

Report of the 10th Meeting of the IRDR Science Committee (SC)

Sanya, China 12-14 November 2013

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1. Organisation of Meeting and other Administrative Matters

Date and Place of the Meeting

The 10th meeting of the Integrated Research on Disaster Risk (IRDR) Science Committee (SC) was held on 12-14 November 2013, in Sanya, China. The meeting coincided with IRDR China's annual International Workshop on Disaster Risk and Mitigation, held on 15 November.

Documentation

A list of background documents provided to Members is contained in annex 1. Presentations given during the meeting are available for download from the SC Members' page on the IRDR website, http://www.irdrinternational.org/sc-members-zone/.

Attendance

- Members: Sálvano BRICEÑO (Vice-Chair); Djillali BENOUAR; Susan CUTTER (Vice-Chair); S.H.M. FAKHRUDDIN; Ferruccio FERRIGNI; David JOHNSTON (Chair); Shuaib LWASA; Anthony OLIVER-SMITH; Mark PELLING; Kuniyoshi TAKEUCHI (Vice-Chair); and Sisi ZLATANOVA.
- *Ex officio:* Bina DESAI (representing Andrew MASKREY of UNISDR); Huadong GUO (RADI); and Howard MOORE (ICSU).
- IRDR IPO: Charina CABRIDO; Lang LANG; Kerry-Ann MORRIS; Jane ROVINS; and Tracy ZHAO.
- Invited guests: Colin ARMSTRONG (UKCDS); Jöern BIRKMANN (UNU); Daniele EHRLICH (EU-JRC and DATA project working group member); Alik ISMAIL-ZADEH (IUGG); Steven JENSEN (California State University); Jie LIU (RADI); Tony LIU (IRDR ICoE Taipei); Nanette LOMARDA (WMO); Feng QIANG (IRDR China); Sally POTTER (GNS Science); John REES (RCUK); Kenichi TSUKAHARA (IRDR Japan); and Paul F. UHLIR (The National Academies, USA).
- Apologies for absence: Irasema ALCÁNTARA-AYALA; Ann BOSTROM (joined afternoon session of the meeting via Skype on 14 November); Omar Darío CARDONA; Virginia JIMENEZ DIAZ; and Vivi STAVROU (representing Gudmund HERNES from ISSC).

Adoption of the Agenda

The agenda was adopted without revisions.

Report of the Ninth SC Meeting

ROVINS reported that the action items from the ninth SC meeting were completed. The SC Members had previously provided comments on earlier drafts of the ninth SC meeting report (Doc. 10/2.1). There being no other comments, the report of the ninth SC meeting was approved without change.

Introduction of Newly Appointed SC Members

MOORE summarised the process of selecting three new SC Members to replace two Members who were at the end of their terms of office, BENOUAR and SIWAR, and one

Member, Angelika WIRTZ, who had resigned. BENOUAR was invited to serve a second term and two new Members were selected: FAKHRUDDIN and JIMENEZ-DIAZ. Their terms will end on 31 December 2016.

- Dates and Venues of 11th and 12th SC Meetings

 The 11th SC meeting will be held in Beijing, China, one day before and two days after the 2nd IRDR Conference. The meeting dates are 6 and 10-11 June, 2014.
- The SC agreed to explore holding the 12th SC meeting in Africa, either in Algeria, South Africa or Uganda.

2. Co-Sponsors' and Host Updates

International Council for Science (ICSU)

MOORE provided updates on:

- 31st General Assembly: ICSU's General Assembly is held every three years. The 31st General Assembly will be held in Auckland, New Zealand from 30 August to 3 September 2014. ROVINS attended the 30th General Assembly, 27-30 September 2011, and gave a presentation about the Programme. IRDR will not be included on the agenda for the 31st General Assembly, but JOHNSTON has been invited to represent the programme. This represents an excellent opportunity for networking with representatives of ICSU Members (both National and Union) and other research programmes.
- Future Earth: MOORE provided a brief summary of Future Earth and brought the Committee's attention to its initial design report (see Doc. 10/3.1). An interim Secretariat has been set-up at ICSU Headquarters in Paris, headed by an interim Executive Director, Prof Frans Berkhout. A Science Committee, chaired by Dr Mark Stafford Smith, was in place as well as an interim Engagement Committee tasked with engaging a wide crosssection of Future Earth's stakeholders.

MOORE reiterated the reasons Future Earth did not include IRDR within its framework, but suggested the IRDR-SC actively seek involvement in its development. OLIVER-SMITH suggested that the SC produce a concept note on IRDR's possible contribution to Future Earth. JOHNSTON endorsed this suggestion and noted that, based on preliminary discussions with Dr Stafford Smith, the latter was keen on discussing IRDR's involvement with Future Earth. JOHNSTON suggested inviting Dr Stafford Smith to the 11th SC meeting and to explore an avenue for his participation at the upcoming conference.

International Social Science Council (ISSC)

In the absence of STAVROU, ROVINS provided brief updates on:

- 29th ISSC General Assembly: this had been held in Montréal, Canada on 9-11 October 2013, and was attended by JOHNSTON and ROVINS. JOHNSTON provided the Assembly with an update on IRDR's activities to date, and requested that IRDR be informed of future ISSC activities for the Programme's participation.
- Second World Social Science Forum (WSSF): this was held in Montréal after the General Assembly, from 13 to 15 October 2013, under the theme "Social Transformation and the Digital Age." A RIA session, "Decision-making in times of Uncertainty," chaired by JOHNSTON, was held during the Forum.

