-off point at the decision-making level.

It was commented that decision-making is a science, but how can research support decision-making? A question: what is needed by decision-makers in order to make correct decisions?; how to improve decision making ability where one needs to decide on probabilities and vulnerabilities? Communication is needed for mitigation, not just warning systems. Information is needed for longer term planning. How the community understands and what we need to communicate to them.

There are differences between disaster management and risk management: it takes perhaps a decade or two before one knows if risk management has worked. For risk communication, it is necessary to let the decision-maker understand that the risk decisions taken will vary according to the environment. There is need for a checklist out of which the decision-maker will make a choice.

In the light of the comments made, it was decided to establish a project entitled 'Assessment and Interpretation of Risk' (AIR) and Messrs Eiser, Renn, Modaresi, Cardona and Chan were invited to develop the thinking for the next meeting.

[Capacity building](#)

The Chair described briefly the structure and functioning of START – the SysTem for Analysis, Research and Training for Global Change. He recalled that the ICSU Planning Group had envisaged capacity building in IRDR following the START-like model. Some START capacity-building activities could involve disaster risk areas. It was agreed that discussions should be held with START with a view to developing a MOU on cooperation in capacity building and research training for disaster risk reduction in developing countries. A complication is that START does not have a role in the Americas, a region covered by the Inter-American Institute for Global Change Research (IAI). However, IAI is not really appropriate as

capacity-building organization. Indeed, there is no a stable, sustainable operation/process for training in risk management in Latin America. Allan Lavell described several ad-hoc arrangements that were in place, but suggested that both the Inter-American Development Bank (IDB) and the World Bank (WB) are eager to promote capacity building in the region. Of particular note is the Central American Probabilistic Risk Assessment (CAPRA) initiative, started in 2008 to enhance the understanding disaster risk throughout the region by establishing a common methodology and tools to assess disaster risk. In the framework of the CAPRA and indicators programme, IDB and WB are looking for capacity-building opportunities in risk management. IRDR could propose an extension to CAPRA and Indicators initiatives. An MOU could possibly be proposed between IRDR and WB to promote dialogue between scientists and decision-makers within the framework of the IDB and CAPRA.

There was some discussion as to the target group for capacity building. Unlike programmes like WCRP and IGBP, IRDR should be seeking to set in motion a training system not only for young scientists but also practitioners. A programme like CAPRA is not in the business of training of practitioners, however. Some clarification is needed before going further.

In conclusion, the Chair requested Allan Lavell and Omar Dario Cardona to propose ideas for capacity building activities in disaster risk reduction for IRDR in Latin America and the Caribbean.

[International Programme Office](#)

Howard Moore reported on the site visits carried out to Beijing (3-5 August 2009) and Taipei (5-7 August 2009) to further assess the two bids that had been received to host and financially support the International Programme Office (IPO) for IRDR. A report of the site visits had been prepared and awaited examination and decision on the part of the governing bodies of the co-sponsors. The recommendation was that the offer from the China Association for Science and Technology (CAST) should be accepted. This would mean that the IPO would be located within the Center for Earth Observation and Digital Earth (CEODE) of the Chinese Academy of Sciences on the outskirts of Beijing, with financial support of at least 300,000 euros per annum. Once the decision is taken, further negotiations will take place, leading to a Memorandum of Understanding between the parties. Provision is being made for one of the meetings of the Scientific Committee in 2010 to be held at CEODE.

International recruitment will be started immediately for the post of the Executive Director of IRDR based in Beijing. A draft of the announcement of the vacancy was presented for comment, and in revised form this text appears as Annex 2. It is hoped that the Executive Director will be in place by end-May 2010, the moment at which the Office will be established. Two professional officer posts will later be opened for recruitment within China.

[IRDR-designated international centres](#)

The Chair reported on a secondary recommendation of the group that had carried out the IPO site visits to China and Taipei: that the co-sponsors consider inviting the Academy of Sciences located in Taipei to consider hosting an international centre at which national researchers and international visitors could work on one defined part of the IRDR programme. The idea behind this proposal is that there could be created a limited network of such small international centres located in, and financed by, host organizations around the world and contributing to the aims and objectives of IRDR.