United Nations International Strategy for Disaster Reduction (UNISDR)

DESAI provided the meeting with updates on:

- Global Assessment Report on Disaster Risk Reduction (GAR) 2015: GAR 2015 will assess the past 10 years, examine the current situation, and explore the future challenges and opportunities. Preparatory discussions identified four key areas that will be explored: reconceptualisation of disaster risk management; implications for disaster risk management governance; implications for development practices; incentives and social demand.
- **IRDR's Support to GAR 2015:** the UNISDR has agreed to provide funding for the proposals submitted by AIRDR, FORIN and RIA, as presented at the ninth SC meeting:
 - i. **AIRDR:** funding will be made available to conduct a scientific literature review, limited to the four key areas identified above. CUTTER noted that, once the funding was received, the capacity existed within ICoE VaRM to begin the reviews. JOHNSTON and ROVINS confirmed that UNISDR should send the funds directly to the ICoE instead of through the IPO. The total amount of this funding is US\$46,978, to be completed by August 2014.
 - ii. **FORIN:** to report on the outcomes of the project's workshops and studies to date, focusing on the GAR's key areas. DESAI will discuss FORIN's contribution to GAR 2015 with OLIVER-SMITH, FORIN's Co-Chair.
 - iii. **RIA:** to examine the enabling factors for transformational disaster risk management, linking this to the UNISDR's work on incentives in order to move from incremental to transformative disaster risk management. The total amount of this funding is US\$35,000, and the deadline for completion is May 2014.

DESAI also invited the SC to collectively review the final GAR 2015, the first draft of which will be available in October 2014.

• Development towards Hyogo Framework for Action 2 (HFA2): a new indicator framework, which will be the basis for HFA2, is being developed. DESAI invited the SC to assist in evaluating the quality of the indicators. This review will be guided by a set of specific questions supplied by UNISDR. The deadline for this evaluation is May 2014.

Institute of Remote Sensing and Digital Earth (RADI)

Jie LIU, representing GUO, provided the meeting with updates on:

■ RADI's research platform: The merger of the Center for Earth Observation and Digital Earth (CEODE) and the Institute of Remote Sensing Applications (IRSA) to form RADI (as reported at the ninth SC meeting) has increased the latter's research capabilities: nine national laboratories and research centres; over 700 researchers and engineers; and more than 500 graduate students. In October 2013, RADI was recognised by the Chinese Government as a national modern base for national and international science and technology collaboration. Jie LIU provided the meeting with an example of RADI's international collaboration efforts in response to a request from Geoscience Australia in relation to the bushfires in New South Wales.

Jie LIU reported that RADI was in the process of revising its internal rules and regulations, and will inform the IPO of any changes to those regulations relevant to its operations.

■ CAS-TWAS Centre of Excellence on Space Technology for Disaster Mitigation (CoE STDM) workshop: In August 2013, CAS-TWAS held its first high-level meeting on space technology for disaster risk reduction in developing countries during the eighth International Symposium on Digital Earth (ISDE8). The meeting was co-chaired by GUO and ROVINS. The meeting's objective was to build multi-lateral collaboration to generate and enhance awareness on improving scientific capacities in space technology for disaster risk reduction in developing countries.

Jie LIU emphasised that RADI will work closely with the IPO to ensure the success of the IRDR conference.

DECISIONS

The SC agreed to:

- 2.1 Produce a concept note on IRDR's possible contribution to Future Earth. (**Lead: OLIVER-SMITH and PELLING; Support: IPO**)
- 2.2 Invite Dr Mark Stafford Smith, Chair of Future Earth's Science Committee, to the 11th SC meeting. (**Lead: IPO**)
- 2.3 Review the full GAR 2015 document, the first draft of which will be available in October 2014. Individual reviews from SC Members will be compiled and submitted to the UNISDR under the IRDR letterhead. (Lead: FAKHRUDDIN; Support: IPO)
- 2.4 Review the HFA2 indicators. Individual reviews from SC Members will be compiled and submitted to the UNISDR under the IRDR letterhead. (**Lead: CUTTER; Support: IPO**)

3. International Programme Office (IPO) Updates

2nd IRDR Conference, 7-9 June 2014

Two budgets were prepared for the conference (Doc. 10/5.1): one foreseeing 300 attendees, another 500. Funding would be provided in part from the IPO's budget and also from the China Association for Science and Technology (CAST). The IPO also applied for, and is waiting for feedback on, a grant from the Chinese Academy of Sciences (CAS) to go towards the conference.

In response to its call, the IPO received close to 200 abstracts. These were reviewed during the afternoon of day two of the meeting, 13 November 2013. During the overall discussion about the conference, the SC agreed the event presented the opportunity to frame IRDR within the global post-2015 discussions, such as the post-HFA, Sustainable Development Goals, climate change and Future Earth processes.

IPO Grants Account

This account, with US\$22,000 available, had been extended for another six months. The decision was taken at the ninth SC meeting to use these funds to support DATA's second meeting. This was not done, as additional funds for the meeting had been provided by ICSU. The SC provided suggestions on how best to utilise the funds for project activities: DATA's third working group meeting in 2014; the FORIN template review; or funding the writing of an IRDR position paper to contribute to the SDG process.

IPO Staffing

An inconsistency in MORRIS' contract had been fixed and ROVINS' last day in office would be 26 November. A new Communications Officer, CABRIDO, has been engaged and her employment contract and visa matters were being dealt with to allow her to join the IPO in December. ROVINS expressed concerns over the management of the IPO without an Executive Director, and suggested the need for an interim management plan.

Selecting a new Executive Director

MOORE advised that the Co-Sponsors conducted interviews in Beijing with short-listed candidates, and were negotiating the conditions of employment with the selected candidate and his/her employer. He will advise the SC of the outcomes of these negotiations. He noted that, as ROVINS will leave the post at the end of November, the Committee and the Co-Sponsors will be faced with the challenge of ensuring the IPO's work continues uninterrupted.

DECISIONS:

- 3.1 The SC agreed that US\$22,000 available in IRDR IPO's grant account will go towards DATA's third working group meeting, which will be held in Ispra, Italy in May 2014. (Lead: IPO)
- 3.2 JOHNSTON will work with the Co-Sponsors to produce an interim management plan for the IPO that addresses the Office's operations in the absence of an Executive Director. (Lead: JOHNSTON; Support: Co-Sponsors)

4. Research Programme Updates

Assessment of Integrated Research on Disaster Risk (AIRDR)

CUTTER presented on the preliminary assessment of integrated research on disaster risk conducted by the IRDR ICoE VaRM team. The assessment was done on 35 English language peer-reviewed academic journals published between 1999 and 2013, and 78 English language seminal publications, published between 1993 and 2011. The total references in the review were 956. CUTTER explained the methodology of the assessment and its findings, which revealed a lack of integration, noting that the review was biased because of the emphasis on English-language publications and the types of journals that were assessed. The findings will be written up as a preliminary study for publication in the proposed journal, International Journal of Disaster Risk Reduction, in 2014.

The meeting participants provided several suggestions on improving the assessment, including:

- Partnering with the current NC's in translating the findings for their specific regions. This suggestion was welcomed by CUTTER.
- Include development and region-based journals within the assessment. This suggestion was welcomed by CUTTER.
- Include "grey literature" such as practitioner-based literature. CUTTER noted that this may take the project out of its current scope and capacity to undertake.
- Conduct a similar assessment of reports from national disaster management institutions.

CUTTER advised that, once completed, she will contact several of the meeting's participants for feedback on the paper.

CUTTER asked the SC whether to continue AIRDR, considering the absence of funding to conduct a traditional assessment of the scientific literature, as the project proposed. JOHNSTON suggested that the SC revisit this issue once AIRDR completed its work for GAR 2015 (see pg. 4). BRICEÑO noted that this discussion must also include the new Executive Director, who may provide advice on funding sources for AIRDR.

IUGG Proposal for a Global Assessment Mechanism

ISMAIL-ZADEH provided the meeting with the background to the proposal from the International Union for Geodesy and Geophysics (IUGG) for setting up an intergovernmental platform akin to the Intergovernmental Panel on Climate Change (IPCC) for the assessment of disaster risk. As reported at the ninth SC meeting, IRDR led the development of a scoping paper on the proposed intergovernmental platform (Doc. 10/8.1), which was presented at the 110th meeting of the ICSU Executive Board, held 5-6 November. ROVINS summarised the scoping paper's recommendations, noting that AIRDR was suggested as an initial step towards the formation of such a panel. MOORE shared the decision of the ICSU Executive Board:

"To commission, through IRDR and the GeoUnions, the preparation of an integrated, interdisciplinary scientific synthesis across all hazards of the state of knowledge and response, hazard occurrence and impacts and priorities for research, and that this synthesis report be completed in order to provide input to the 2015 HFA2 negotiations."

An ad-hoc funding group, consisting of members of the ICSU EB, would be established to render this process effective. MOORE noted that there is currently no visible government support for such an intergovernmental panel. UNISDR had also not been in support of such a platform, believing it would complicate politically the process leading towards HFA2.

Disaster Loss Data (DATA)

CUTTER presented the outcomes of the second DATA project working group meeting (Doc. 10/4.1), held from 29 September to 2 October 2013. The meeting was hosted by ICoE VaRM at the Hazards and Vulnerability Research Institute, University of South Carolina, USA.

One of the significant outcomes of this meeting was the development of a peril classification for use by all local and sub-national datasets allowing for easy comparisons across all databases. This peril classification is based on work done by CRED and Munich Re, Working Paper 264: Disaster Category Classification and Peril Terminology for Operations Purposes, but is a more flexible classification system that allows for top-down and bottom-up classifications. CUTTER explained the peril classification to the Committee and advised that the project's working group will next revise Working Paper 264 to include the new classification, which will be published under the IRDR name and include the signatures and affiliated logos of all involved.

Other outcomes of DATA's second project working group meeting were:

- An IRDR DATA concurrence with the new definitions proposed in a CRED/UNDP draft Human Impact Indicators document, which will be reviewed in Brussels on 15 November.
- An agreement to encourage the Asian Disaster Reduction Center (ADRC) in Japan to continue work on the GLIDE number system, an identification system that enables linking events that have multiple impact areas. The working group members will draft a memo to ADRC expressing interest in assisting them maintain the GLIDE system. DATA members also received operator accounts for a number of the databases to generate their own GLIDE numbers for events.
- Established a project share site on UNDP's Teamworks to test the classification system on each of the partners' databases. Updates on these tests will be provided at the Project's next working group meeting.

The project's working group will hold its third meeting in May 2014 in Ispra, Italy, and, as discussed above, will be funded from the IPO's grant account.

Forensic Investigations of Disasters (FORIN)

OLIVER-SMITH provided the meeting with an overview of FORIN and its activities during 2013. The emphasis of his presentation was on the international workshop on FORIN

associated with landslides, held from 14 June to 5 July 2013 in Chiapas, Mexico (Doc. 10/9.1). The workshop shared the FORIN methodology with 25 young scientists from seven Latin American countries to understand the complex and underlying causes of landslide disasters.

The workshop's activities included a series of lectures, presentations of individual projects, working groups, interviews with local media, fieldwork, and final project proposals. The major topics discussed were: theoretical aspects of the social construction of disasters; vulnerability; landslide hazard; field evaluation of landslides; displacement and resettlements; and risk reduction and integrated research on disaster risk. The study cases included the disasters of Yungay, Peru in 1970; hurricane Mitch in Honduras, 1998; hurricane Katrina, New Orleans, USA, 2005; and the 2010 Haitian earthquake.

Funding for the workshop was provided through an ICSU grant of €30,000 for the project Landslide Networking for Disaster Studies, Capacity Building, Partnership and Engagement in Latin America and the Caribbean (LANDSCAPE-LAC), as reported at the ninth SC meeting. This was the first workshop under the LANDSCAPE-LAC project. The second workshop, the follow-up to the first, will take place in early-2014 at the Mexican Academy of Sciences. Participants will be expected to present the results of their case studies developed during the first workshop.

The following were noted as FORIN's future projects, to begin in 2014:

- Two-year workshop programme via proposed UNU-EHS collaboration: discussions are currently underway for collaboration with the United Nations University Institute for Environment and Human Security (UNU-EHS) for a two-year workshop programme, consisting of three workshops per year. A concept note has been created about this collaboration, which will be shared with the SC.
- **FORIN template review:** based on feedback from past FORIN workshops, the template will be revised to deal with some of its current gaps. This will involve a review of studies developed between 2008 and 2013 that utilised the template, and to use that assessment as the core document of a workshop for the production of a second version.
- Proposed FORIN study of La Cueva del Jaguar, Tuxtla Gutierrez, Chiapas, Mexico: OLIVER-SMITH and ALCANTARA-AYALA will write a proposal for this study.