[National Committees for IRDR](#)

National Committees have been established in many countries for the various other global change programmes of ICSU (WCRP, IGBP, DIVERSITAS, etc.) and have proved extremely effective over the years. It was felt that National Committees for IRDR would be equally important, acting both alone and in concert with others in regional and international contexts. It was agreed that their establishment should be encouraged, and to this end a draft text describing the role of such committees was examined. In the light of comments made on the draft, a revision was undertaken and this text is reproduced as Annex 3.

The Committee welcomed the news that a Japanese National Committee for IRDR was in the process of being established [Note: JNC-IRDR was established with 25 members on 26 November and the first meeting was held on 25 December 2009]; it was agreed that this would form an excellent template, and encouragement, for other countries' initiatives.

Some Japanese activities were also reported by Kuniyoshi Takeuchi: a task group on flood management had been formed and had met with some 10 Local River Management Offices in Regional Development Bureaux, MLIT to work with the Japanese National Committee for IRDR. The initial agenda of the task team includes:

- Coordination and integration of parallel administrative actions, especially with respect to uncertainty;
- Mobilization of population from understanding to action in preparedness and emergency responses;
- Development of effective evacuation plan: path of evacuation, guide to evacuate, judgment on whether to stay or evacuate

Problems identified were: lack of standard data (e.g., magnitude of future floods) and lack of researchers to consult with.

[Promotion of IRDR and its objectives](#)

Draft texts for a flyer and a Powerpoint presentation on IRDR for use by Committee Members and others were presented by Howard Moore, and reactions sought. In the light of comments made on the former, changes were made to the text, and a revised version is appended as Annex 4. An illustrated, four-colour version will be printed in a quantity sufficient for wide distribution in early 2010.

[Group on Earth Observations \(GEO\)](#)

Dr Veronica Grasso, member of the GEO Secretariat and invitee to the meeting, gave a Powerpoint-assisted presentation on GEO and the development of the Global Earth Observation System of Systems (GEOSS). GEO is an IGO set up outside the UN system, but with 79 Members and 56 participating organizations. The benefits accruing to Charter Members were described, as was the development of linkages and synergies between stakeholders. Dr Grasso briefly described GEO activities that respond to the objectives of IRDR and might prove the subject of collaboration. While it was pointed out that there are limitations to what remote sensing on geohazards can bring to an area such as risk assessment, the Committee welcomed the idea of collaboration between IRDR and GEO. It was recognized that there are geotechnical problems to be resolved over satellite-sourced data, not least that of reliability (real-time measurements are needed for validation). Nevertheless, it was agreed that there was an opportunity for cooperation: IRDR as a research programme could make good use of satellite data, using GEO as a technical partner, and it was thought that an overall MOU could be signed between IRDR and GEO. In the future, IRDR might well wish to identify an area of interest, specify where we need information and the type required, approach GEO and propose a GEO/IRDR project. Is there an opportunity or means for reviewing what IRDR's disaster risk reduction requirements are, and how they can be met by GEO – for example through a workshop leading to a document? The meeting was informed of a workshop in early 2010 of leaders of the nine GEO areas, which would offer IRDR an opportunity for linking with the various disaster communities.

[Visioning Earth System Research](#)

Howard Moore briefly described the visioning process being carried out by ICSU in collaboration with ISSC concerning the new challenges facing earth system research, as an example of interactive Internet-based consultation possibly open to IRDR in the future.

[ICSU Foresight Exercise](#)

After an introduction by a member of the ICSU Secretariat, Paul Cutler, of the Foresight Exercise being conducted by ICSU as a part of its strategic planning process, the meeting was invited to brainstorm on

two main questions: how will international collaboration in science help progress in science and benefit society, and what will be the key drivers influencing science in the next twenty years and beyond?