PELLING advised the meeting that PEARL (Preparing for extreme and rare events in coastal regions), an EU FP7-funded research project, will begin 24 January 2014. As reported at the ninth SC meeting, one component of this project is a review of the FORIN literature and, over the next two years, implementing FORIN studies in Bangkok, France, Italy and Japan. PELLING suggested FORIN consider adding a video tutorial about the methodology, via the IRDR website, to better engage persons with the template. This suggestion was welcomed by OLIVER-SMITH.

LWASA questioned the geographical spread of the workshops, with the possibility of holding a FORIN workshop in Africa, and suggested partnering with the university networks as an appropriate channel. OLIVER-SMITH responded that the plan, under the UNU-EHS collaboration, is to hold one of the planned three workshops in Africa, the other two being held in Asia and Latin America.

Risk Interpretation and Action (RIA)

For the benefit of those present, PELLING provided an overview of the RIA project and its main objectives, before reviewing the activities undertaken in 2013 and discussing the way forward. Summaries and outcomes were provided on the following RIA 2013 activities:

- "Disaster Risk Communication: Dialogues for Reducing Disaster Risk" Workshop in London, UK, 16-17 May 2013. The report from this meeting fed into the next major RIA workshop in June 2013, building a momentum between these events. A RIA academic paper will be published as an outcome of this workshop to provide a research and practice agenda to feed into the IRDR conference.
- "Natural Hazards: Risk Interpretation and Action" symposium at the Society for Risk Analysis-Europe's (SRA-E) annual conference in Trondheim, Norway, 17-19 June 2013 (Doc. 10/7.1).
- "Risk Communication and Decision Making" Session at the 38th Annual Natural Hazards Research and Applications Workshop in Boulder, Colorado, USA, 13-16 July 2013.

In terms of the way forward:

World Social Science Fellows programme: RIA/IRDR was invited by the ISSC to run a World Social Science Fellows Seminar on "Risk Interpretation and Action: Decision-making under conditions of uncertainty," (Doc. 10/7.3) to explore the themes from the RIA article published in the International Journal of Disaster Risk Reduction (Vol. 1, pp. 5-16). A call for applications had been published globally, and 25 Fellows selected to participate in this one week capacity-building seminar in New Zealand, on 7-15 December 2013. The Seminar will be held in partnership with the IRDR ICOE Taipei (which provided funding), the START Secretariat and the Royal Society of New Zealand.

Funding will also be provided to support the participation of several of these Fellows in a side event during the IRDR Conference in June 2014, as part of the capacity-building emphasis of the Fellows programme.

PELLING identified the following strategies for RIA's growth:

- Need for core funding;
- Building the capacity of the IPO to support RIA;
- Reaching out to the ICSU and ISSC memberships; and
- Need for a dedicated academic champion; someone who can dedicate 25-50 per cent of his/her time to championing RIA.

Consideration of Proposal from IRDR ICoE Taipei for new IRDR Project

The SC was briefed on a new proposed project, Disaster Risk Reduction and Loss Mitigation (RILM) by Tony LIU (Doc. 10/6.1) from IRDR ICoE Taipei. JOHNSTON reminded the SC that it had long decided not to create additional IRDR projects, and suggested that the proposal be an IRDR ICoE Taipei project, and this would not require the SC's approval. While there was agreement that another IRDR project would not be appropriate, there was general agreement as to the value of the proposed project as a way of integrating the work of

the four IRDR projects, and recognition that this would represent a genuine IRDR output, that may fulfil the need of the IRDR Flagship Project.

Several Members expressed concerns that the IRDR Programme lacked a balance between the social and natural/engineering sciences, revealing gaps between activities that facilitated the integration of social and technical sciences. ZLATANOVA recommended that the IRDR frameworks should adopt tools from the technical sciences in order to truly reflect an integrated research approach. She noted that her field, remote sensing and GIS technologies, was not reflected in the FORIN methodology. The Members recommended the SC should review how best to integrate the technical sciences within the overall IRDR projects.

Identifying new Project Co-Chairs

The meeting was advised that new co-chairs had to be selected for DATA and FORIN. In the case of DATA, SC Member, Angelika WIRTZ, had resigned from the SC and, in the case of FORIN, co-chair Ian BURTON had resigned from the post but wished to remain a member of the project's working group. ROVINS clarified that the nomination of co-chairs is the sole responsibility of the SC and does not require the approval of the Co-Sponsors. There are currently no criteria for selecting co-chairs; the current practice is to select one co-chair from within the SC and another from a related organisation so as to create partnerships involving IRDR.

The SC Members requested receiving the current list of SC Members highlighting each Member's current and end terms.

Formalising Projects' Working Group Memberships

A discussion on formalising membership to IRDR project working groups followed, with concerns expressed that persons who are not officially affiliated to IRDR were working on the projects but their roles were not formally recognised by the SC. BRICEÑO suggested the adoption of a letter of appointment to formalise their roles.

IRDR Branding

The discussion about IRDR branding focused on how the IRDR logo should be included on the products coming out of the various IRDR projects and those carried out by the IRDR ICoEs and IRDR NCs. CUTTER suggested including the acronyms for NC and ICoE underneath the IRDR logo, the latter being provided to the designated institutions and to be used alongside their own institutional logos. The same would apply for the IRDR projects. This suggestion was welcomed by the SC.

PELLING suggested the IPO create a page on the website for affiliated/associated projects. These would be projects that are independent of IRDR, but with common interests. The benefit would be the widening of the community of academics available to IRDR. These affiliated/associated projects must be funded research projects, not institutional projects. PELLING noted that the Urbanization and Global Environmental Change core project of the International Human Dimensions Programme on Global Environmental Change (IHDP) provided an example of such an affiliated projects page on its website: http://ugec.org/.

DECISIONS:

- 4.1 The future of AIRDR will be discussed at the 11th SC meeting in June 2014, after the completion of the GAR 2015 input.
- 4.2 When finalised, disseminate and promote the IRDR Peril Classification report. (**Lead: IPO**)
- 4.3 Distribute to SC Members the proposal for a two-year workshop programme via collaboration between FORIN and UNU-EHS. (Lead: OLIVER-SMITH; Support: IPO)
- 4.4 The SC was not in support of the IRDR ICoE Taipei proposal for an additional IRDR project, RILM. The SC agreed, however, to form a task group of several SC Members to produce a short discussion piece on the value of this proposed project, especially in light of the need for an IRDR flagship project, for presentation at the 11th SC meeting. The discussion piece must be distributed to the SC Members for their review prior to the meeting. (Lead: TAKEUCHI, PELLING; Support: IPO)
- 4.5 CUTTER and OLIVER-SMITH agreed to nominate persons for the vacant co-chairs positions within DATA and FORIN at a later date, for discussion at the 11th SC meeting.
- 4.6 Provide the SC with the current list of Members, which also highlights each Member's current and end terms. (**Lead: IPO**)
- 4.7 Draft a model letter of appointment for non-SC members who are lending their expertise to the projects' working groups. (**Lead: IPO**)
- 4.8 Design IRDR ICoE and IRDR NC specific logos by inserting the respective acronyms underneath the IRDR logo. (**Lead: IPO**)
- 4.9 The project co-chairs to provide the IPO with 10 projects that can be linked as affiliated/associated projects on the IRDR website. (Leads: CUTTER, OLIVER-SMITH, PELLING; Support: IPO)

5. IRDR International Centres of Excellence (ICoEs) and National Committees (NCs) Updates

Current IRDR International Centres of Excellence (ICoE)

IRDR ICoE on Community Resilience (IRDR ICoE CR), New Zealand

JOHNSTON informed the meeting that IRDR ICoE CR had been formally established with the signing of the MoU in early November. The ICoE is a partnership between the Joint Centre for Disaster Research (JCDR) and the Wellington regional authorities. While the local government bodies have already agreed to the proposal establishment of the IRDR ICoE, it will be formally presented to these officials by the head of the Wellington emergency management office for their endorsement later in November.

Since its establishment, the ICoE has agreed to conduct and/or play supporting roles in the following events:

- World Social Science Fellows seminar on "Risk Interpretation and Action: Decision-making under conditions of uncertainty" (see pg. 10).
- Emergency Management Summer Institute, 10-14 March 2014, Massey University Campus, Wellington.
- 7th Australasian Natural Hazards Management Conference, 23-24 September 2014.

JOHNSTON noted that the ICoE is also interested in building a partnership with IRDR ICoE VaRM on social vulnerability metrics, conducting the research in Wellington; and looking for similar opportunities with the other ICoEs.

IRDR ICoE Taipei

Tony LIU provided the meeting with updates on the ICoE's 2013 activities, within both its international and domestic programmes, and its future activities. The following were highlighted as IRDR-specific:

- 1. International programme activities:
 - International Young Scientists Conference on IRDR, Future Earth and Sustainability, on 22-24 October 2013, involving 42 young scientists (under 35 years of age) from 11 countries.
 - Co-sponsor of the ISSC's World Social Science Fellows seminar, "Decision-making under conditions of uncertainty" (see pg. 10).
 - In partnership with START, developed a multi-year research proposal on IRDR in Southeast Asia: A Trans-boundary Research and Capacity Building Program. The purpose of this programme is to strengthen high-quality IRDR-pertinent research in Southeast Asia; and to enhance research capacity, including human resource and institutional strengthening and collaboration.
 - In partnership with the National Science and Technology Center for Disaster Reduction (NCDR), continued working on the report, "Forensic Investigation of Typhoon Morakot, Taiwan." The Chinese version of the report is now complete, while the English version is 95 per cent complete.
 - Proposed new IRDR project, RILM (see pg. 10).
 - Held its annual International Advisory Board (IAB) meeting on 25 October 2013. As reported at the ninth SC meeting, JOHNSTON, as the IRDR SC Chair, is the IRDR ex officio on its IAB. JOHNSTON, who was unable to attend, was represented at the meeting by Sarb JOHAL from ICoE CR.
- 2. Domestic programme activities:
 - The following were identified as IRDR-related ongoing projects funded by Academica Sinica: mega-seismic risk and multi-geological disasters in Taiwan; impact of climate and land-use change on environmental hazards and adaptation; Open Information Systems for Disaster Management (ISDM); and vulnerability assessment for heat wave and relevant adaptation strategy recommendations

IRDR ICoE Taipei plans to:

- Host three advanced institutes (AI) in 2014, one specifically a follow-up on the first FORIN AI held in 2012, Forensic Investigations of Disasters (II).
- Collaborate with IRDR Japan on the latter's project, "Social Resilience Building against Disasters by Total Design."

IRDR ICoE on Vulnerability and Resilience Metrics (IRDR ICoE VaRM), USA

CUTTER informed the meeting that IRDR ICoE VaRM had been formally established with the signing of the MoU in August 2013 between IRDR and the Hazards and Vulnerability Research Institute at the University of South Carolina. It is currently in the process of establishing its External Advisory Committee, on which JOHNSTON has agreed to join.

Since its formal establishment, the ICoE had undertaken the following activities:

- Briefed New Zealand emergency management officials on social vulnerability metrics during a one-day workshop, 16 September 2013, at GNS Science.
- Hosted the DATA project working group's second meeting (see pg. 8). The ICoE will assist DATA in drafting the peril classification handbook.
- Assisted the AIRDR project in its preliminary assessment of integrated research on disaster risk from English-language journals (see pg. 7).
- In the process of preparing a background paper for GAR 2015, "Who Needs Loss Data" (see pg. 4).
- Over a period of six to eight months, collaborated with scholars from six countries (Brazil, China, Indonesia, New Zealand, Philippines and Portugal) on the creation and application of social vulnerability metrics. A result of this collaboration was a paper submitted to a journal examining social vulnerability in the Shanghai, China region.

In the future the ICoE will:

- Participate in the International Workshop on Disaster Loss Recording in Brussels on 15 November 2013.
- Suggest a potential workshop or session on social vulnerability metrics at the upcoming IRDR conference.

Proposed IRDR ICoEs

■ Colombia: the expression of interest (EOI) from the Institute of Environmental Studies (IDEA) at the National University of Colombia in Manizales City, requesting to be designated an IRDR ICoE in Understanding Risk & Safety (ICoE: UR&S) (Doc 10/6.2) was discussed and agreed to by the SC.