Action points

- Case studies: It was agreed that a working group should develop, as a priority, a template for the case study initiative. This would involve Gordon McBean, Allan Lavell, Susan Cutter and Steven Sparks, plus Ian Burton, a former member of the IRDR Planning Group who had already developed some notes in this regard. All Members should help draw up a list of case studies that would be useful. Disaster recovery, long-term, successive illegal immigration and risk assessment were mentioned in this context.
- Assessment and Communication of Risk (development of the AIR proposal): Fusion of the two working groups previously assigned to 'Decision making, planning resilience' and 'Vulnerability and risk'. Richard Eiser, Ortwin Renn, Hormoz Modaressi, Omar Dario Cardona and Raymond Chan to form a task team to be in a position to go forward at the next meeting. To what extent is the Committee thinking of a methodology based on case studies? Major gap area and it needs to stake its claim. There is a need for something concrete; if that means it will be limited, so be it.
- Long-term databases, monitoring systems and tools: Susan Cutter, Angelika Wirtz and Allan Lavell to pursue, in close collaboration with ISDR-STC working group.
- Three regionally-based initiatives proposed:
 - (a) with ROAP – case study on small island states: David Johnston and Kuniyoshi Takeuchi.
 - (b) with ROLAC – pursue the CAPRA idea on capacity-building and indicators with WB/IDB: Omar Dario Cardona and Allen Lavell.
 - (c) with ROAP – working group on Cities at Risk - creation of a team involving David Johnston, Steven Sparks, Allan Lavell, Omar Dario Cardona and Kuniyoshi Takeuchi plus Roland Fuchs (?), with Angelika Wirtz to provide information. Reference was made to a START initiative 'Cities at Risk' for developing adaptive capacity for climate change in Asia's coastal megacities, and the recently issued brochure.
- Memoranda of Understanding need to be developed to cover collaboration with: WCRP, START, ISDR's GAR system, GEO, and the public-private Global Earthquake Model initiated by the Global Science Forum of OECD.
- Further definition is needed over the coming months of the concept of IRDR International Centres.
- Issuing of one-page IRDR flyer in early 2010 and its wide distribution (to incorporate a new IRDR logo)

Date and venue of next meeting

It was agreed that the third meeting of the Scientific Committee would be held in Paris during the period 12-23 April 2010. [Note: dates subsequently decided upon: Wednesday 14 April to Friday 16 April.] The possibility will be explored of ISDR's convening its ISDR-STC back-to-back in Paris, with a half day's joint session.

The fourth IRDR-SC meeting will be convened in Beijing, by which time the IPO should be established, and the IRDR Executive Director in place.



22 October 2009
Rev. 1

INTEGRATED RESEARCH ON DISASTER RISK (IRDR)

Second Meeting of the Scientific Committee
ICSU Headquarters, Paris
21-23 October 2009

Revised Agenda

Wednesday, 21 October

12:30 *Lunch*

14:00

1. **Opening of meeting and Introduction of new participants.**
Changes in Committee membership.

14:10

2. **Approval of Draft Agenda**

14:15

3. **Summary Report of First Meeting, and matters arising not treated elsewhere**

14:30

4. **Open discussion on collaboration possibilities – feedback from Members**

[Committee members were encouraged to look at big supranational and national projects in their areas, make informal links with potential partners, without commitment, and report back to the Committee with a view to a finite number of more formal arrangements being made.]

4.1. Specific initiatives:

- 4.1.1 Cooperation in research on weather and climate extremes and their role in disasters: development of agreements with WWRP and WCRP. (GMcB, Len Barrie)
- 4.1.2 Joint socio-economic research activity (to be developed in collaboration with WWRP's Working Group on Societal and Economic Research and Applications (WG-SERA) of WMO) – report on preliminary discussions with Co-Chair, Brian Mills (GMcB)
- 4.1.3. Cooperation with Red Cross International. (GMcB)

15:15

5. Creation of IRDR Working Groups and their terms of reference

Successive discussions on each theme, after introductory remarks or proposals from the assigned Group Leaders.

5.1 Case studies and demonstration projects, scenarios and forensic investigations (GMcB)

16:00 Tea

16:30

5.2 Decision-making, planning resilience (RE)

17:00

5.3 Long-term database and monitoring systems and tools, with an assessment of capacity of data sets to meet research needs. Interaction with Subcommittee of ISDR-STC (Susan Cutter)

17:30 Meeting adjourns

Thursday 22 October

09:00

6. Regional programmes on hazards and disasters, and their articulation with IRDR

6.1. Preliminary analysis of the three ICSU Regional initiatives. (AL)

6.2. Report on ICSU 3rd Regional Consultation for Asia and the Pacific as it referred to disaster plans. (DJ)

10:00

7. Cooperation with the ISDR system

7.1 Possible mechanisms for collaboration and exchange with ISDR Scientific and Technical Committee charged with providing “strategic guidance on research needs for disaster risk reduction and oversight of progress”. (RB)

10:45 Coffee

11.15

9. IPCC Special Report on Climate Extremes (contd)

9.1. Opportunities and challenges for IRDR. (GMcB)

11.30

5. Creation of IRDR Working Groups and their terms of reference (contd)

5.4 Vulnerability and risk – quantification and modelling (OR)

12.00

5.5 Rapid development of IRDR flagship project on people, risk and human vulnerabilities (GMcB)

12.30

8. Capacity building

8.1 Report on discussions with START (the global change SysTEM for Analysis, Research and Training) on cooperation in capacity building and research in developing countries. (GMcB)

8.2 Brief appraisal of Latin American capacity-building possibilities for IRDR (including collaboration with Inter-American Institute for Global Change Research). (AL, ODC)

13:00 Lunch

14:00

8. Capacity building (contd)

14.15

10. International Programme Office

10.1 Report on site visits carried out to Beijing (3-5 August 2009) and Taipei (5-7 August 2009) and recommendations to co-sponsors. (HM)

10.2 Appointment of IPO staff, and especially IRDR Executive Director. Ideal profile(s). Recruitment procedure and timing. Draft announcement. (HM)

14:45

11. IRDR-designated international centres

11.1 Possible establishment of modest network of IRDR-designated international centres for excellence in research (or some similar name), nationally supported but with international visiting researchers; participants to focus on integrating across a subsection of the IRDR areas. (GMcB)

15:15 Tea

16.15

14. National Committees for IRDR

14.1 Draft text for use in promoting the creation of National Committees. (HM)

16 45

13. Promotion of IRDR and its objectives

13.1 Outreach and promotional materials – draft text for flyer and draft Powerpoint presentation for use by Committee members. IRDR logo. (HM)

17:30

Meeting adjourns

19:00 Committee Dinner

Friday 23 October

09:00

12. Group on Earth Observations (GEO)

Presentation by Dr José Achache, Director of GEO Secretariat, on GEO and the Global Earth Observation System of Systems (GEOSS), and collaboration in the field of hazards.

10:30 Coffee

11:00

15. Visioning Earth System Research

15.1 Report on the consultation process being spearheaded by ICSU and ISSC. (HM)

11.15

16. ICSU Foresight exercise

Presentation by Paul Cutler, followed by brainstorming

12.00

17. Date and venue of next meeting (HM, GM)

Meeting closes

12:15 Lunch



Announcement

Executive Director of the Integrated Research on Disaster Risk (IRDR) programme

The International Council for Science (ICSU), the International Social Science Council (ISSC) and the UN International Strategy for Disaster Reduction (ISDR) invite applications for the important post of Executive Director of the new Integrated Research on Disaster Risk (IRDR) programme.

IRDR is an exciting decade-long, internationally integrated, all-hazards research programme bringing together the talents of the natural, social, medical and engineering sciences in a way not attempted before. Its objectives are the scientific characterization of natural and human-induced environmental hazards, vulnerability and risk; the understanding of decision-making in complex and changing risk contexts; and the reduction of risk and curbing losses through knowledge-based actions. The programme is founded on the recognition that disaster prevention and mitigation are critical dimensions of the global poverty reduction agenda and efforts to adapt to climate change, and should be an integral part of all international and national development efforts.

The Executive Director will head an International Programme Office (IPO) for IRDR being established at the Center for Earth Observation and Digital Earth (CEODE) of the Chinese Academy of Sciences in Beijing, China, with core funding from the China Association for Science and Technology (CAST). The location of the IPO was selected following an international call for offers to host the Office.

The IPO will be expected to meet the management needs of the IRDR programme and fully support the work of the international Scientific Committee for the Integrated Research on Disaster Risk programme (SC-IRDR) responsible for its overall scientific planning, coordination, guidance and oversight.

Under the authority of the SC-IRDR, the Executive Director of IRDR will be expected to:

- facilitate the development, implementation and co-ordination of IRDR science projects and joint projects with partner programmes;
- liaise with such international centres as may be established within IRDR;
- ensure effective representation and links between IRDR and other relevant research programmes and their sponsoring organisations, relevant entities of the United Nations system, as well as the international policy community and funding agencies;
- support the development and implementation of an information strategy which promotes networking within the disaster risk research community and the wider practice community;
- play a major role in organizing capacity building and outreach activities;
- promote the establishment and/or strengthening of national IRDR committees and regional initiatives; and
- promote IRDR internationally and assist in the acquisition of funding for the programme.