Germany: BIRKMANN provided the meeting with a presentation on the current undertaking within Germany to create an IRDR ICoE comprising a network of centres: UNU-EHS (the focal point), Center for Disaster Management and Risk Reduction Technology (CEDIM), the University of Karlsruhe, University of Potsdam, German Research Center for Geoscience (GFZ), and German Committee for Disaster Reduction (DKKV/IRDR Germany). The focus of this proposed ICoE would be on cascading risks, root causes and drivers of disaster risk, and lessons learned case studies. The proposed ICoE's funding would come from within its institutional set-ups and targeted funding agencies. Discussions are continuing on the proposed ICoE's institutional set-up and goals. BIRKMANN will keep the SC updated on its development.

Current National Committees (NCs)

IRDR China

FENG provided the meeting with the following updates on IRDR China's activities during 2013:

- Research projects: progress has been made on its six research projects, which, as reported at the ninth SC meeting, received funding from CAST in the amount of 2 million RMB.
- Workshops and conferences: two academic consultant workshops were held on 21 and 24 October 2013 respectively, while experts from IRDR China participated in several academic conferences on disaster risk and mitigation.
- Ya'an earthquake response: several IRDR China experts were involved in the emergency assessments and onsite investigations of earthquake affected areas.
- International Workshop on Disaster Risk and Mitigation: this annual workshop will be held on 15 November 2013. Several SC Members will participate: JOHNSTON will provide opening remarks; BRICEÑO will co-chair its plenary session; CUTTER and ROVINS will present on AIRDR and IRDR activities respectively; while sessions will be held on DATA (co-chaired by CUTTER); FORIN (co-chaired by BENOUAR); and RIA (co-chaired by PELLING).

IRDR Japan

TSUKAHARA, IRDR Japan's Secretary General, provided the meeting with updates on IRDR Japan's recent activities:

- Research programme: IRDR Japan's proposed research programme has been included in the Science Council of Japan's (SCJ) Large Scale Research Plan (SCJ-LSRP) to the Government of Japan (GoJ). The proposal is now being considered as a prioritised project, among 10, for the GoJ. The research will be implemented with the close collaboration of the GoJ, local government officials, non-government organisations (NGOs), the Japan International Cooperation Agency (JICA), etc.
- **Proposal for an International Study Conference:** TAKEUCHI presented IRDR Japan's proposal for an "International Study Conference on Disaster Risk Reduction," to be held in Tokyo, Japan, 14-16 January 2015. The Study Conference aims to make an action

proposal to the post-HFA and the post-MDGs from IRDR, by sharpening the scientific approaches and exchanging knowledge, views and visions on disaster risk reduction with policy makers and practitioners with foci on inter-disciplinarity, trans-disciplinarity and coordination with environmental activities. The IRDR was requested to contribute as a co-organiser of the conference and it was agreed.

IRDR New Zealand

The Natural Hazards Research Platform (NHRP) is the IRDR NC in New Zealand. JOHNSTON will provide a detailed report of its activities at the 11th SC meeting.

Proposed NCs

- Colombia: the EOI from the National Unit for Disaster Risk Management of the Presidency of the Republic of Colombia (Unidad Nacional de Gestión del Riesgo de Desastres, UNGRD), requesting to be designated an IRDR NC (Doc 10/6.4) was discussed and agreed to by the SC.
- USA: the EOI from the University of Colorado Natural Hazards Center (NHC) in Colorado, USA, requesting to be designated the lead institution for the IRDR NC (Doc 10/6.3) was discussed and agreed to by the SC.
- UK: ARMSTRONG and REESE presented on the composition and work of the Disasters Research Group (DRG) within the UK Collaborative on Development Sciences (UKCDS). The DRG is the proposed entity to become IRDR NC UK. The DRG is a group of research funders, such as the Research Councils UK, the Wellcome Trust and the National Environment Research Council (NERC), with interests in disaster risk reduction. At its last DRG meeting, at which PELLING attended representing IRDR, the discussion about the DRG as IRDR NC UK focused on whether the IRDR linkage would be with the DRG as a whole or within a proposed academics sub-group within the DRG. The DRG would not be able to provide a financial contribution to IRDR but could offer in-kind support from its various activities.

DECISIONS:

- 5.1 The SC approved designating the Institute of Environmental Studies (IDEA) at the National University of Colombia in Manizales City the IRDR ICoE in Understanding Risk & Safety (ICoE: UR&S).
- 5.2 The SC accepted IRDR Japan's proposal for its International Study Conference on Disaster Risk Reduction, to be held in Tokyo, Japan, 14-16 January 2015, and agreed to support the event as a co-host/co-organiser.
- 5.3 The SC approved designating the National Unit for Disaster Risk Management of the Presidency of the Republic of Colombia (Unidad Nacional de Gestión del Riesgo de Desastres, UNGRD) as IRDR NC Colombia.
- 5.4 The SC approved designating the University of Colorado's Natural Hazards Center (NHC) in Colorado, USA, as IRDR NC USA.

6. Network Building

Presentations from Partner Organisations

Presentations were given from representatives of the following organisations, concerning their specific work and relationship to the IRDR Programme: EHRLICH from the European Commission Joint Research Centre (EU JRC); POTTER from the Global Volcano Model (GVM); and LOMARDA from the WMO's World Weather Research Programme (WWRP). In 2012, the IRDR signed a Memorandum of Understanding (MoU) to support the activities of the WWRP's Working Group on Societal and Economic Research and Applications (WG SERA).

In the absence of a representative from the Global Earthquake Model (GEM), ROVINS provided an overview of IRDR's relationship with GEM, and her attendance at its Governing Board meeting in Pavia, Italy in June 2013. ROVINS reminded the meeting that, according to GEM's membership terms, ICSU is the official member while IRDR attends GEM's Governing Board meetings as ICSU's representative. IRDR's role is to partner with GEM on the development of its work, led by Christopher Burton, on social vulnerability modelling.

ROVINS noted that GEM was undergoing a transition and the next steps were unclear. The next GEM Governing Board meeting will be held in January 2014, and the IRDR will require an SC Member to attend.