The Executive Director will oversee a staff of at least two professionals, and will direct all activities of the IPO, especially in respect of the preparation for, and conduct of, meetings of the SC-IRDR and of the implementation of actions decided upon by the Committee. He/she will have responsibility for drawing up annual programme and budgets of the Office, and ensuring that they are implemented. The Executive Director will maintain effective cooperation on administrative and technical matters with the host institution and relevant local organizations.

The host institution, CEODE, is recognized for its commitment to scientific research, with wide experience and expertise in research on disaster mitigation—especially remote sensing, data collection and modelling. The Center also has a proven track record in international cooperation, establishing long-term partnerships with institutions from more than 20 countries and international organizations. The IPO will be located within CEODE's brand new Headquarters being built within Space City, a major new research park on the edge of Beijing.

The Executive Director will hold a PhD in a natural, social, medical or engineering science discipline related to natural hazards and disaster risk reduction and have several years of direct experience of international research collaboration in an interdisciplinary setting. International science management and diplomatic skills would be at a premium. He/she will have an excellent command of written and spoken English, and a working knowledge of other major languages would be desirable. Some experience in the use of on-line consultation techniques and web-based collaborative tools (e.g. Google Groups) would be an advantage.

Applications should include: (i) a Curriculum Vitae; (ii) a letter outlining the skills and experience you feel you, the candidate, could bring to IRDR and its IPO; and (iii) the names and addresses of three individuals who have indicated their readiness to provide a reference.

The address to which applications should be sent is:

Dr Howard Moore
International Council for Science (ICSU)
5, rue Auguste Vacquerie
75116 Paris
France
e-mail: howard.moore@icsu.org

The closing date for applications is 14 January 2010.

The annual salary of the Executive Director of IRDR will be negotiable in the range 75,000-90,000 euros equivalent and will take due account of the experience and qualifications of the candidate. The initial contract of employment will be of two years' duration, renewable. It is expected that the successful candidate would take up his/her appointment, located in Beijing, as soon as possible and no later than end-May 2010.

For more information on the IRDR see *A Science Plan for Integrated Research on Disaster Risk – addressing the challenge of natural and human-induced environmental hazards* which is posted on: www.icsu.org/Gestion/img/ICSU_DOC_DOWNLOAD/2121_DD_FILE_Hazard_report.pdf



Integrated Research on Disaster Risk

addressing the challenge of natural and human-induced environmental hazards

IRDR National Committees

The Integrated Research on Disaster Risk (IRDR) programme welcomes and encourages the creation of National Committees dedicated to the support of IRDR's research initiatives, and the establishment or further development of vital links between national disaster risk reduction programmes and activities within an international framework. National Committees will make it possible to implement – extending or adapting where necessary – the IRDR Science Plan to address local and regional concerns.

The establishment of National Committees for an integrated research programme like IRDR will help foster the much-needed interdisciplinary approach to disaster risk reduction within national scientific and policy-making communities; and each Committee can serve as an important focal point between national disciplinary scientific unions and associations, as well as promote cooperation between the research sector and practitioners.

Each National Committee is being encouraged to include, in its make-up, researchers from the natural, social, health and engineering sciences, policy makers and practitioners from national disaster risk reduction programmes. The Committees may wish to designate focal points on such matters as data/information management.

IRDR National Committees are likely to undertake a range of activities in the context of the IRDR, including:

- advocacy of integrated research on disaster risk
- participation in the implementation of IRDR research projects;
- hosting of events such as symposia or workshops related to the aims and objectives of IRDR;
- involvement in capacity-building for disaster risk reduction;
- collaboration with other National Committees in the development of international initiatives to respond to regional needs;
- contribution towards IRDR's fund-raising efforts; and
- cooperation with ISDR National Platforms in the common pursuit of the goals of the Hyogo Framework for Action.

IRDR encourages ties between its National Committees, and their interaction with the International Programme Office for IRDR located in Beijing. Meetings of Chairpersons of National Committees are foreseen, as is their presence at the proposed annual IRDR Consultative Forum.



NEW!

INTEGRATED RESEARCH ON DISASTER RISK (IRDR)

Why is it that, despite the marked growth over recent decades in our knowledge and understanding of natural hazards, losses associated with environmental disasters have also risen during that same period at a seemingly exponential rate? The situation is particularly dramatic as regards weather-related events where, while death rates and numbers have dropped due to more extended and effective early-warning systems and preparedness plans, material and livelihood losses as well as numbers of affected persons have grown considerably.

The response

The response of ICSU, ISSC and ISDR to this conundrum has been to create a major new international programme – Integrated Research on Disaster Risk (IRDR) – that seeks to address the challenge of natural and human-induced environmental hazards.

The complexity of the task is such that it requires nothing less than the full integration of research expertise from the natural, socio-economic, health and engineering sciences, coupled with socio-economic analysis, understanding the role of communications, and public and political response to reduce the risk. Although the approaches in the sciences vary, IRDR will not only be multi-disciplinary but also approach the issues of natural and human-induced hazards and disasters from several perspectives – from the hazards to the disasters and also from the human exposures and vulnerabilities back to hazards. This coordinated approach takes IRDR beyond approaches that have traditionally been undertaken.

Objectives

The IRDR programme has three research objectives:

- characterization of hazards, vulnerability and risk
- understanding decision-making in complex and changing risk contexts
- reducing risk and curbing losses through knowledge-based actions.

Attainment of these three research objectives through successful projects will lead to a better understanding of hazards, vulnerability and risk and an enhanced capacity to model and project risk into the future; to the understanding of the decision-making choices that lead to risk and how they may be influenced; and how this knowledge can better lead to disaster risk reduction.

Three cross-cutting themes support these objectives:

- capacity building, including mapping capacity for disaster reduction and building self-sustaining capacity at various levels for different hazards;
- development of case studies and demonstration projects; and
- assessment, data management and monitoring of hazards, risks and disasters.

IRDR will both generate new information and data and to leave a legacy of coordinated and integrated global data and information sets across hazards and disciplines, with an unprecedented degree of access. One of the main contributions of the Programme will be to serve as a framework for the development of a range of modern information systems devoted to disaster risk reduction.

The hazards covered

IRDR focuses on natural and human-induced environmental hazards, including all hazards related to hydrometeorological and geophysical trigger events, i.e., earthquakes; volcanoes; flooding; storms (hurricanes, typhoons, etc.); heat waves; droughts and fires; tsunamis; coastal erosion; landslides; aspects of climate change (increases in occurrence of extreme events); and space weather and impact by near-Earth objects. The effects of human activities on creating or enhancing hazards, including land-use practices, are also included.

Building on, and complementing existing research

Arrangements are being sought with existing programmes so as to undertake research with shared outcomes and responsibilities. Collaborating organizations, working through a Consultative Forum, will become significant actors in IRDR.

IRDR has a strong commitment to development – development of science and development of broadly-based capacity. Its partners in this development will include the national and international development aid agencies as well as the national and international science institutions and funding councils. National Committees for IRDR are also set to be key players. The building of capacity in disaster risk reduction around the world requires the involvement of all countries in a meaningful way.

IRDR – the first three years

During its first three years, IRDR will focus on building partnerships and undertaking scientific analysis to put in place longer-term projects towards meeting its declared scientific objectives and overall vision, and contributing to the search for fundamental explanations for the current rise in disaster losses. A series of post-disaster, multi-disciplinary ‘forensic’ investigations will be carried out – in-depth, all-encompassing, arms-length, careful and detailed analyses that will not only draw lessons and insights from ‘failures’ or cases where mistakes were made, but also accumulate evidence of good practices from the success stories.

In parallel, a global network of long-term hazard research sites will be developed to allow for enduring (decades-long) place-based, longitudinal studies of natural hazard risk, while leading to progressive building of resiliency across that same network. The network will provide a mechanism for reaching out to communities located in the most vulnerable areas and engaging them in the science agenda, as well as providing a context for comparative analysis

The legacy

IRDR’s main legacy will be an enhanced capacity around the world to address hazards and make informed decisions on actions to reduce their impacts. This will include a shift in focus from response–recovery towards prevention–mitigation strategies, and the building of resilience and reduction of risk through learning from experience and the avoidance of past mistakes. By way of this enhanced capacity and a shift in strategic approaches, there will be a reduction in loss of life, fewer people adversely impacted, and wiser investments and choices made by civil society, when comparable events occur.

Further information

The full text of the Science Plan of the Integrated Research on Disaster Risk can be accessed at: www.icsu.org/Gestion/img/ICSU_DOC_DOWNLOAD/2121_DD_FILE_Hazard_report.pdf

Contact regarding IRDR

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