Integration with Co-Sponsors' Programmes

ICSU's Regional Offices

The meeting was provided an update on the following ICSU-related events attended by IRDR SC Members. It should be noted that both events were direct outcomes of the Global-Regional Integration Workshop on Natural Hazards, held in Kuala Lumpur, Malaysia, 13-14 September 2012, to harmonise the ICSU regional offices' science plans on hazards and disasters with the IRDR Programme.

■ ICSU Regional Office for Africa (ICSU ROA) workshop, 19-20 September 2013: attended by BENOUAR, this was a two-day workshop held in Pretoria, South Africa, aimed at moving forward the implementation of ICSU ROA's science plan on hazards and disasters. The workshop's main activity was the development of a proposal that integrated earlier proposals on geo-hazards, hydro-meteorological hazards, and assessment of vulnerability to these hazards, in line with IRDR's research objectives, which BENOUAR presented during the workshop. They were very keen on implementing FORIN within parts of Africa.

ROVINS suggested showing greater support to the African region's move towards integrating their science plan on hazards and disasters by holding a future SC meeting in Africa, possibly in Algeria or Uganda where BENOUAR and LWASA are located. CUTTER seconded this suggestion, further suggesting holding the 12th SC meeting there.

When asked by CUTTER about other avenues available to IRDR to engage with the DRR community in Africa, LWASA suggested engaging with politicians and policy-makers through the ministries and departments responsible for disaster management and climate

change. ROVINS also noted that Periperi U (Partners Enhancing Resilience to People Exposed to Risks), a platform for university partnerships to reduce disaster risks in Africa, also provided another avenue for IRDR to directly engage with the African DRR community. She also noted that Periperi U was interested in becoming an IRDR ICoE and, if an SC meeting would be held in Africa, Periperi U would need to be invited.

BRICEÑO suggested holding the 12th SC meeting in South Africa to engage both ICSU ROA and the African Centre for Disaster Studies (ACDS, member of the Periperi U network), especially the latter so they can become integrally involved in the above process. BRICEÑO also suggested inviting the ACDS to the Conference to hold a plenary session.

• ICSU Regional Office for Latin America (ROLAC) meeting, 24-25 September 2013: attended by BRICEÑO, this was the first meeting of the ICSU ROLAC Steering Committee for Integrated Disaster Risk in Latin America and the Caribbean (LAC), held in Panama City, Panama. During this meeting the Steering Committee was established, comprising seven representatives of national scientific institutions from Argentina, Costa Rica, Colombia, Cuba, Chile, Jamaica and Mexico. This Steering Committee will be the IRDR Regional Committee for the LAC region (IRDR RC LAC).

The meeting set forth the following three objectives to pursue in the region:

- 1. To strengthen high quality research in the region and integrating regional and global research activities.
- 2. To enhance research capacities in the countries in the region on hazards and disasters.
- 3. To cooperate with policymakers responsible in preventing and managing risk and at local, national, sub-regional, regional and international level.

The next step is to hire a consultant to prepare the region's programme for the next two years. The four IRDR projects were identified as the Steering Committee's priorities, with some slight revisions. For instance, as it relates to AIRDR, the Latin American region had already conducted an assessment for La Red and CIGIR, funded by UNDP and TOTAL, led by JIMENEZ DIAZ to assess existing educational capacities, in particular at university level, on risk management in the region. Additionally, the LAC network of universities for disaster and emergencies risk reduction (REDULAC/RRD) has created a community of knowledge and practice, with support of USAID/OFDA, which can also make an useful contribution to the work of AIRDR in the LAC region. The Caribbean also conducted a similar assessment via the Caribbean Disaster and Emergency Management Agency (CDEMA). For FORIN they are interested in pursuing a FORIN study of the Haiti 2010 earthquake. They will be seeking guidance from the project cochairs for developing the projects at the regional level.

UNISDR

UNISDR's Scientific and Technical Advisory Group (STAG): The UNISDR's STAG
recently launched its report, Using Science for Disaster Risk Reduction (2013), which
describes ten case studies of scientific learning being employed to enhance disaster risk

reduction. One case study, Assessing Vulnerability to Improve Risk Reduction, was contributed by the IRDR ICoE VaRM. The IRDR has been invited to contribute to the next report.

- Review of the UNISDR Terminology on Disaster Risk Reduction (2009): JOHNSTON informed the meeting that the UNISDR plans to review its Terminology on Disaster Risk Reduction (2009) publication, and encouraged the IRDR's involvement in this activity. The review of the terminologies will be conducted in two parts: a working group would review the definitions; the revised definitions would then be distributed for a formal review.
- **ISDR Asia Partnership (IAP):** ROVINS provided the meeting with the background on the IRDR's involvement with the IAP. IRDR currently leads the IAP's Scientific, Academic and Research Stakeholders group, as well as hosts the latter's listsery on the IRDR website, www.irdrinternational.org/projects/partnered-projects/iap/.

The UNISDR's Asian regional office in Bangkok has requested the IRDR to conduct a side event on research, science and academia at the 6th Asian Ministerial Conference on Disaster Risk Reduction (AMCDRR), which will be held in Bangkok, Thailand from 22-26 June 2014. ROVINS noted that the IPO has agreed to do this side event; however, in the absence of an Executive Director, the IRDR would partner with the Asia-Pacific Network (APN) and the Asian University Network of Environment and Disaster Risk Management (AUEDM) to plan the session.

ROVINS attended the AMCDRR planning meeting, 5-7 November 2013, in Bangkok and noted that the planners were very keen on greater inclusion of integrated science. She also noted that the opportunity exists for IRDR China and IRDR Japan to influence their respective delegations to the conference in that respect. TSUKAHARA noted that IRDR Japan had already begun engaging with the respective members of the Japanese delegation to the 6th AMCDRR. ROVINS suggested that FAKHRUDDIN could attend the next 6th AMCDRR planning meeting in March/April 2014.

Integration with other International Programmes

• Sustainable Development Goals (SDGs): PELLING informed the meeting that in July 2013, several SC members, CUTTER, OLIVER-SMITH AND TAKEUCHI, agreed to co-author with him a five-page IRDR-ICSU briefing document to the SDGs process. The deadline for submission is 6 December.

In a break-out session during the afternoon of day three of the meeting, PELLING, CUTTER, OLIVER-SMITH and TAKEUCHI brainstormed the paper's structure. The paper will have two sections: the first section will explore the relationship between development and disaster loss and response; the second section will highlight the current capacities within risk management indexing that might be the beginnings of SDG subindicators.

PELLING also informed the meeting that ICSU had invited him to present this document to the UN General Assembly Open Working Group (OWG) on Sustainable Development Goals, which would meet in New York in January 2014.

DECISIONS:

- 6.1 BENOUAR will attend the GEM Governing Board meeting in Pavia, Italy in January 2014, on behalf of the IPO. (**Lead: IPO**)
- 6.2 The SC agreed to explore holding the 12th SC meeting in Africa, specifically Algeria, South Africa or Uganda. (**Lead: IPO**)
- 6.3 Invite Prof Dewald van Niekerk, ACDS Director, to hold a special plenary session during the 2nd IRDR Conference in June 2014, possibly involving ICSU ROA and Periperi U. (**Lead: IPO**)
- 6.4 SC Members to receive the UNISDR STAG's call for case studies, accompanied by the template for the reports. (**Lead: IPO**)
- 6.5 SC Members will be informed when the UNISDR opens the review period for its revised **Terminology on Disaster Risk Reduction** publication. (**Lead: IPO**)

Annex 1 – List of Meeting Documents

Symbol	Title or Description
10/1.1	List of Participants
10/1.2	Practical Arrangements
10/2.1	Report of the Ninth Meeting of the IRDR Scientific Committee (SC)
10/3.1	Future Earth Initial Design report
10/4.1	Report on 2 nd DATA Project Expert Group Meeting
10/5.1	IRDR IPO Executive Director's Report
10/6.1	Proposal for new IRDR project, RILM
10/6.2	EOI for IRDR ICoE in Understanding Risk & Safety (ICoE:UR&S)
10/6.3	EOI for Establishment of an IRDR NC USA
10/6.4	EOI for Establishment of an IRDR NC Colombia
10/7.1	Report on RIA Symposium at SRA-E 2013
10/7.3	Call for Applications WSS Fellows Programme
10/8.1	Scoping Paper EB110/18.2.3
10/9.1	Report on Mexico FORIN Landslide Workshop
10/10.1	Submitted Abstracts for Review during Meeting

Annex 2 – Action Items from the 10th SC Meeting

No.	Action	Lead (Support)
2.1	Produce concept note on IRDR's possible contribution to Future Earth.	OLIVER-SMITH/PELLING (IPO)
2.2	Invite Dr Mark Stafford Smith, Chair of Future Earth's Science Committee, to the 11 th SC meeting.	IPO
2.3	Review the full GAR 2015 when the first draft becomes available in October 2014.	SC Members
	 Compile SC Members' individual reviews and submit to the UNISDR under the IRDR letterhead. 	FAKHRUDDIN (IPO)
2.4	Review the HFA2 indicators.	SC Members
	 Compile SC Members' individual reviews and submit to the UNISDR under the IRDR letterhead. 	CUTTER (IPO)
3.1	Fund DATA's third working group meeting, to be held in Ispra, Italy in May 2014, with funds available in IPO's grant account (US\$22,000).	IPO
3.2	Produce an interim management plan for the IPO that addresses the Office's operations in the absence of an Executive Director.	JOHNSTON (Co-Sponsors)
4.1	Discuss the future of AIRDR at the 11 th SC meeting in June 2014.	JOHNSTON (CUTTER)
4.2	Promote the IRDR's Peril Classification report.	IPO
4.3	Distribute to SC Members the proposal for a two-year workshop programme via collaboration between FORIN and UNU-EHS.	OLIVER-SMITH (IPO)
4.4	Produce a short discussion piece on the value of the proposed ICoE Taipei project, RILM, and present at the 11 th SC meeting. The piece must be distributed to the SC prior to the meeting.	TAKEUCHI/PELLING (IPO)
4.5	Nominate persons for the vacant co-chairs positions within DATA and FORIN, for voting at the 11 th SC meeting.	CUTTER/OLIVER-SMITH (IPO)

No.	Action	Lead (Support)
4.6	Provide the SC with the current list of Members, which also highlights each Member's current and end terms.	IPO
4.7	Draft a letter of appointment for non-SC members who are lending their expertise to the projects' working groups.	IPO
4.8	Design IRDR ICoE and IRDR NC specific logos by inserting the respective acronyms underneath the IRDR logo.	IPO
4.9	The project co-chairs to provide the IPO with 10 projects that can be linked as affiliated/associated projects on the IRDR website.	CUTTER/OLIVER- SMITH/PELLING (IPO)
5.1	Provide the Institute of Environmental Studies (IDEA) at the National University of Colombia in Manizales City with letter of approval for its designation as IRDR ICoE: UR&S.	IPO
5.2	Provide IRDR Japan with a letter formalising the SC's approval of its proposal for an International Study Conference on Disaster Risk Reduction, to be held in Tokyo, Japan, 14-16 January 2015, and that the IRDR has agreed to support the event as a co-host/coorganiser.	IPO
5.3	Provide the National Unit for Disaster Risk Management of the Presidency of the Republic of Colombia (Unidad Nacional de Gestión del Riesgo de Desastres, UNGRD) with letter of approval for its designation as IRDR NC Colombia.	IPO
5.4	Provide the University of Colorado's Natural Hazards Center (NHC) in Colorado, USA, with letter of approval for its designation as IRDR NC USA.	IPO
6.1	IRDR SC Member to attend GEM's Governing Board meeting in Pavia, Italy in January 2014.	BENOUAR (IPO)
6.2	Explore holding the 12 th SC meeting in Africa, specifically either in Algeria, South Africa or Uganda.	IPO
6.3	Invite Prof Dewald van Niekerk, Director of the African Centre for Disaster Studies (ACDS), to hold a special plenary session during the 2 nd IRDR	IPO

No.	Action	Lead (Support)
	Conference in June 2014, possibly involving ICSU ROA and Periperi U.	
6.4	SC Members to receive the UNISDR STAG's call for case studies, accompanied by the template for the reports.	IPO
6.5	SC Members to be informed when the UNISDR opens the review period for its revised Terminology on Disaster Risk Reduction publication.	IPO